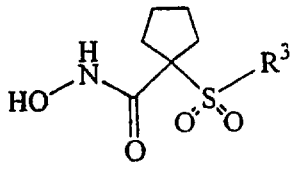
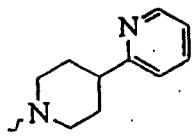
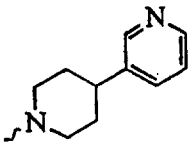
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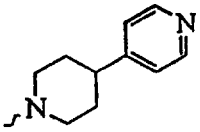


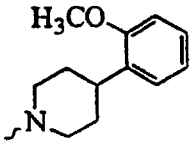
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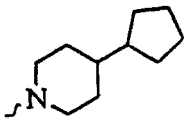
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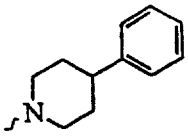
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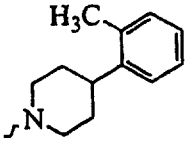
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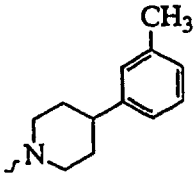
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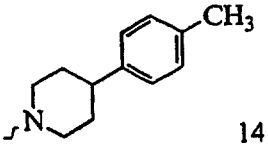
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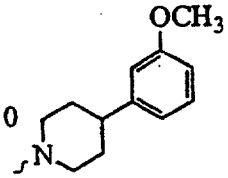
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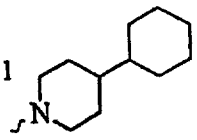
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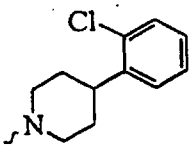
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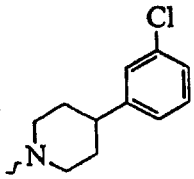
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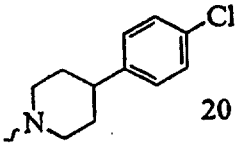
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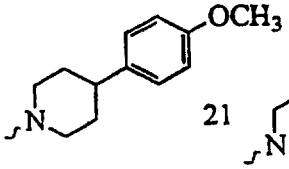
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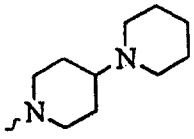
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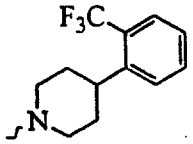
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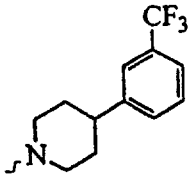
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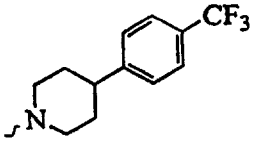
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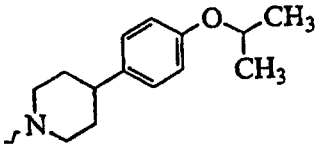
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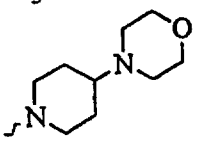
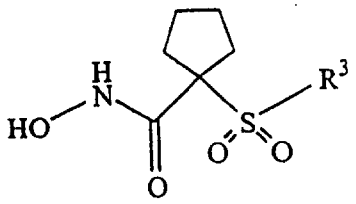
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Table 42



R^3

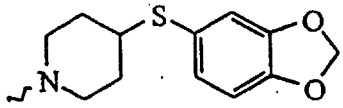
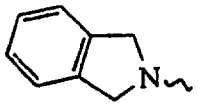
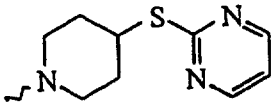
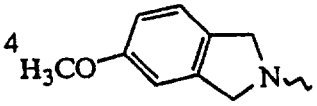
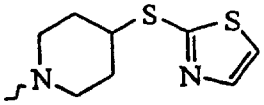
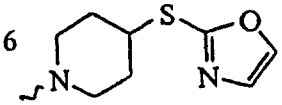
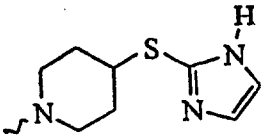
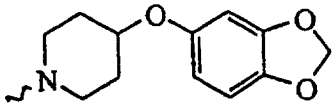
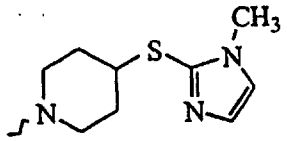
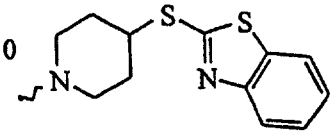
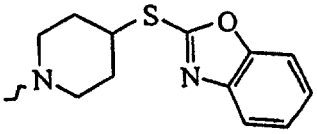
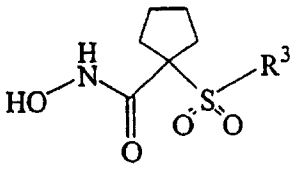
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Table 43



R^3

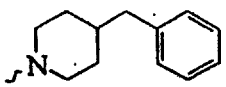
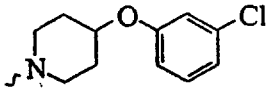
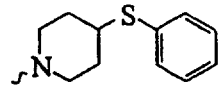
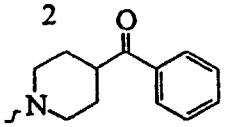
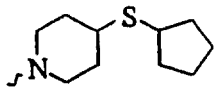
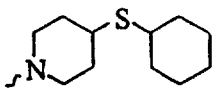
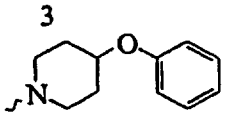
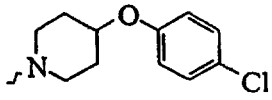
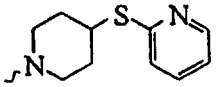
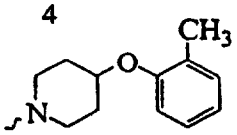
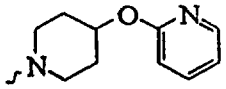
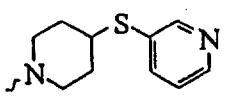
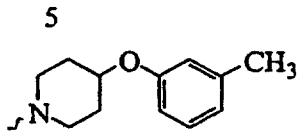
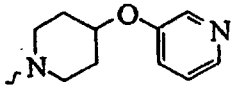
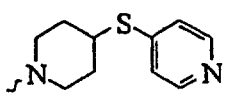
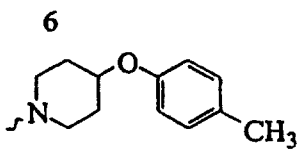
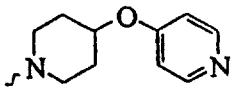
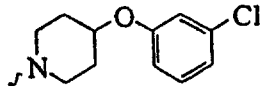
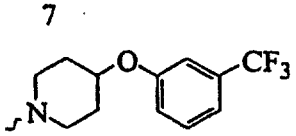
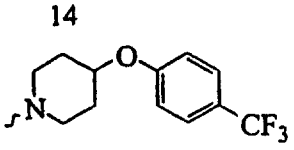
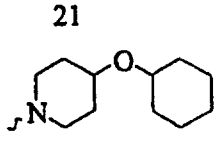
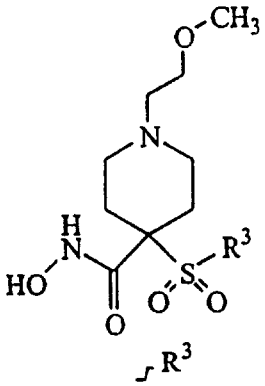
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Table 44



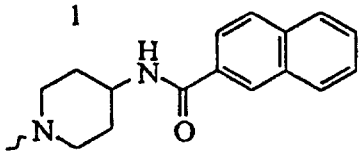
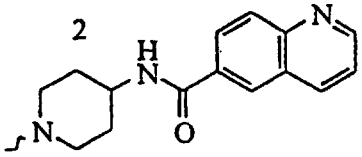
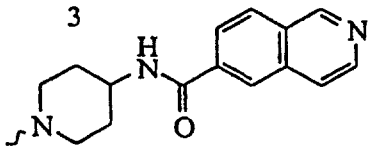
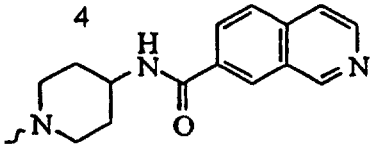
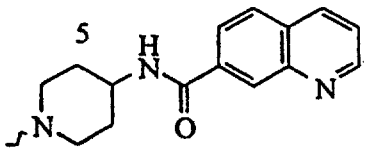
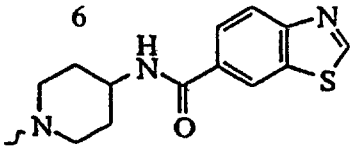
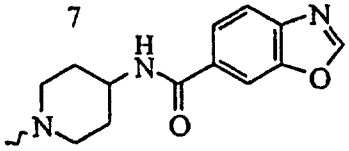
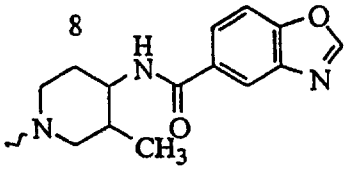
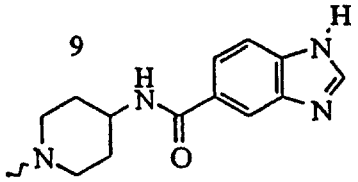
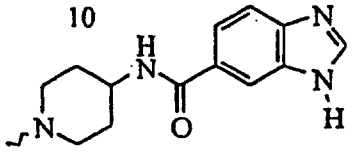
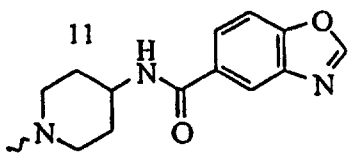
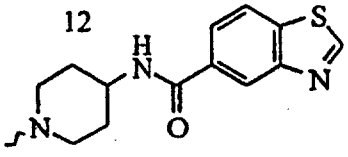
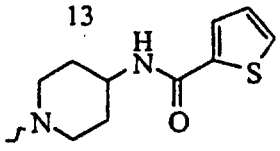
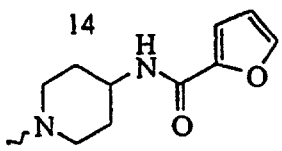
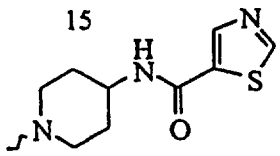
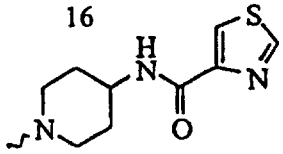
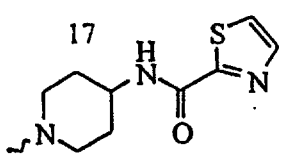
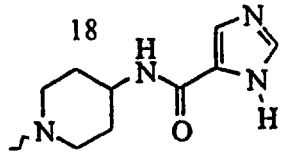
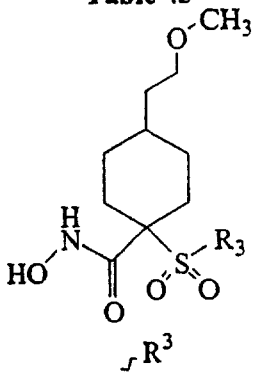
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Table 45



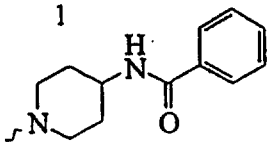
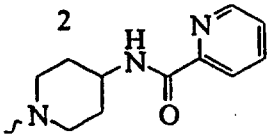
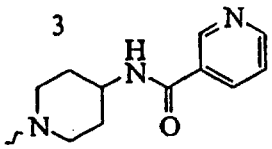
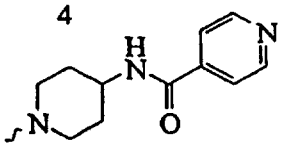
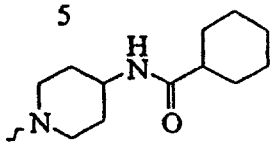
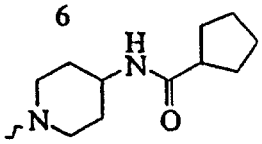
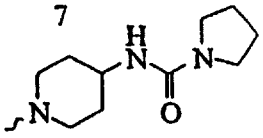
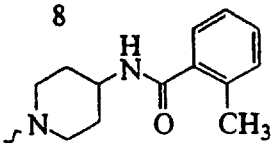
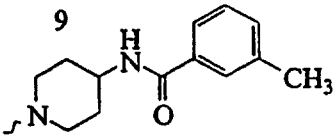
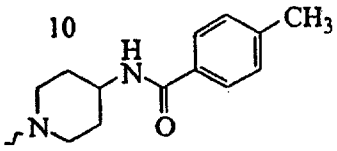
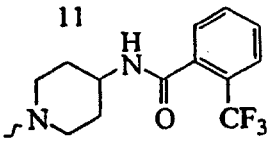
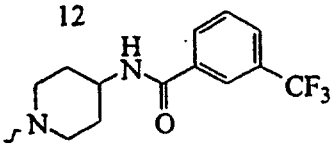
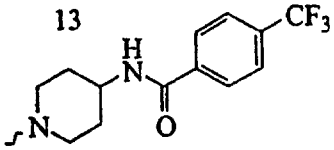
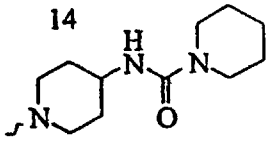
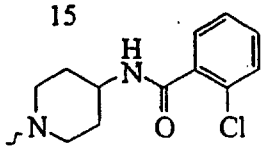
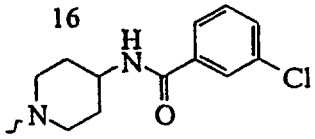
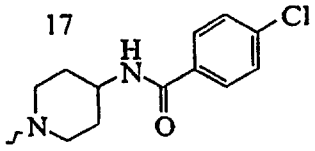
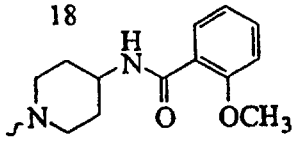
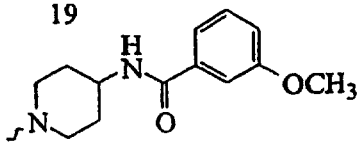
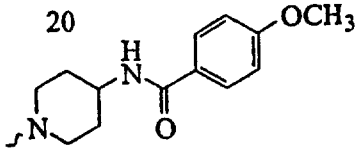
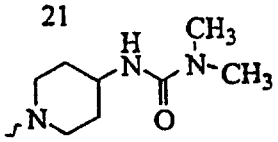
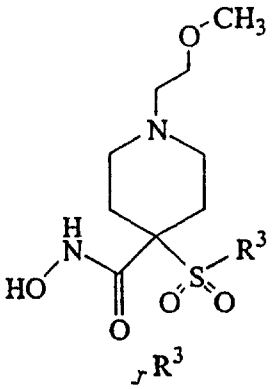
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Table 46



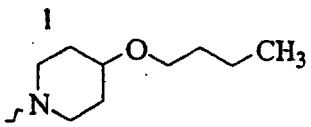
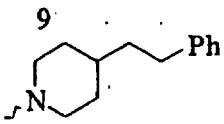
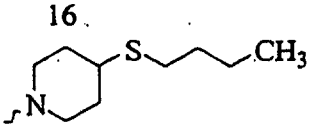
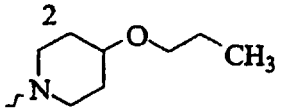
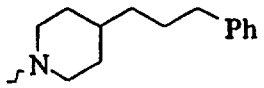
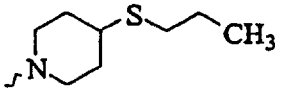
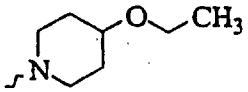
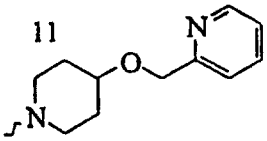
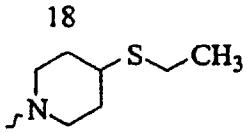
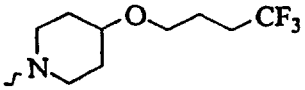
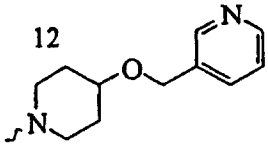
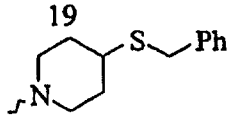
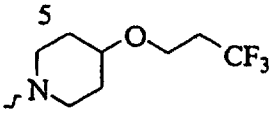
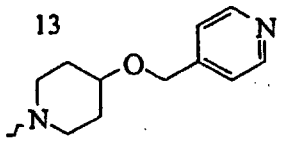
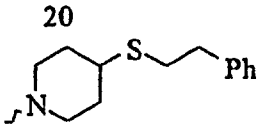
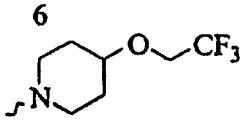
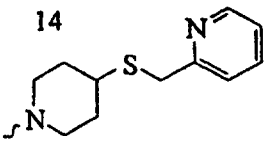
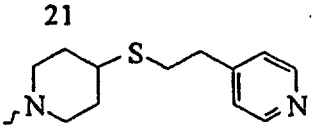
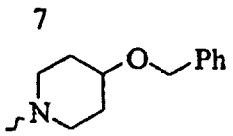
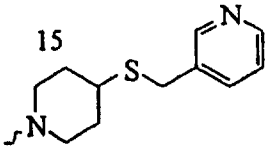
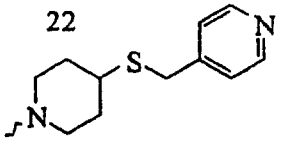
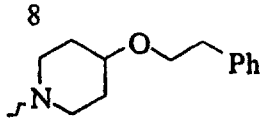
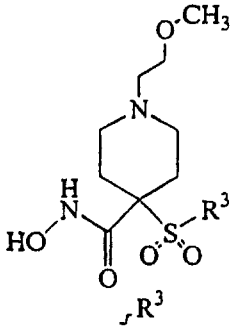
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Table 47



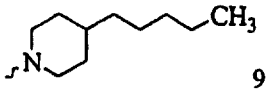
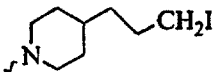
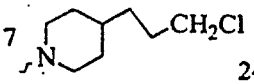
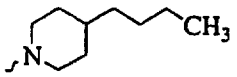
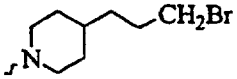
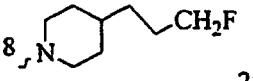
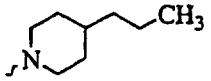
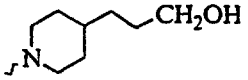
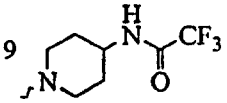
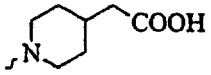
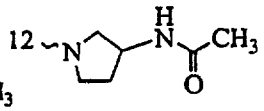
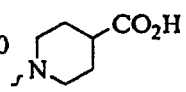
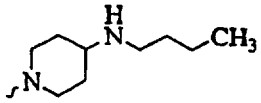
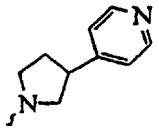
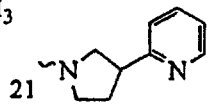
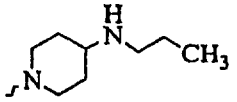
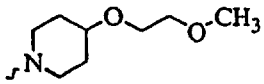
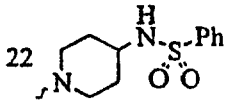
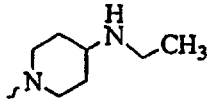
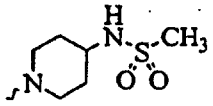
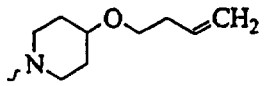
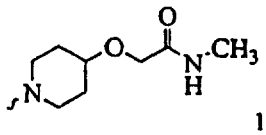
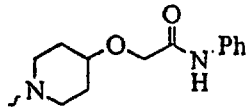
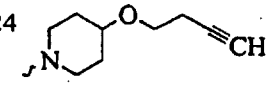
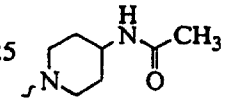
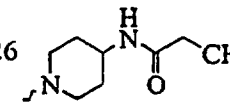
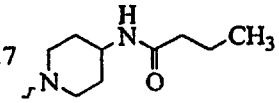
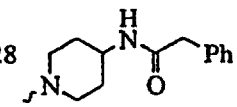
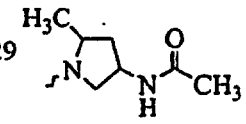
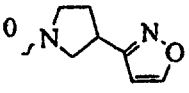
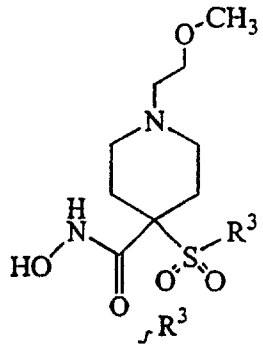
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Table 48



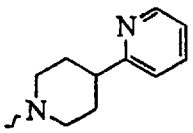
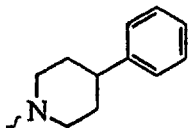
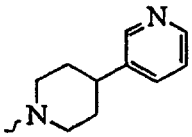
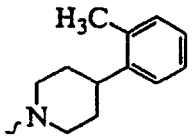
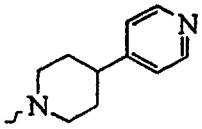
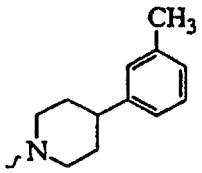
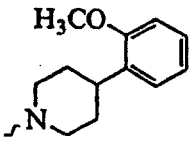
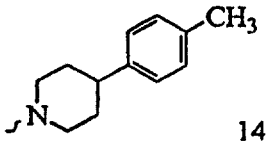
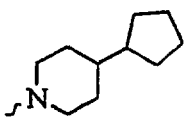
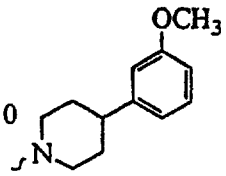
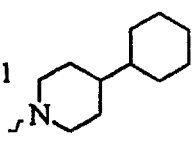
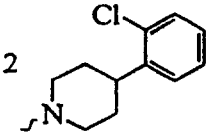
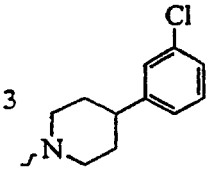
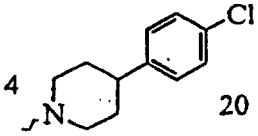
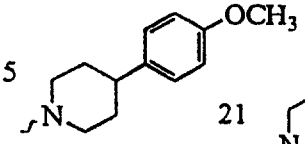
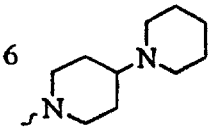
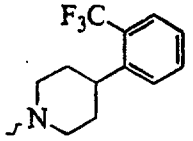
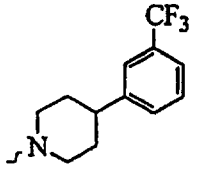
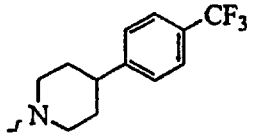
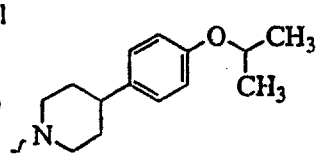
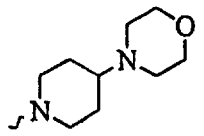
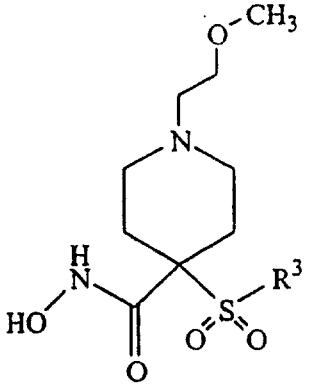
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Table 49



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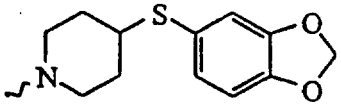
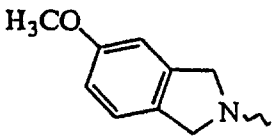
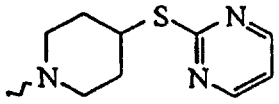
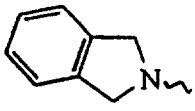
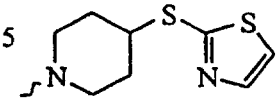
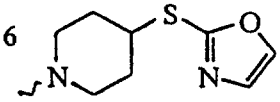
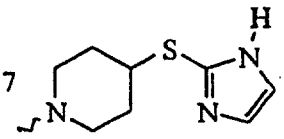
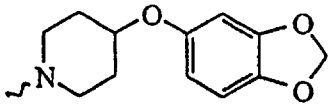
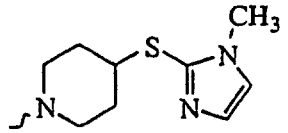
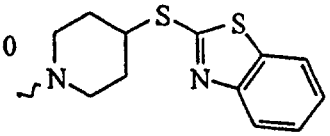
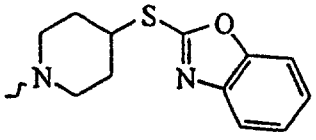
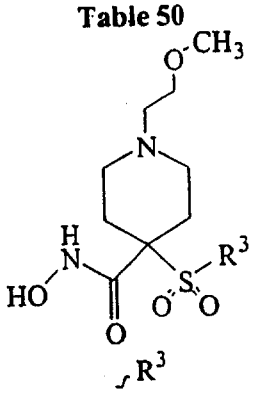
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Table 50



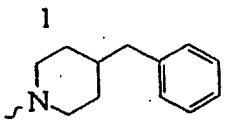
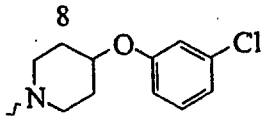
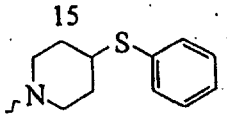
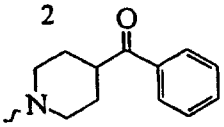
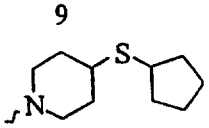
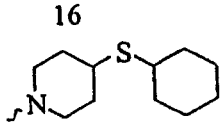
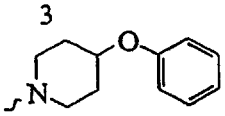
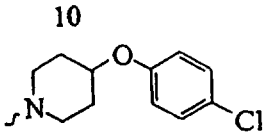
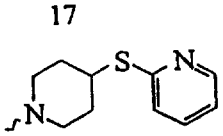
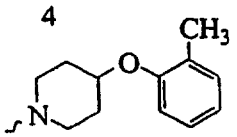
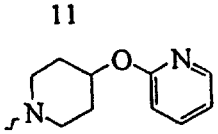
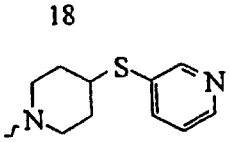
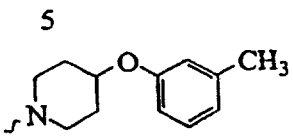
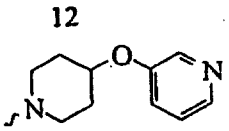
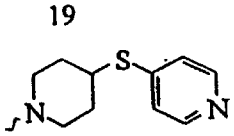
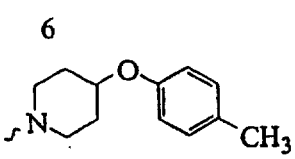
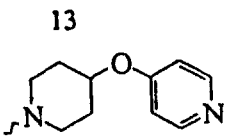
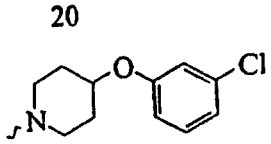
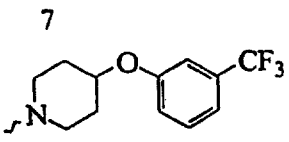
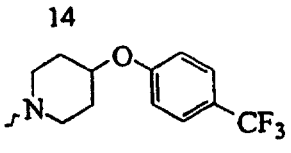
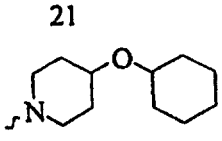
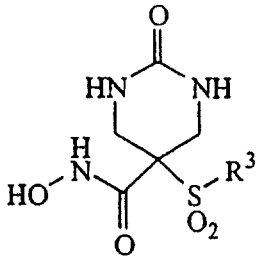
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Table 51





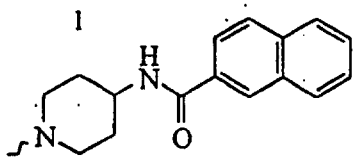
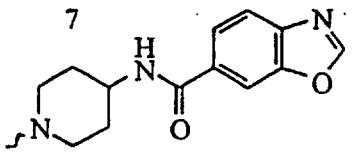
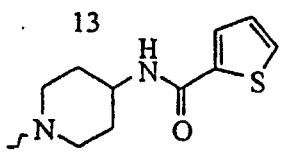
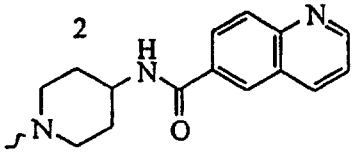
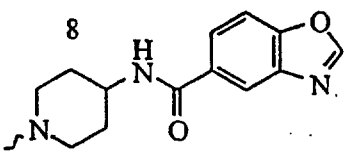
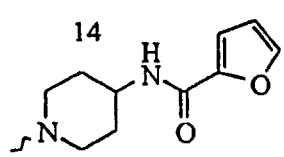
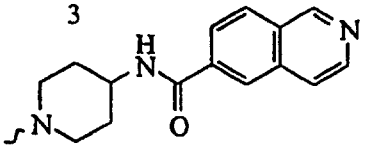
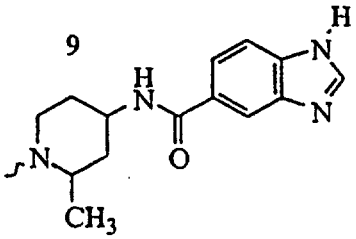
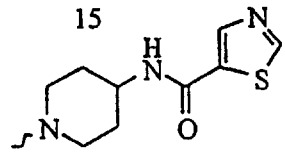
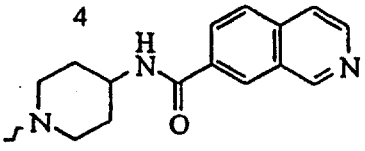
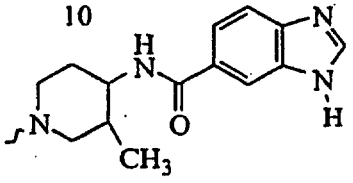
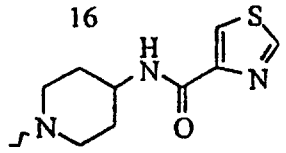
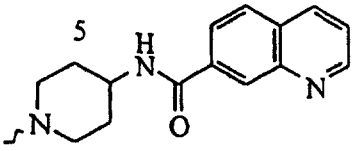
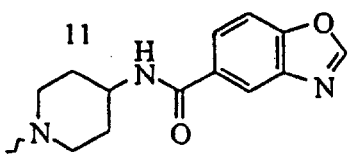
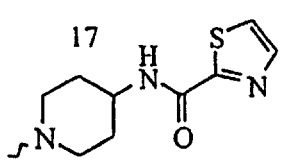
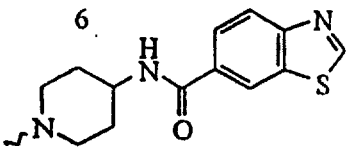
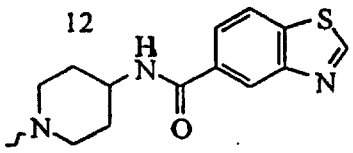
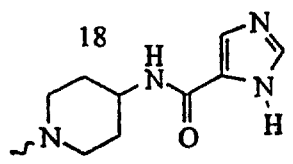
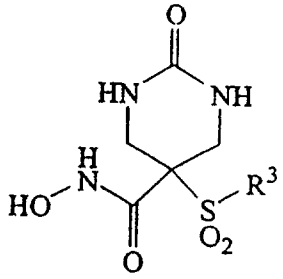
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Table 52



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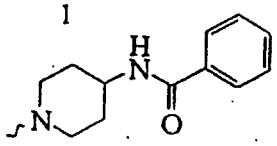
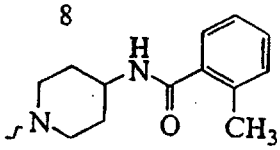
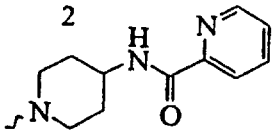
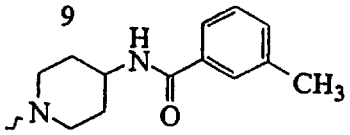
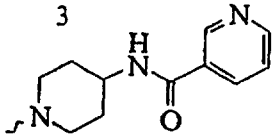
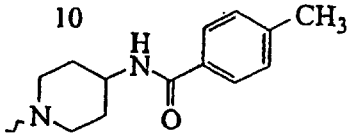
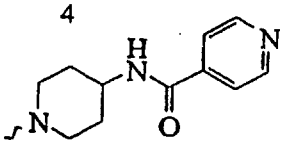
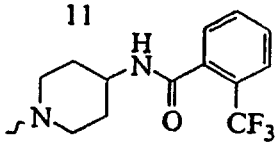
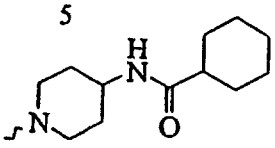
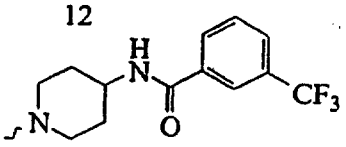
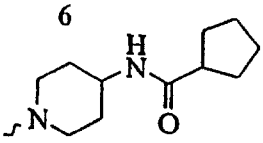
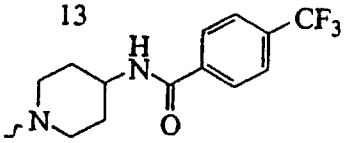
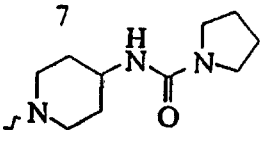
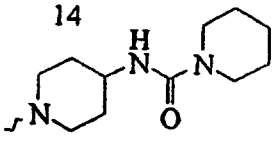
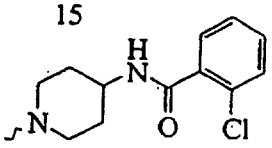
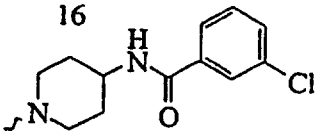
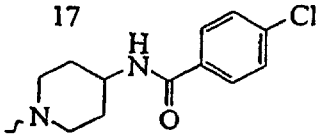
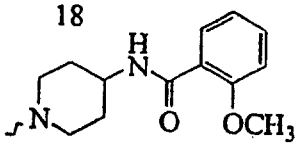
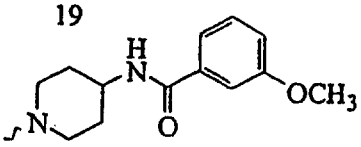
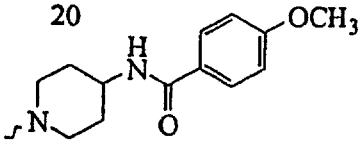
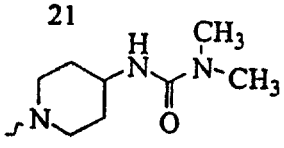
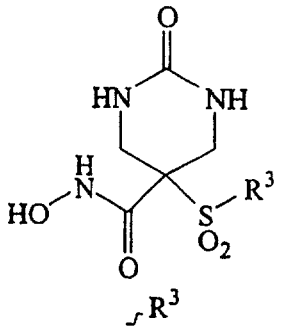
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Table 53



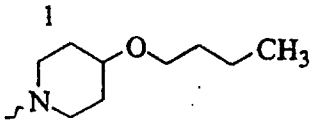
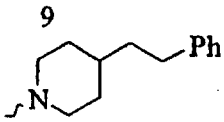
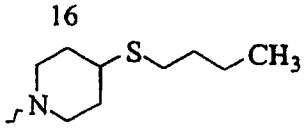
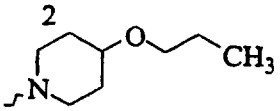
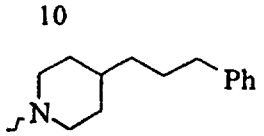
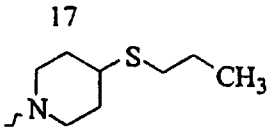
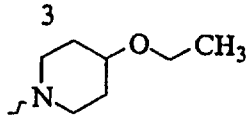
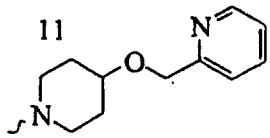
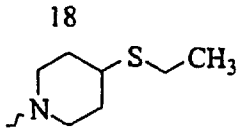
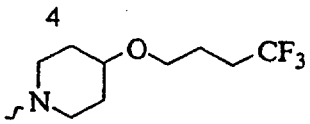
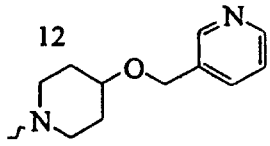
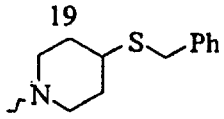
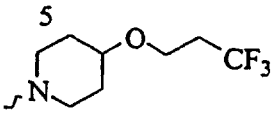
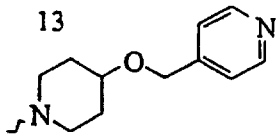
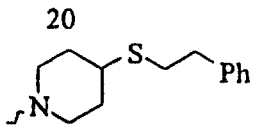
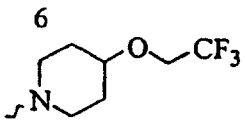
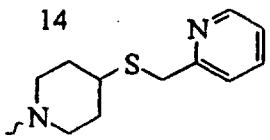
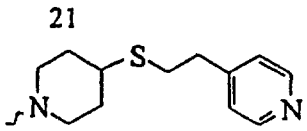
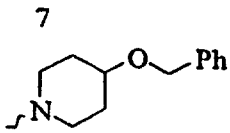
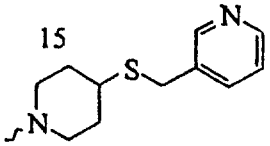
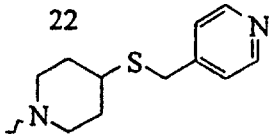
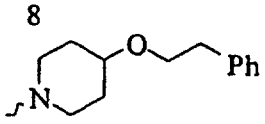
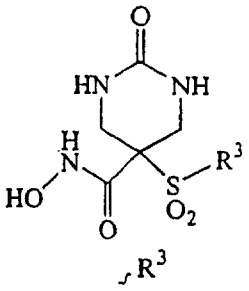
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Table 54



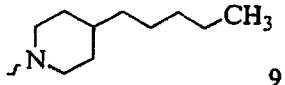
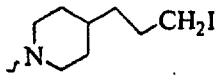
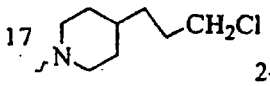
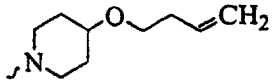
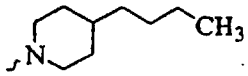
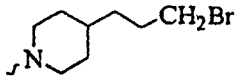
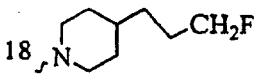
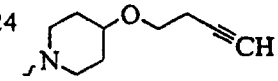
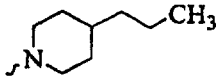
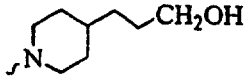
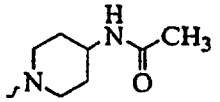
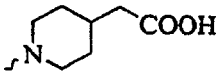
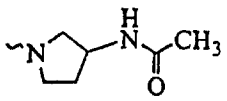
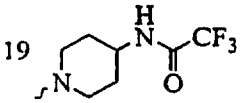
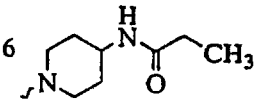
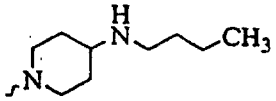
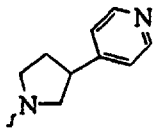
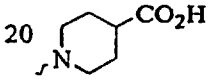
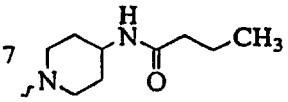
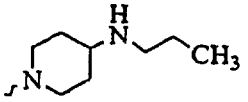
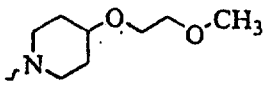
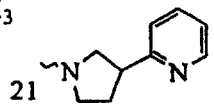
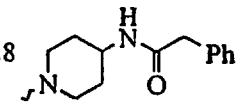
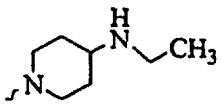
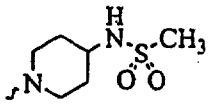
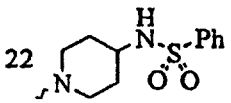
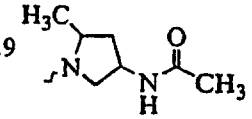
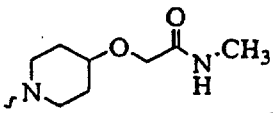
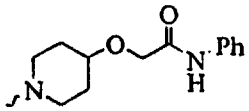
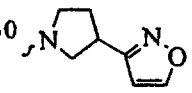
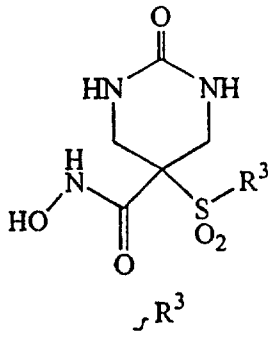
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Table 55



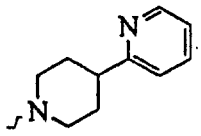
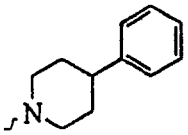
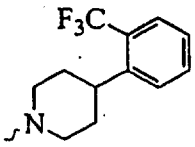
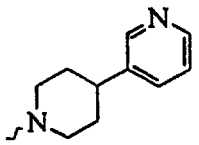
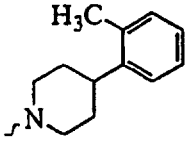
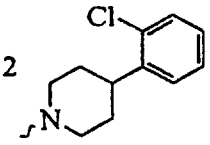
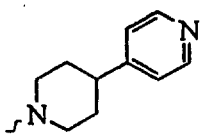
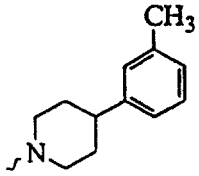
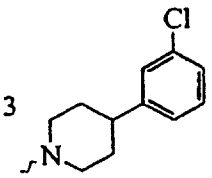
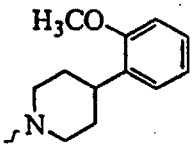
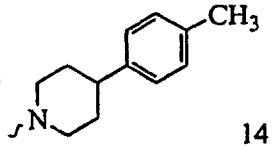
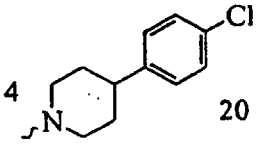
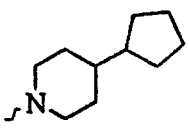
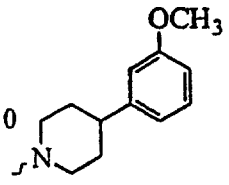
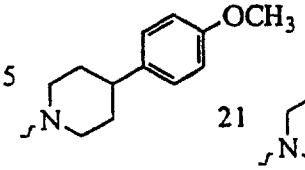
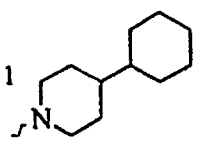
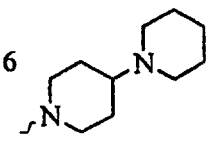
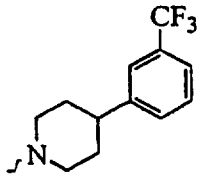
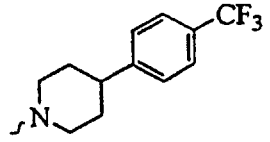
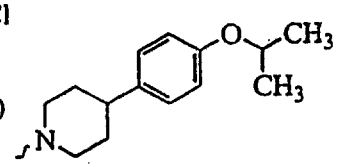
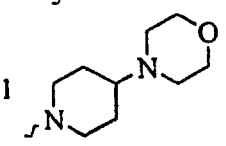
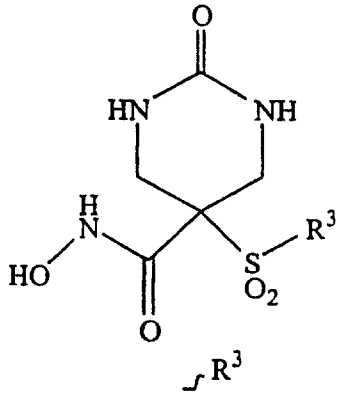
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Table 56



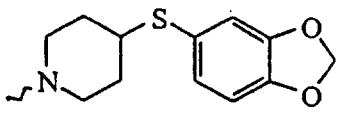
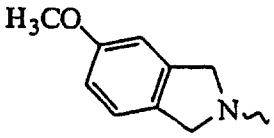
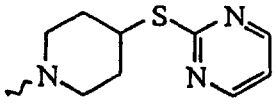
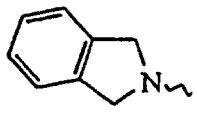
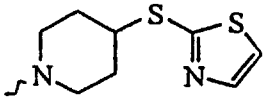
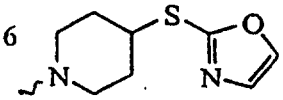
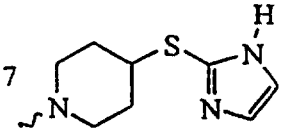
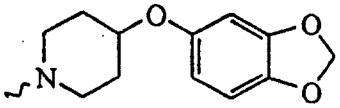
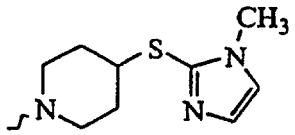
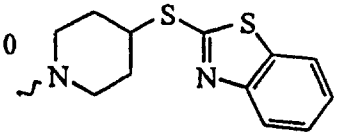
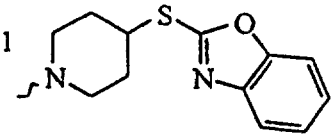
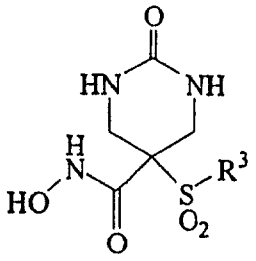
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Table 57



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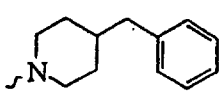
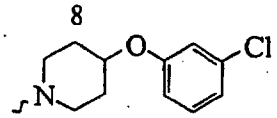
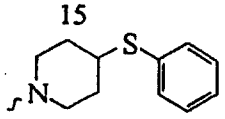
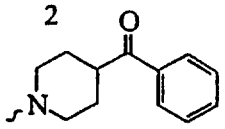
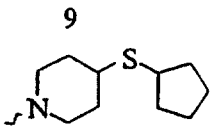
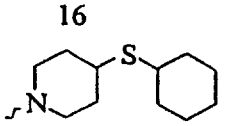
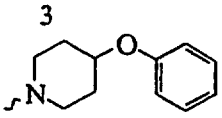
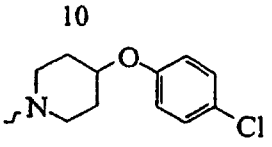
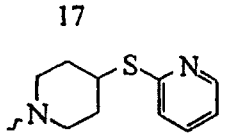
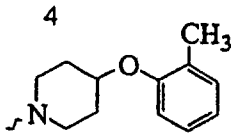
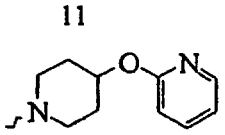
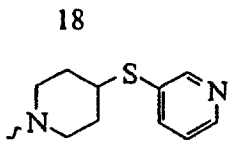
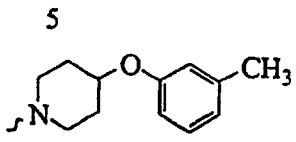
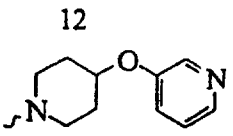
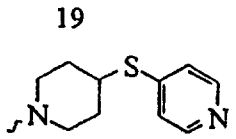
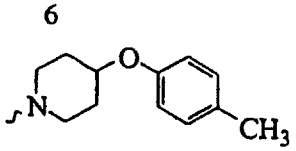
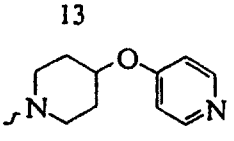
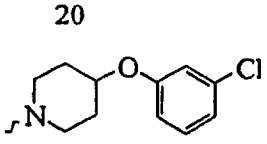
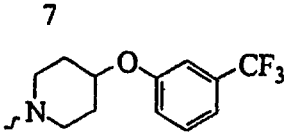
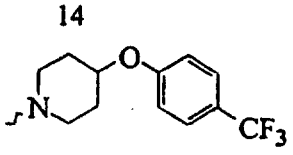
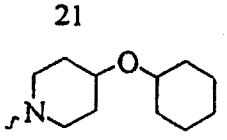
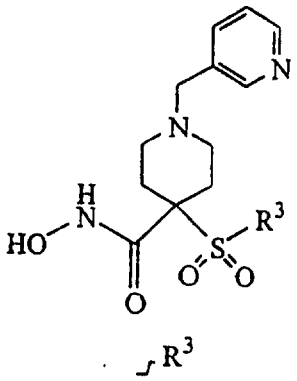
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Table 58



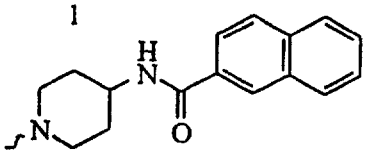
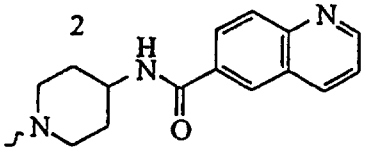
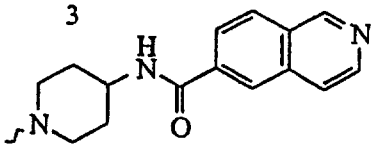
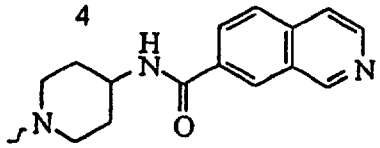
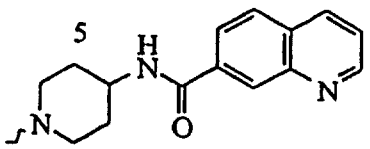
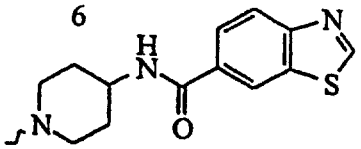
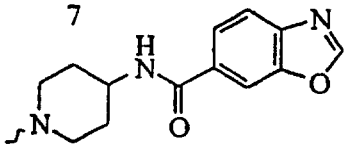
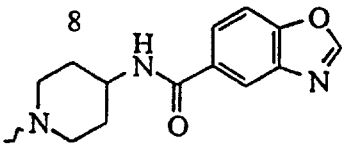
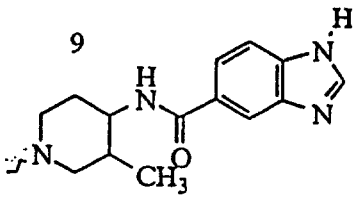
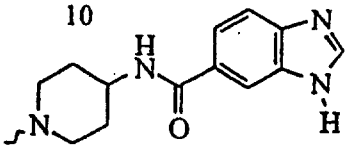
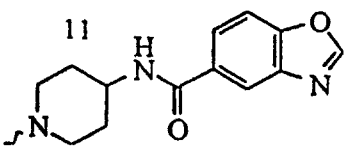
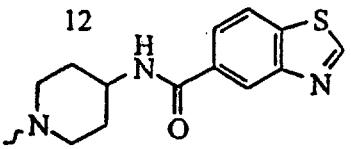
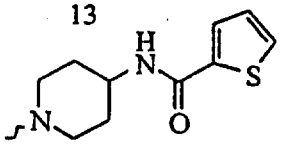
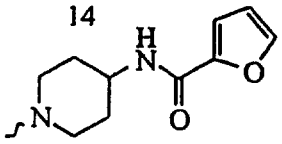
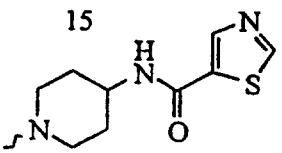
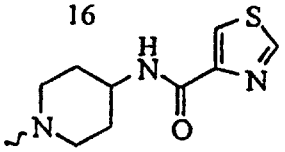
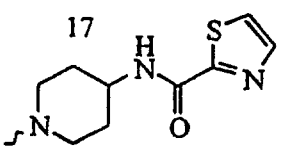
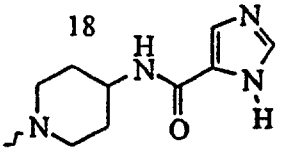
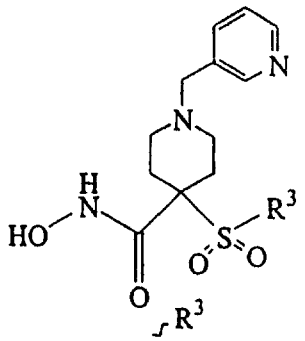
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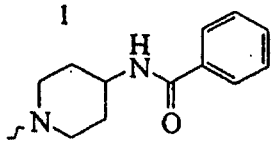
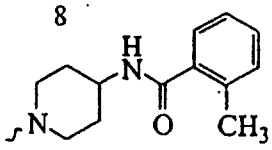
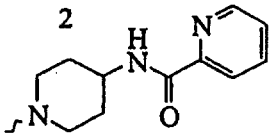
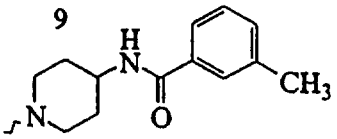
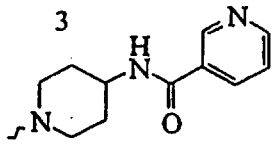
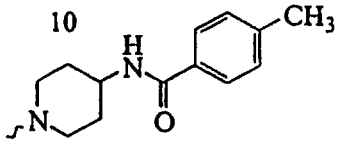
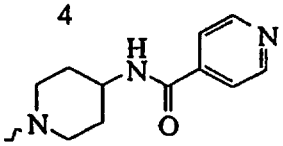
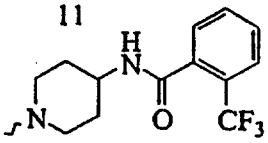
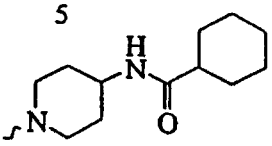
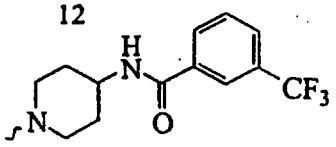
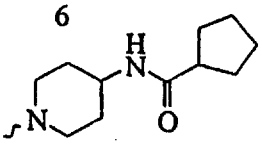
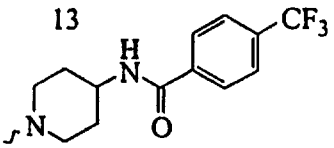
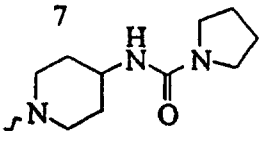
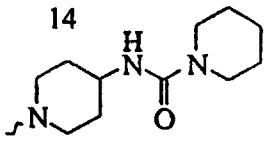
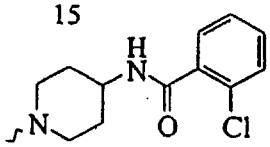
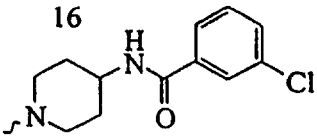
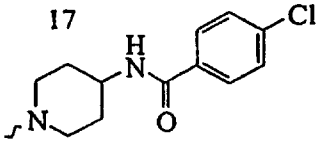
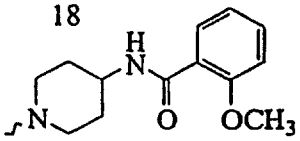
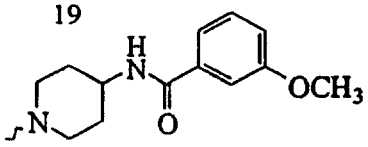
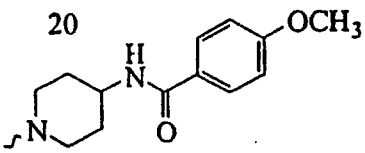
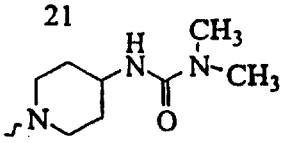
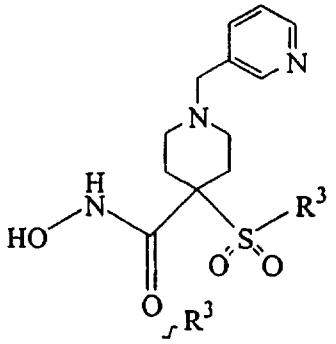
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Table 60



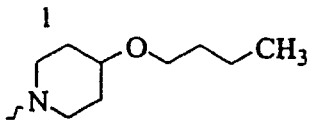
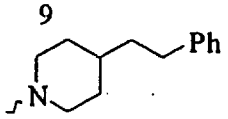
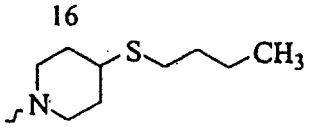
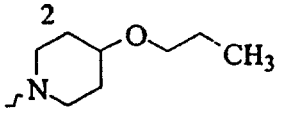
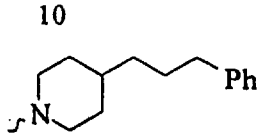
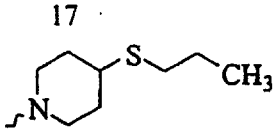
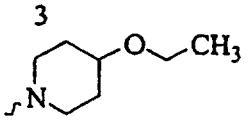
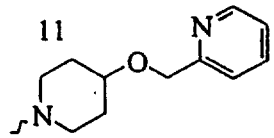
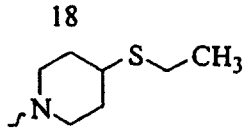
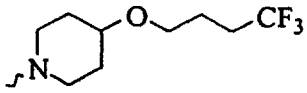
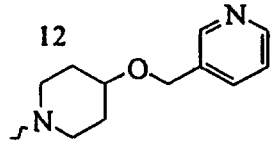
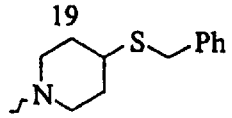
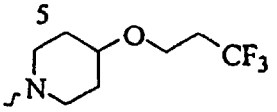
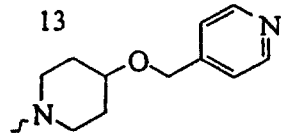
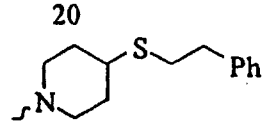
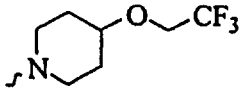
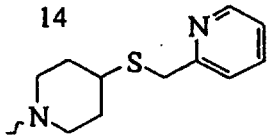
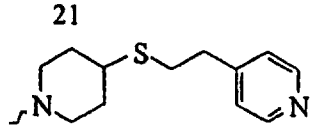
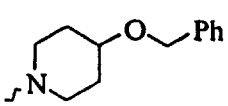
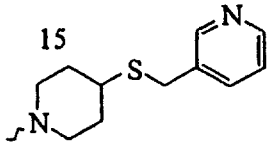
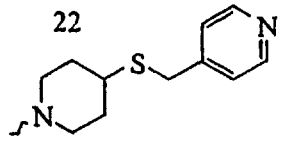
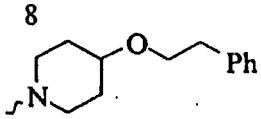
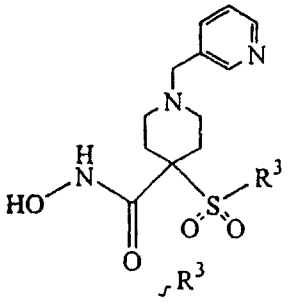
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Table 61



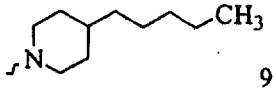
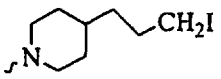
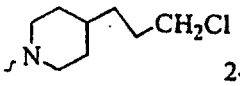
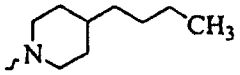
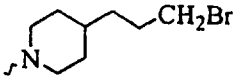
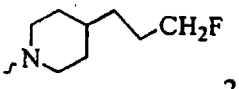
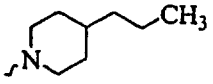
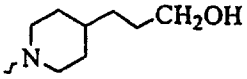
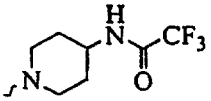
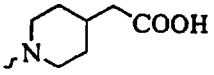
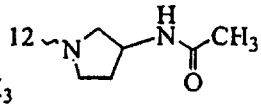
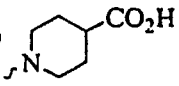
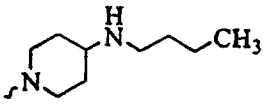
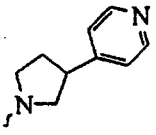
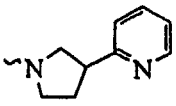
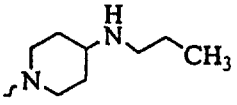
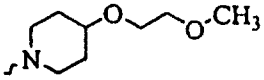
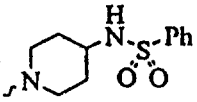
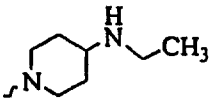
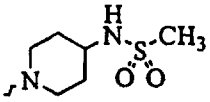
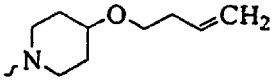
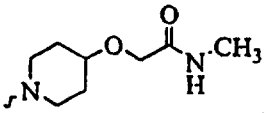
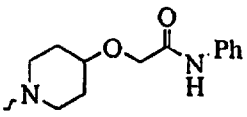
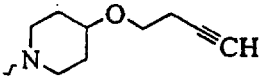
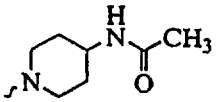
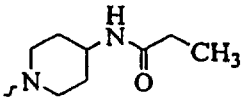
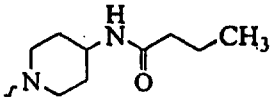
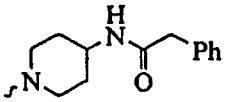
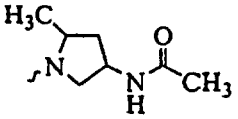
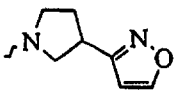
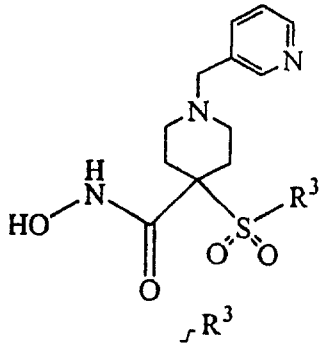
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Table 62



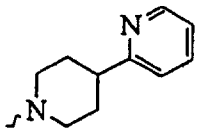
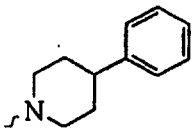
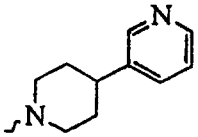
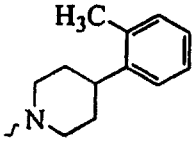
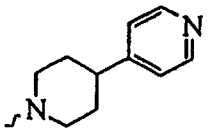
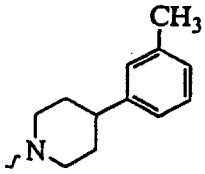
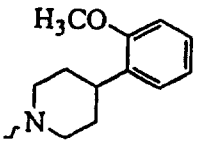
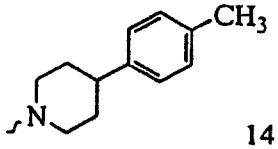
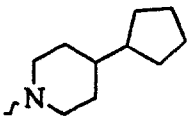
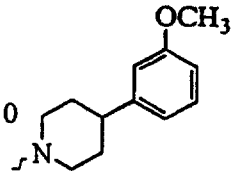
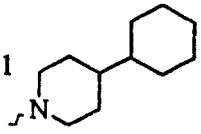
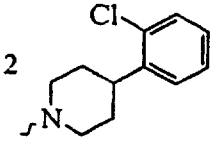
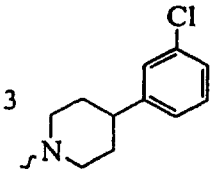
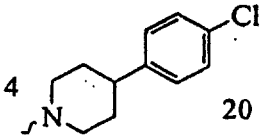
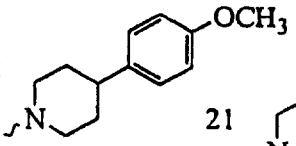
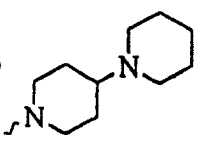
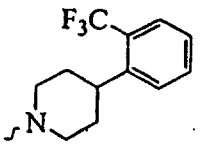
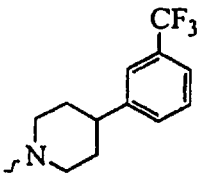
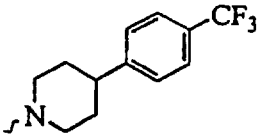
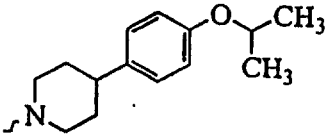
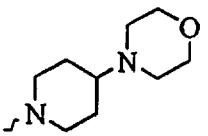
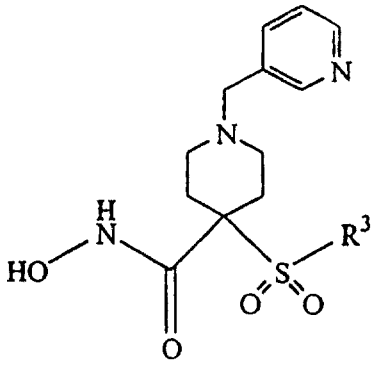
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Table 63





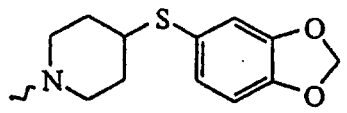
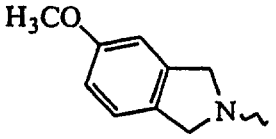
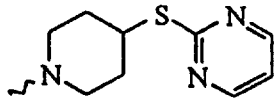
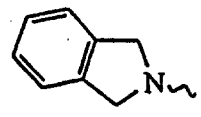
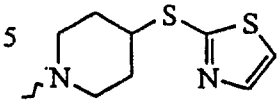
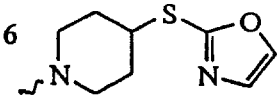
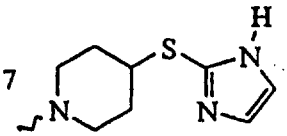
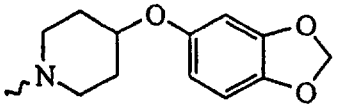
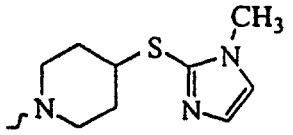
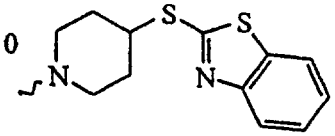
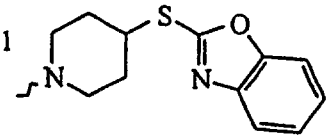
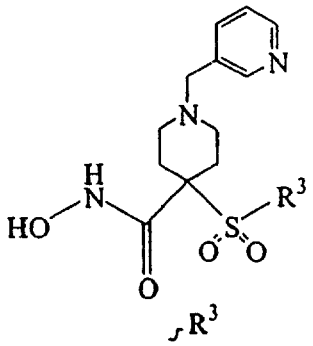
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Table 64



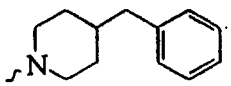
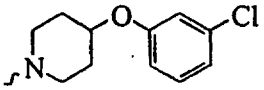
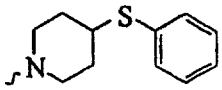
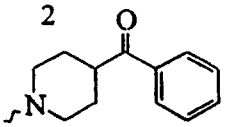
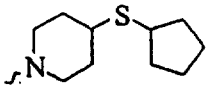
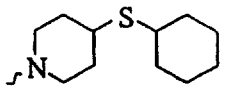
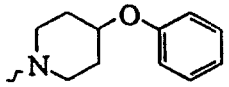
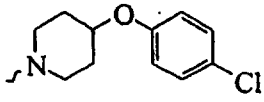
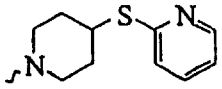
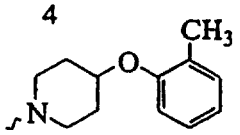
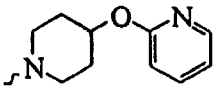
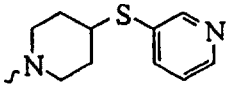
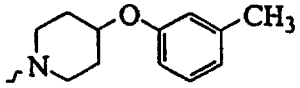
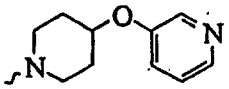
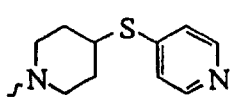
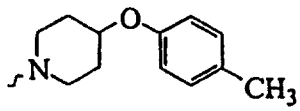
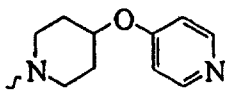
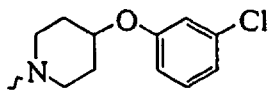
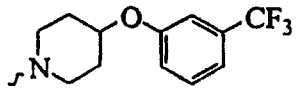
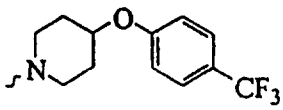
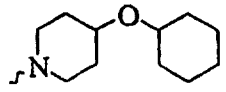
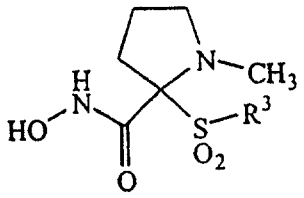
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Table 65



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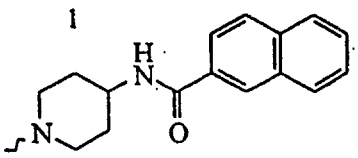
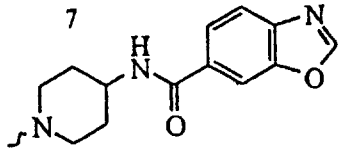
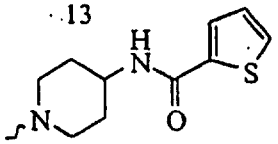
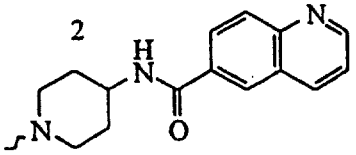
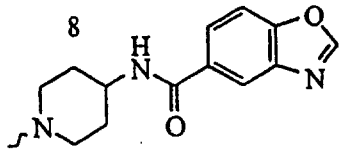
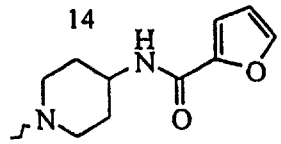
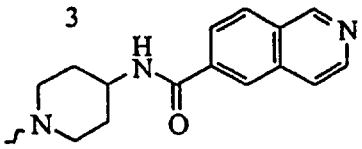
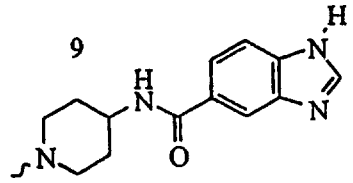
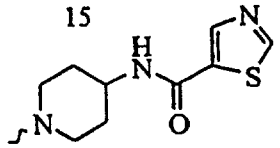
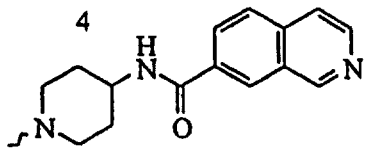
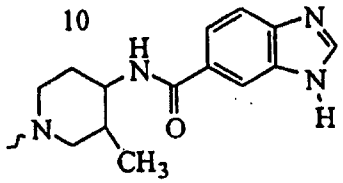
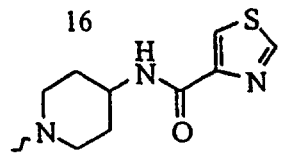
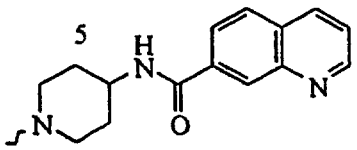
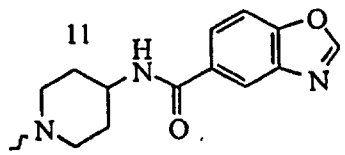
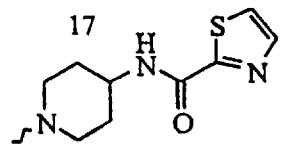
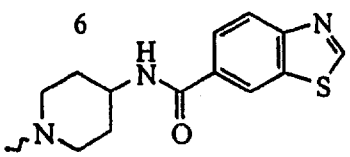
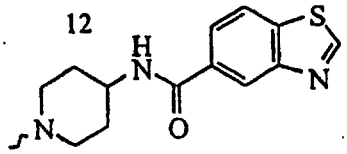
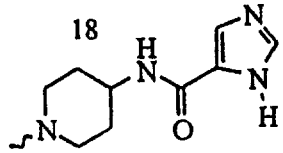
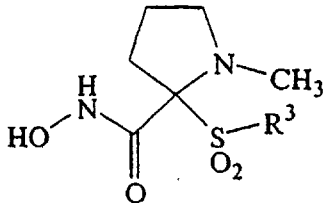
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Table 66



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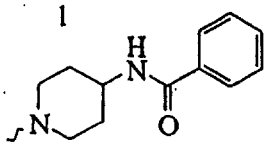
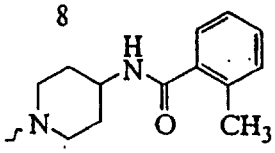
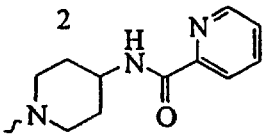
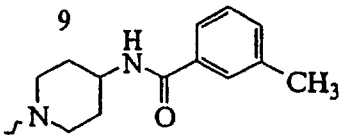
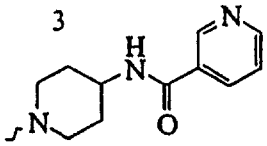
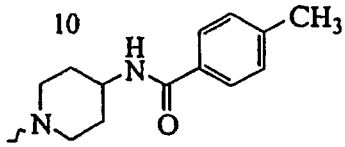
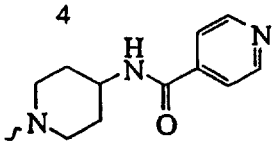
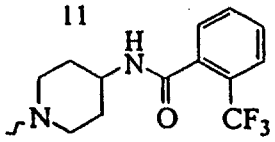
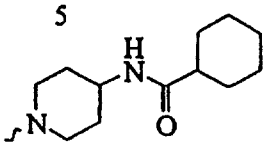
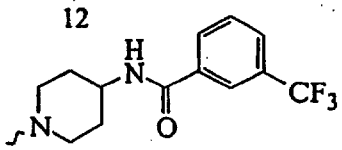
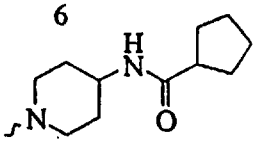
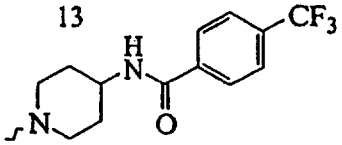
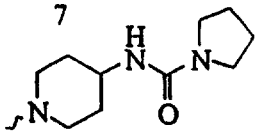
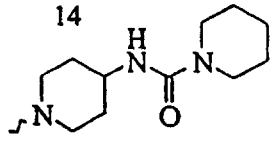
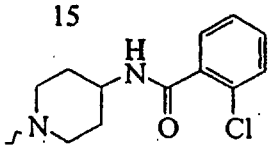
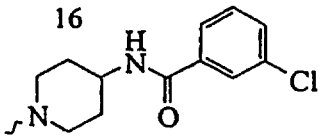
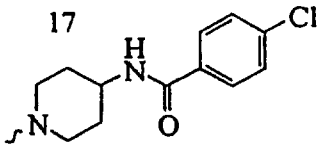
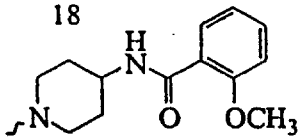
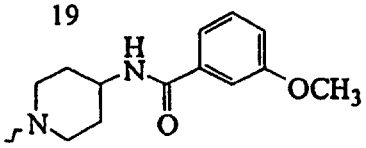
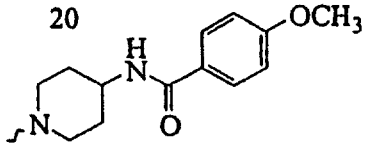
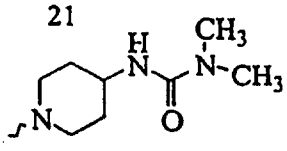
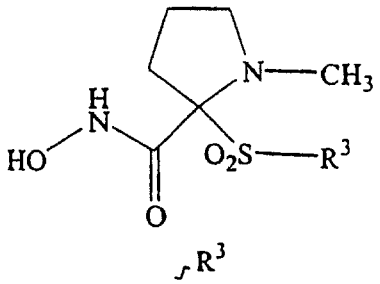
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Table 67



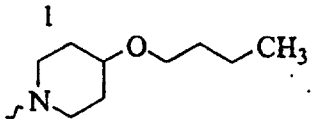
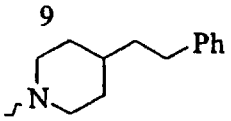
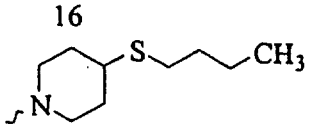
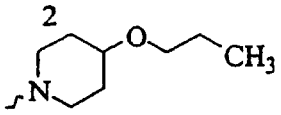
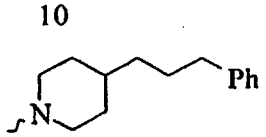
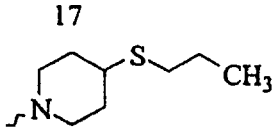
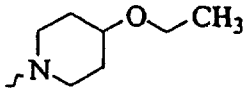
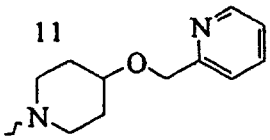
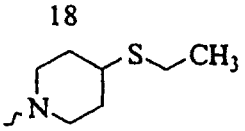
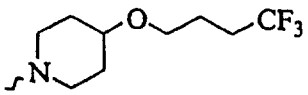
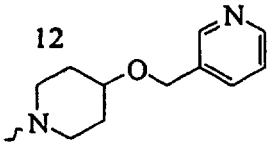
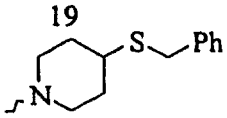
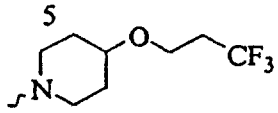
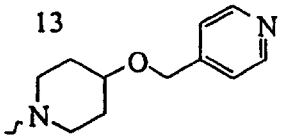
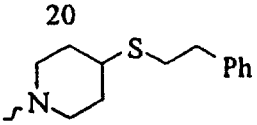
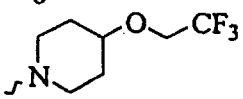
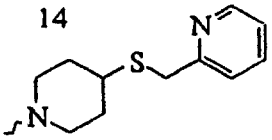
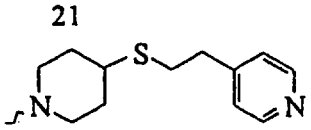
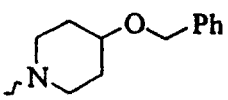
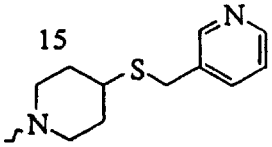
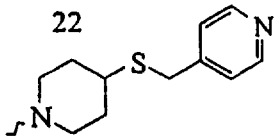
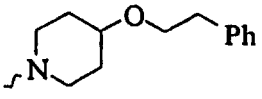
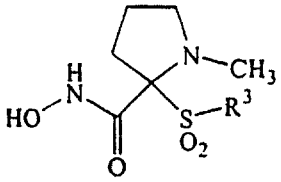
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Table 68



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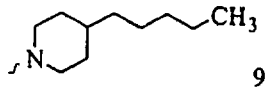
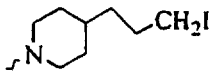
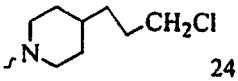
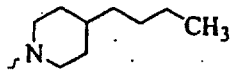
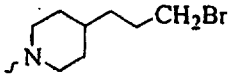
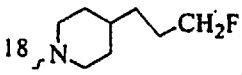
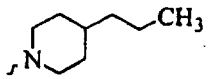
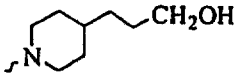
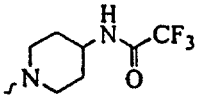
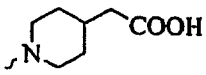
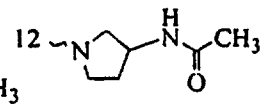
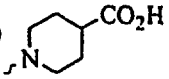
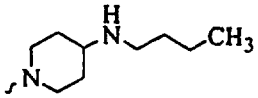
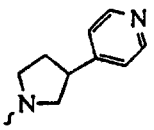
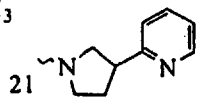
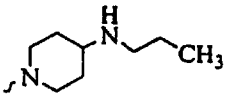
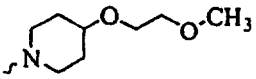
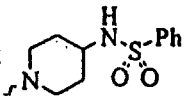
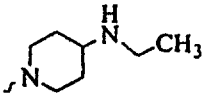
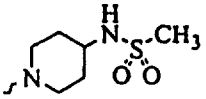
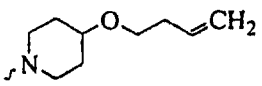
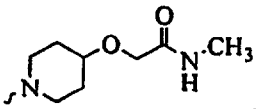
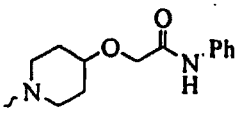
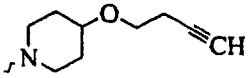
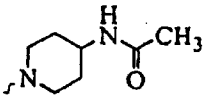
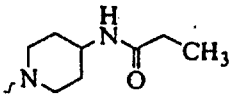
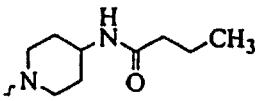
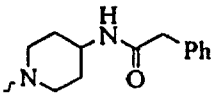
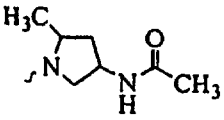
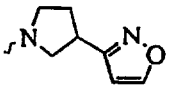
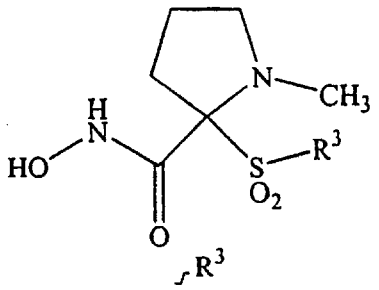
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Table 69



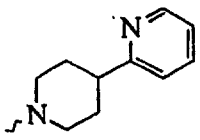
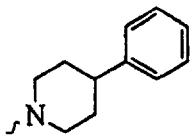
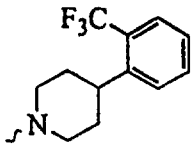
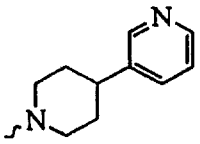
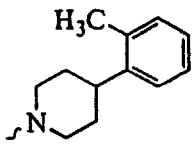
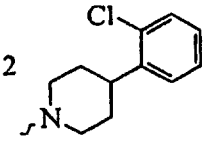
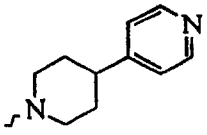
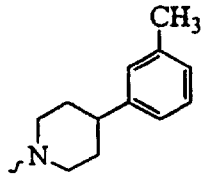
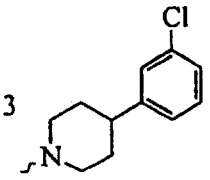
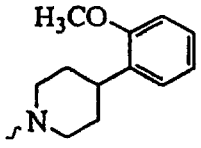
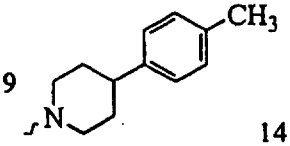
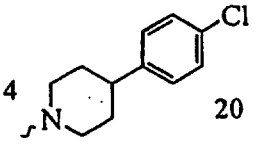
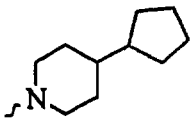
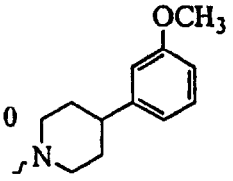
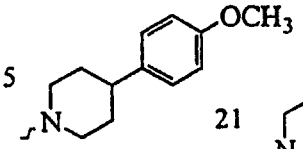
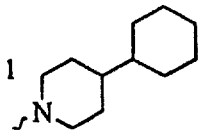
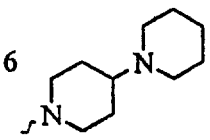
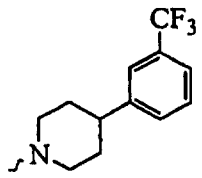
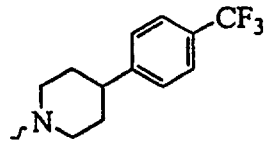
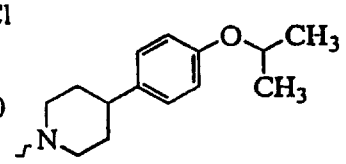
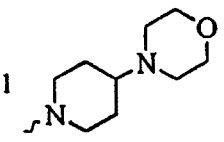
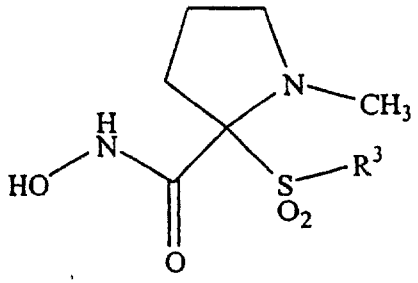
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Table 70



R^3

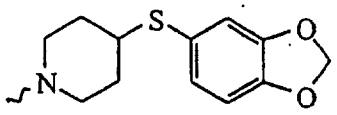
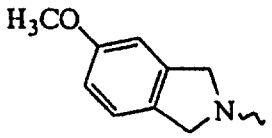
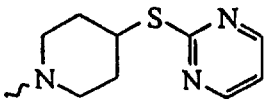
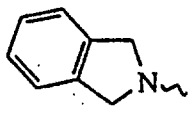
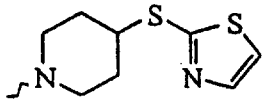
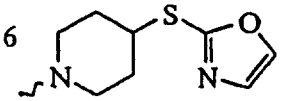
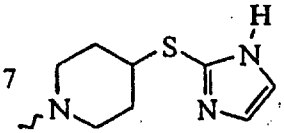
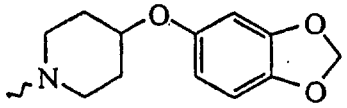
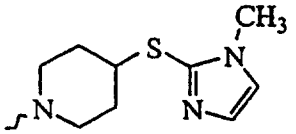
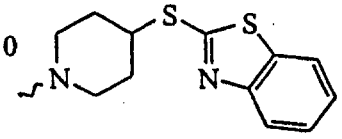
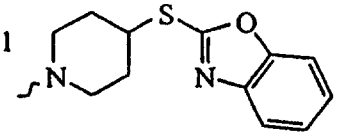
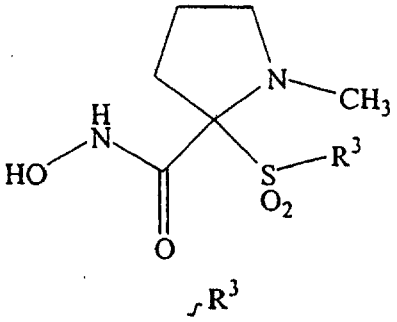
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Table 71



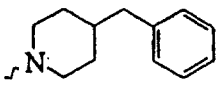
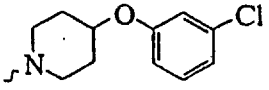
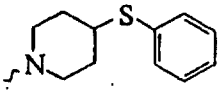
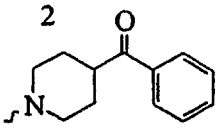
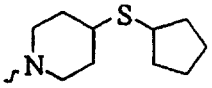
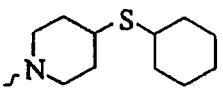
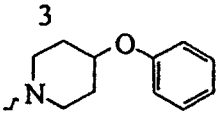
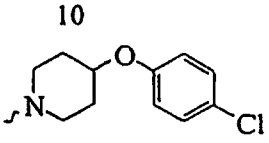
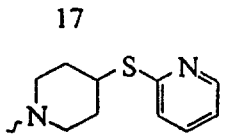
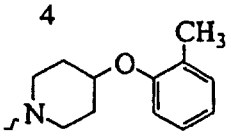
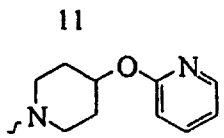
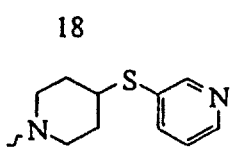
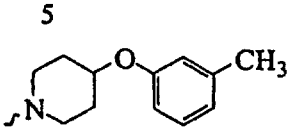
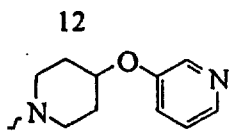
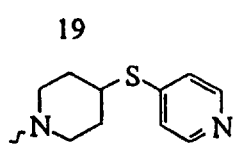
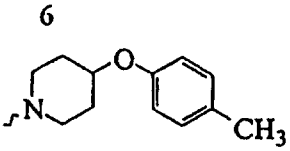
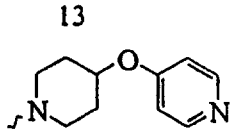
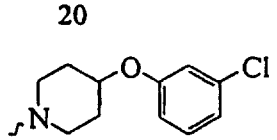
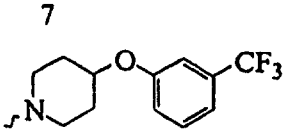
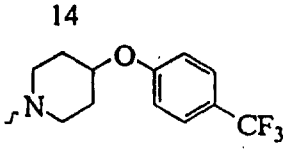
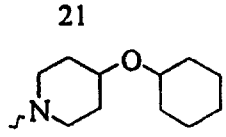
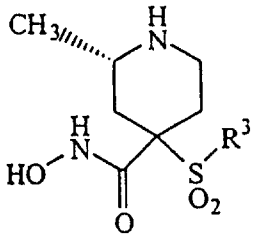
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Table 72





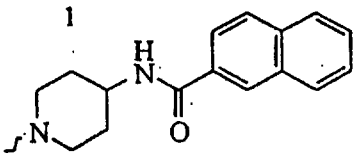
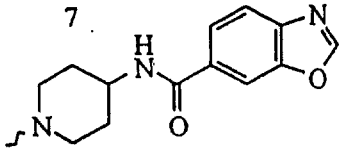
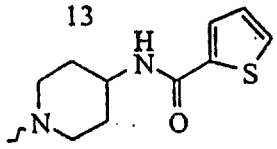
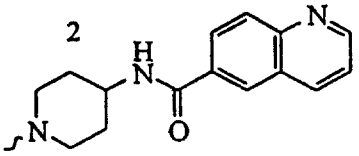
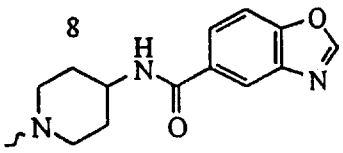
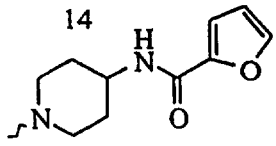
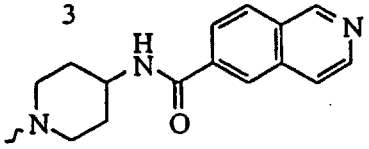
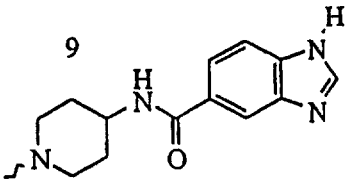
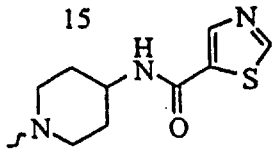
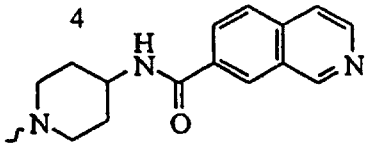
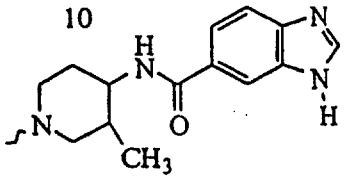
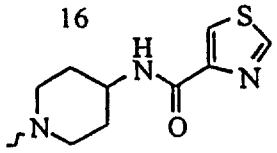
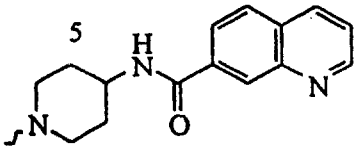
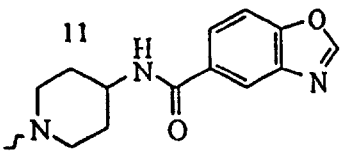
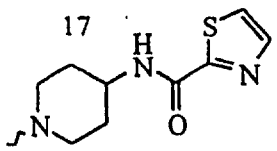
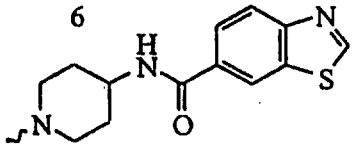
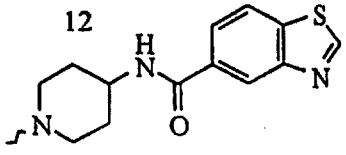
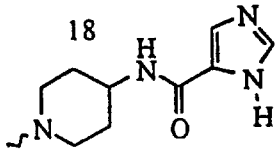
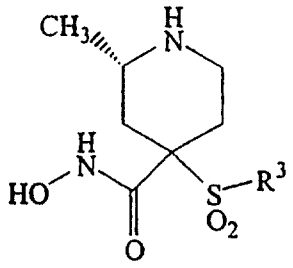
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Table 73



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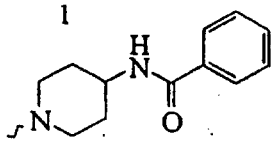
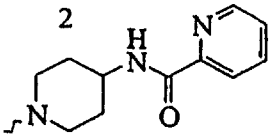
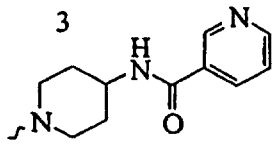
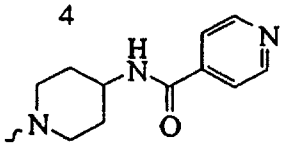
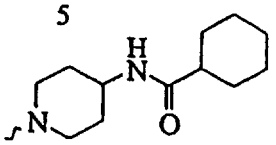
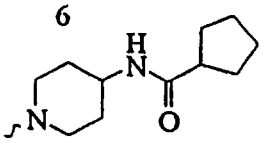
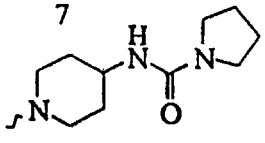
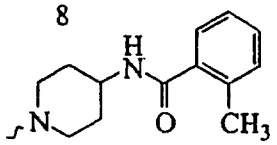
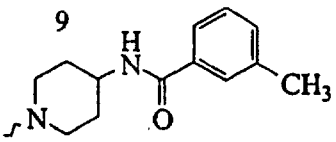
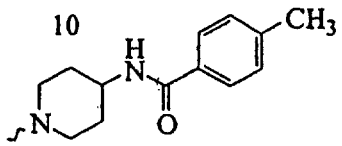
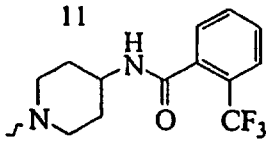
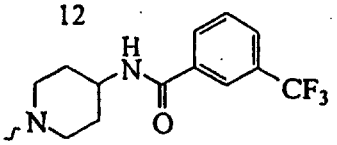
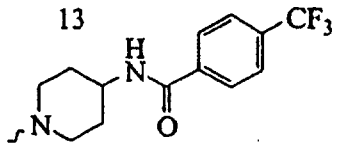
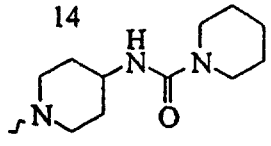
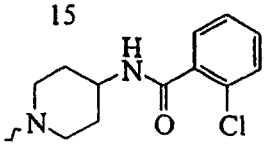
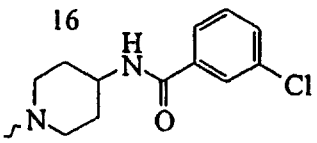
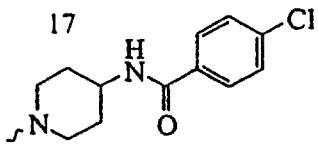
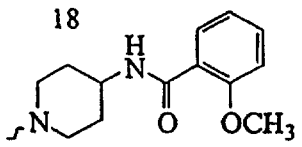
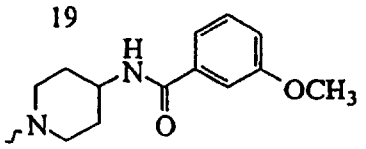
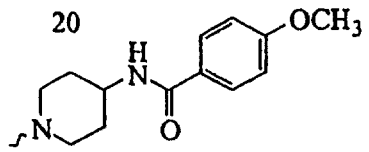
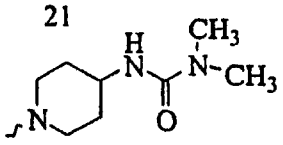
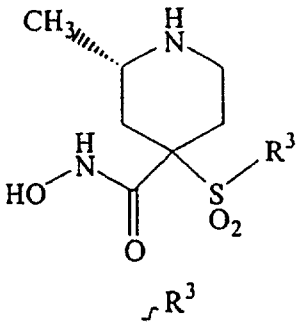
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Table 74



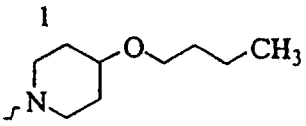
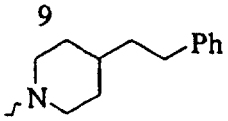
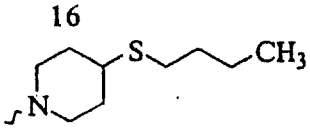
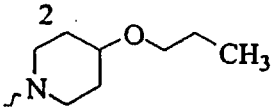
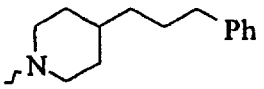
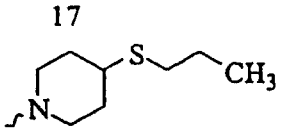
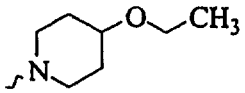
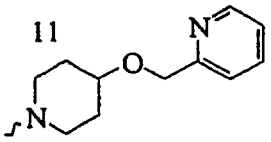
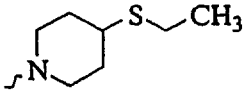
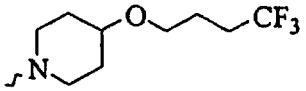
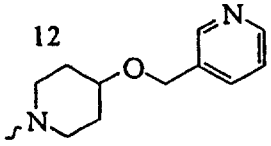
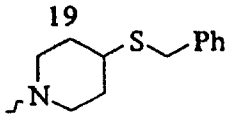
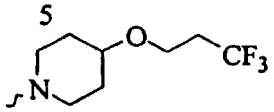
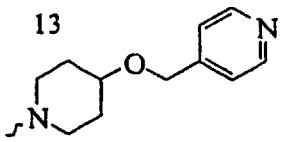
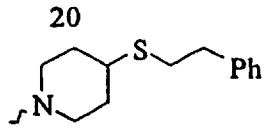
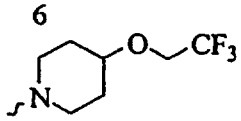
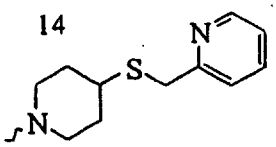
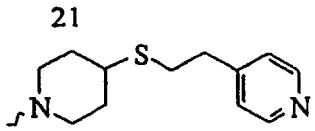
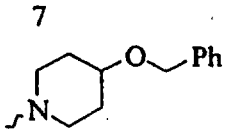
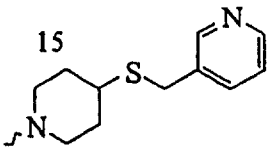
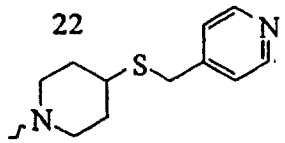
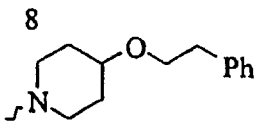
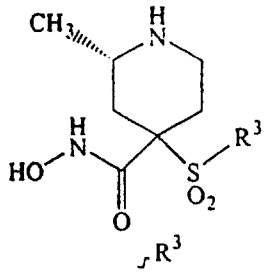
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Table 75



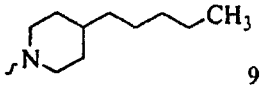
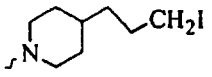
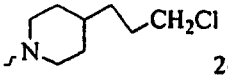
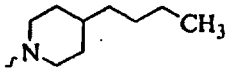
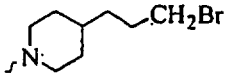
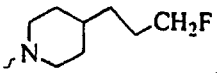
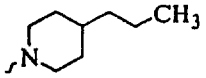
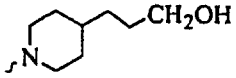
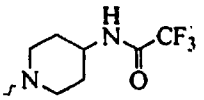
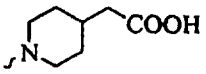
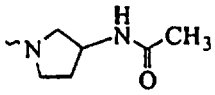
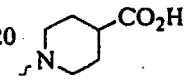
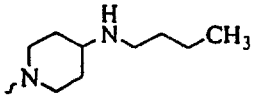
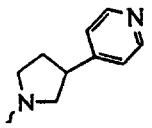
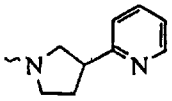
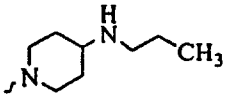
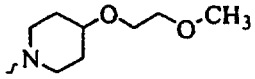
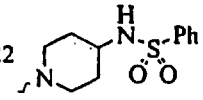
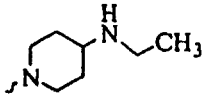
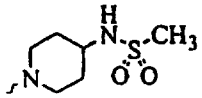
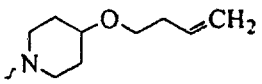
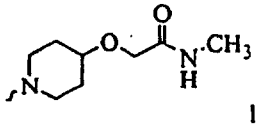
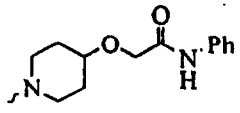
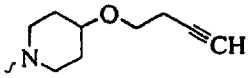
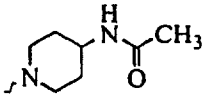
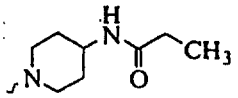
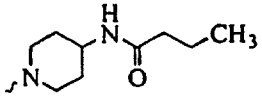
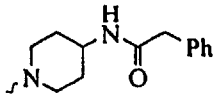
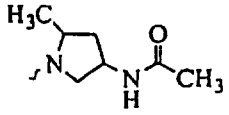
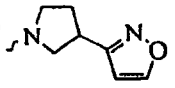
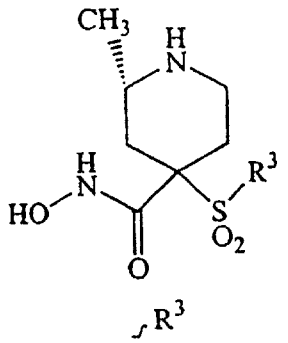
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Table 76



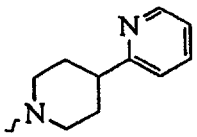
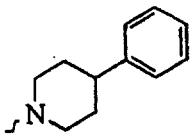
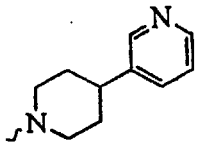
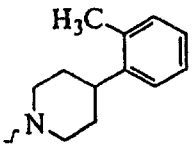
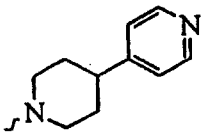
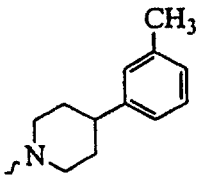
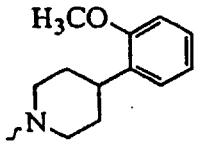
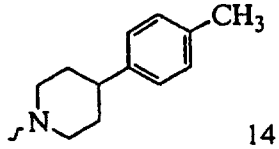
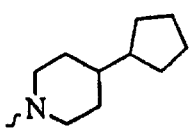
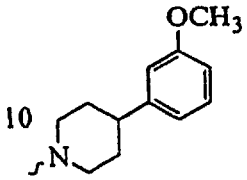
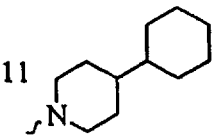
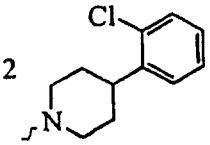
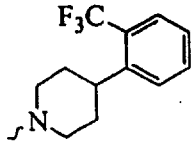
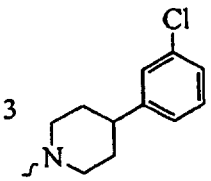
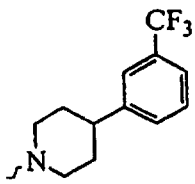
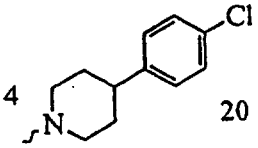
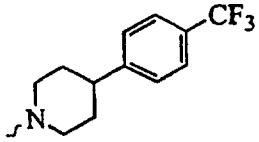
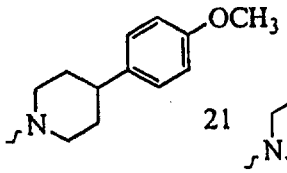
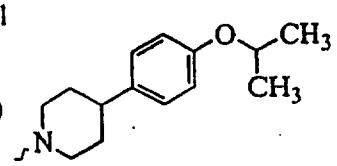
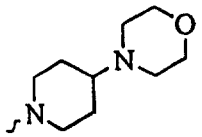
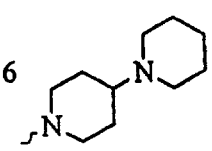
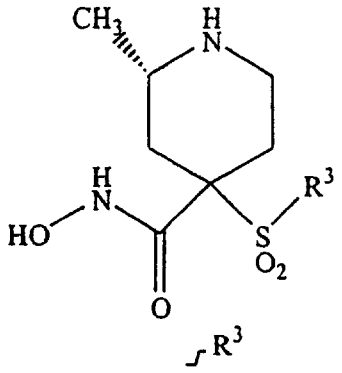
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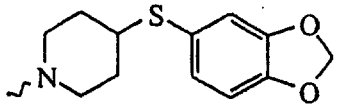
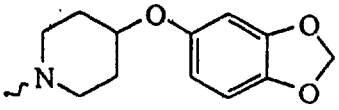
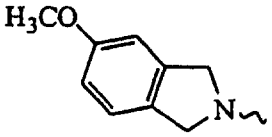
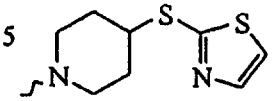
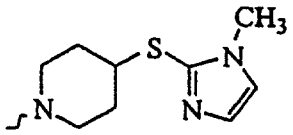
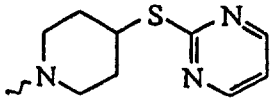
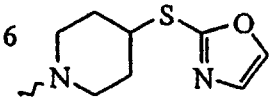
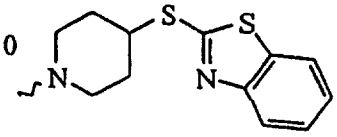
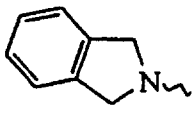
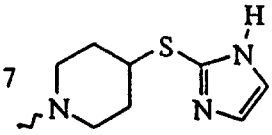
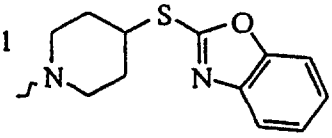
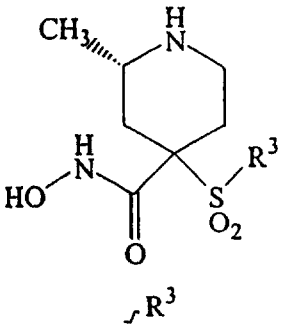
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Table 78



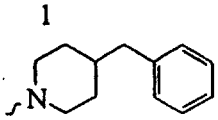
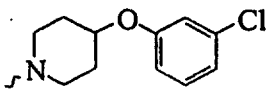
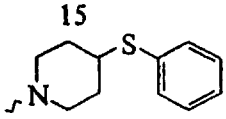
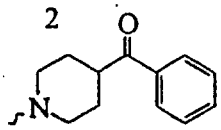
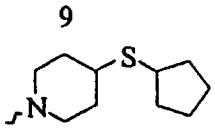
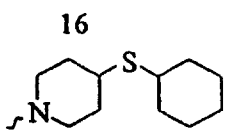
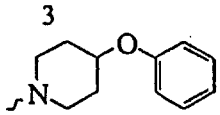
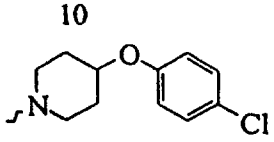
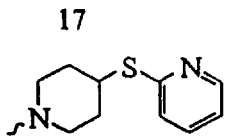
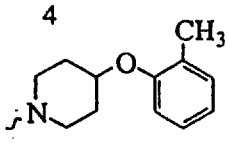
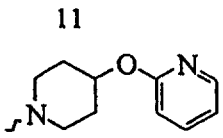
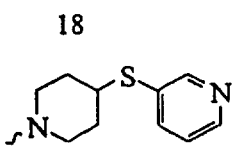
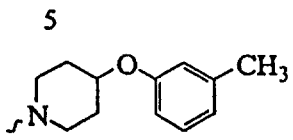
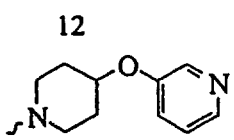
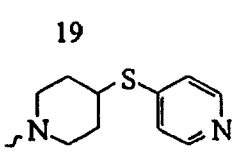
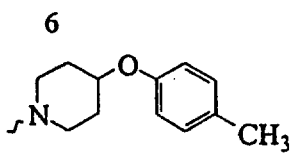
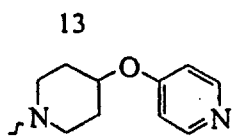
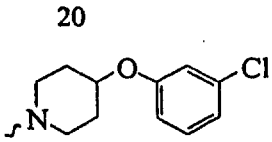
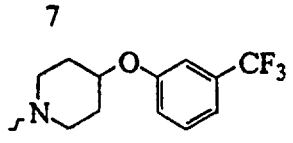
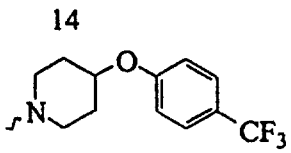
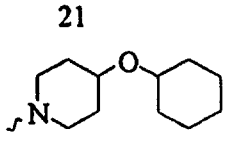
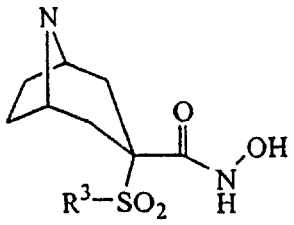
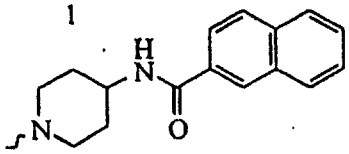
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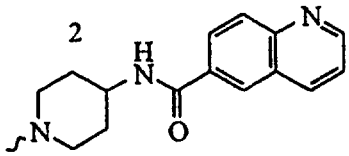
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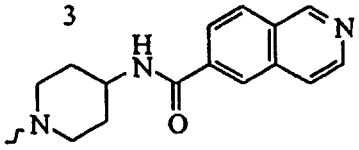


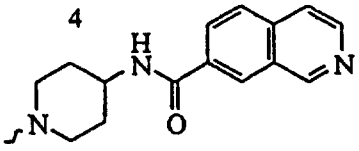
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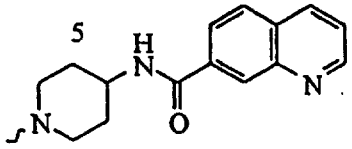
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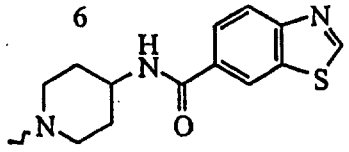
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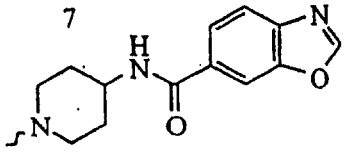
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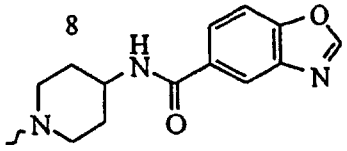
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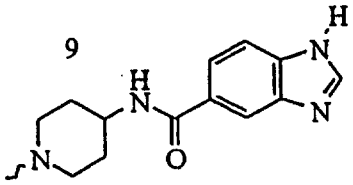
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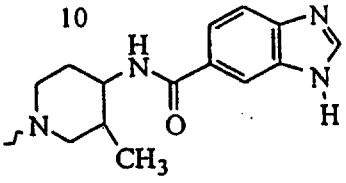
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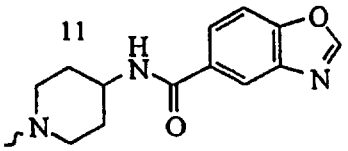
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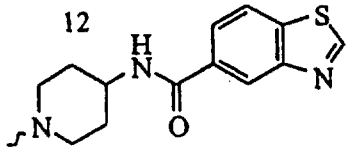
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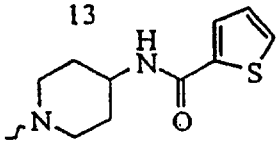
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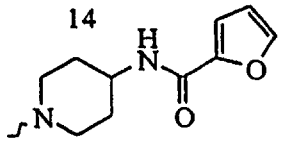
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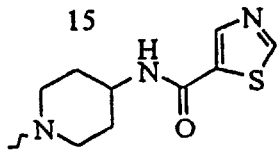
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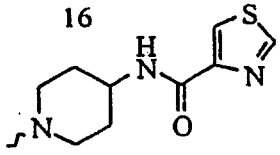
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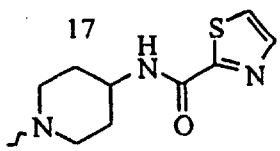
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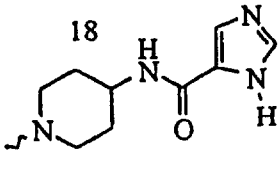
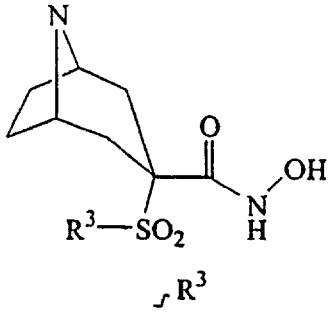
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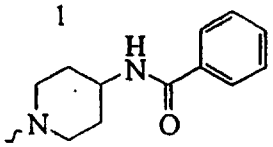
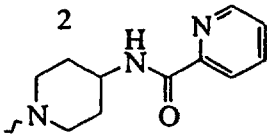
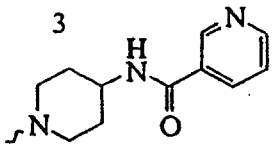
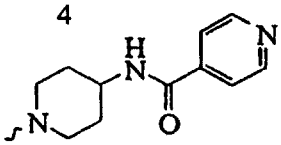
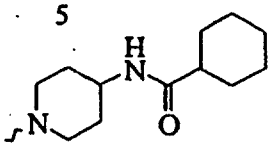
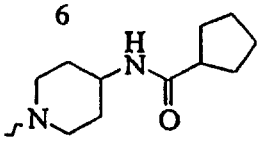
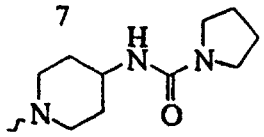
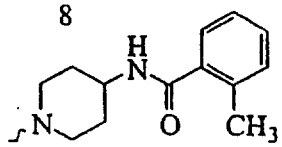
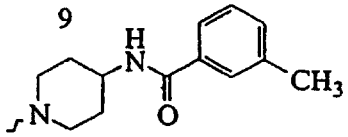
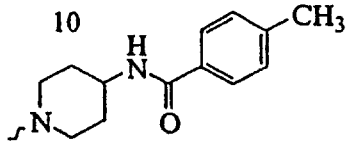
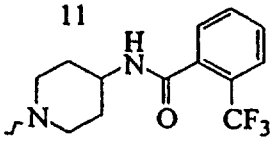
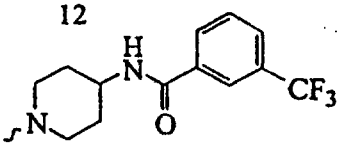
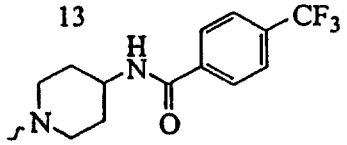
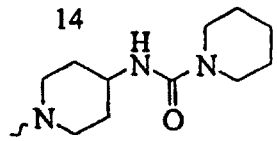
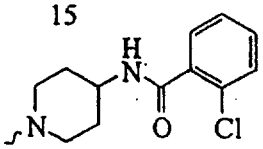
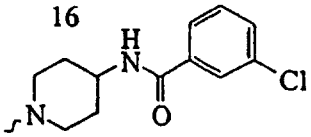
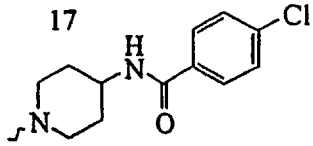
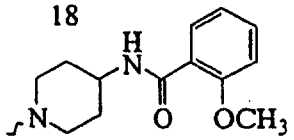
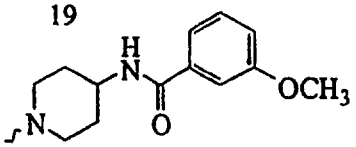
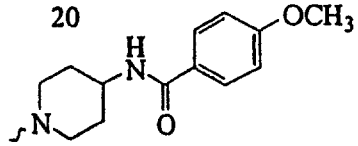
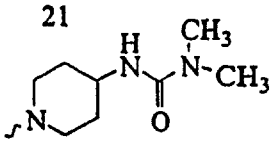
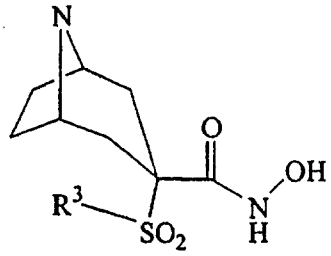
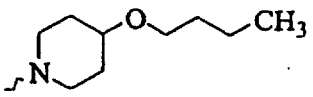
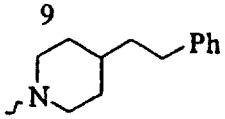
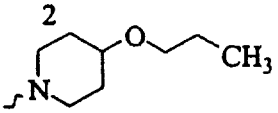
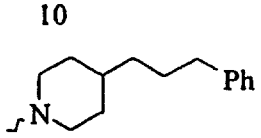
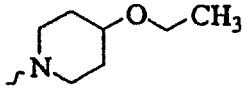
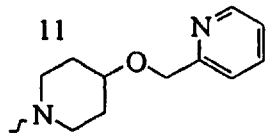
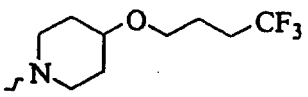
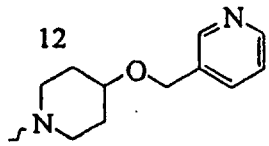
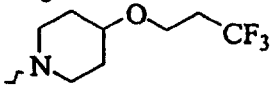
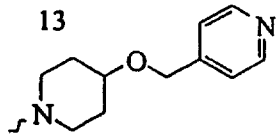
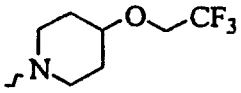
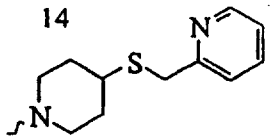
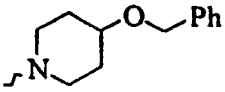
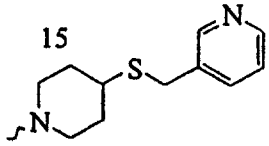
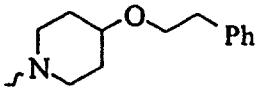
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Table 81



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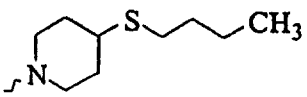
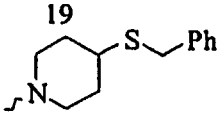
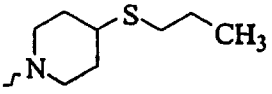
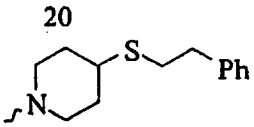
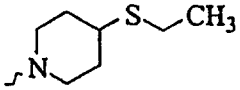
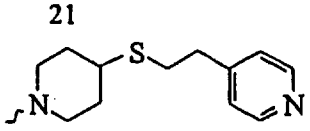
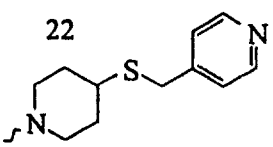
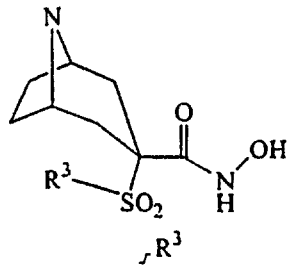
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Table 82



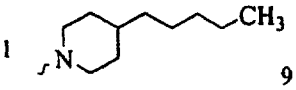
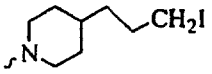
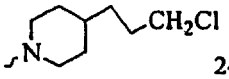
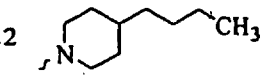
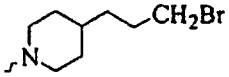
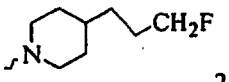
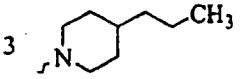
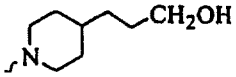
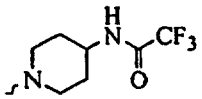
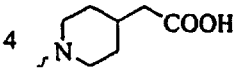
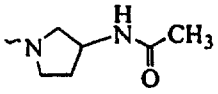
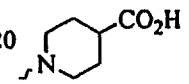
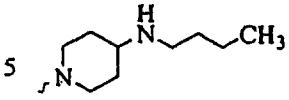
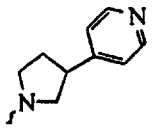
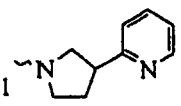
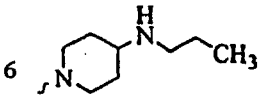
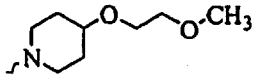
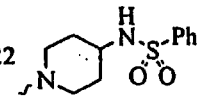
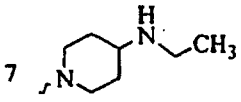
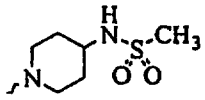
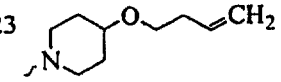
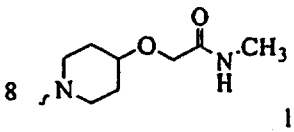
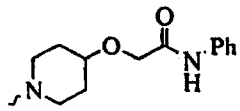
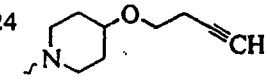
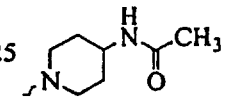
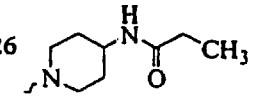
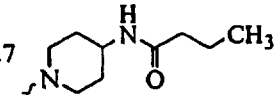
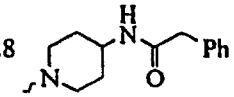
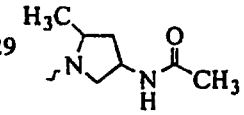
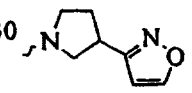
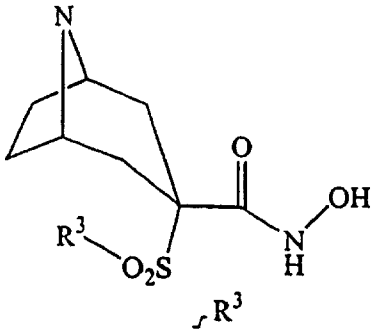
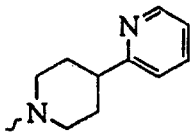
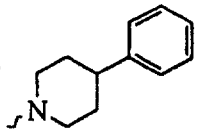
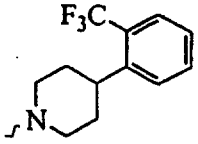
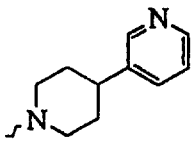
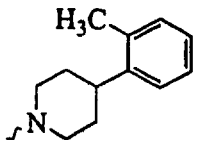
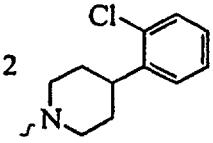
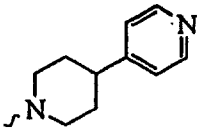
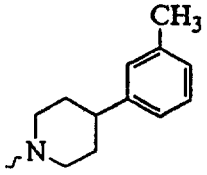
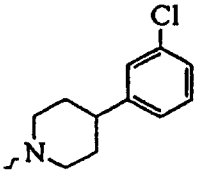
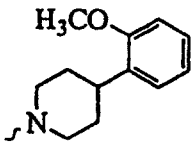
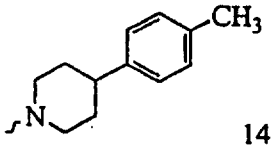
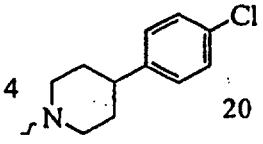
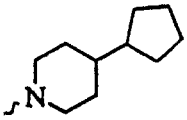
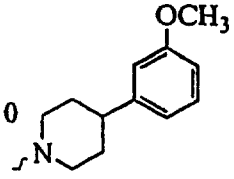
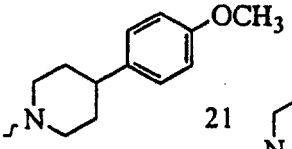
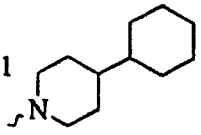
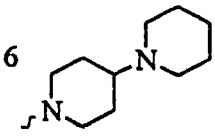
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Table 83



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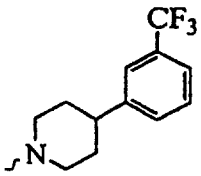
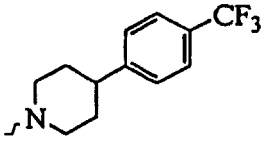
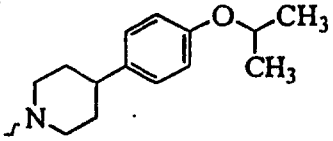
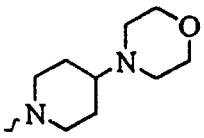
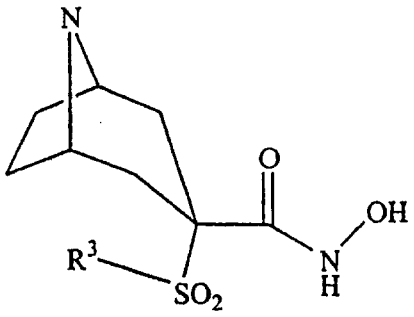
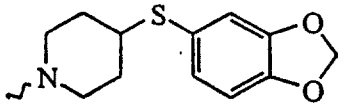
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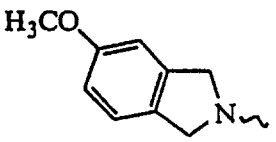
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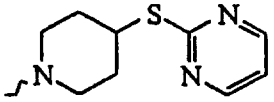


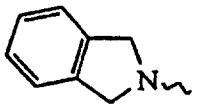
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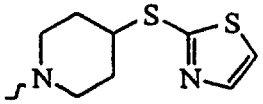
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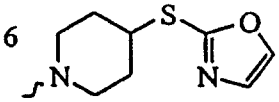
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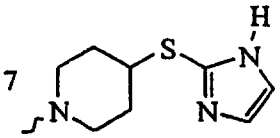
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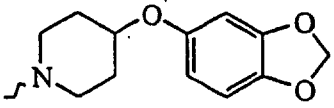
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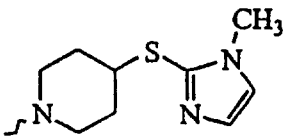
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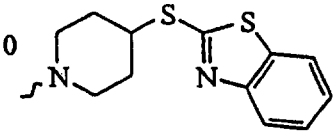
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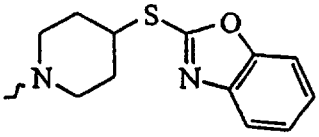
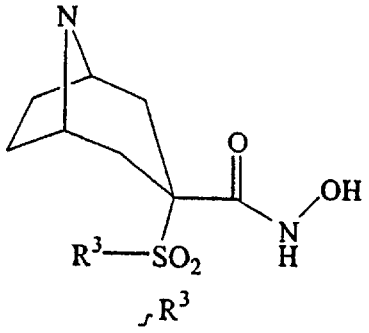
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Table 85



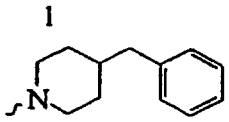
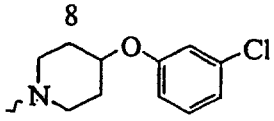
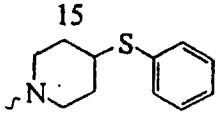
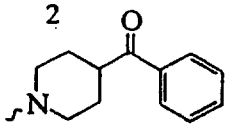
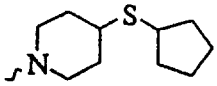
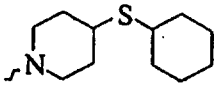
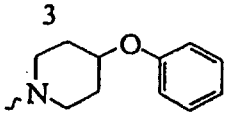
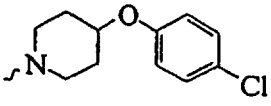
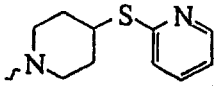
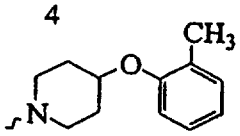
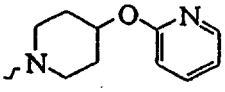
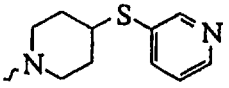
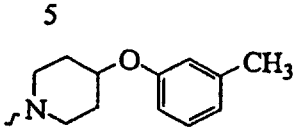
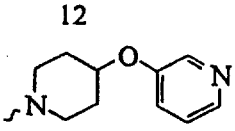
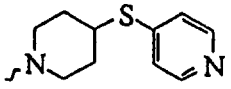
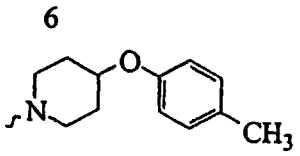
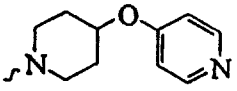
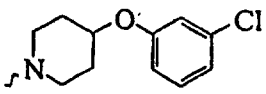
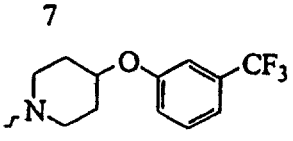
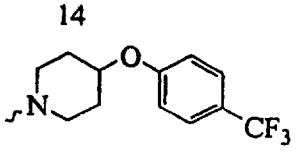
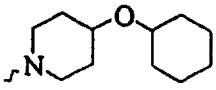
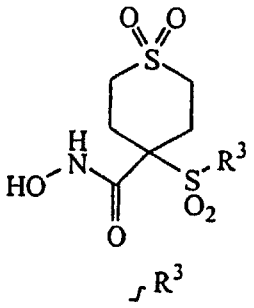
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Table 86



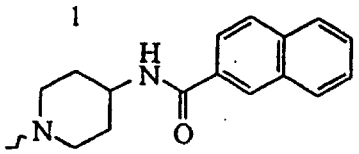
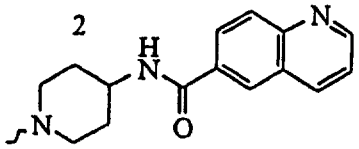
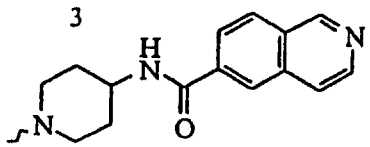
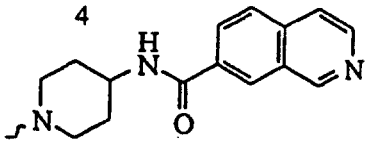
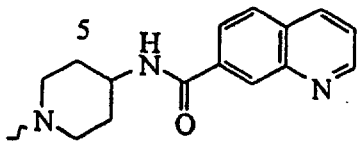
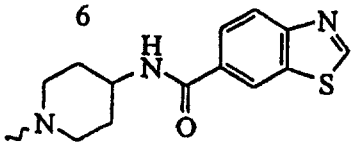
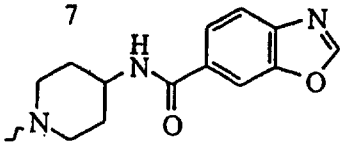
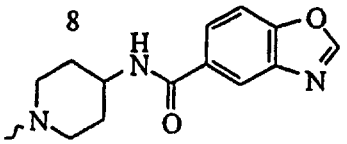
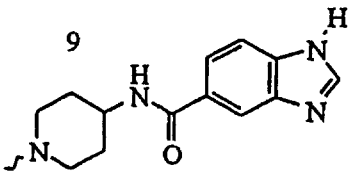
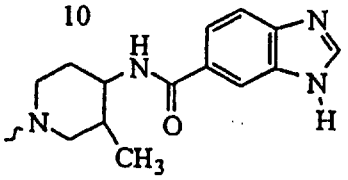
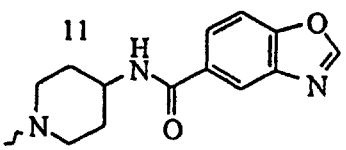
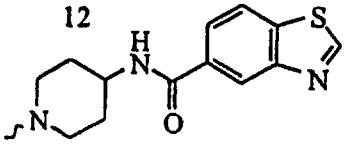
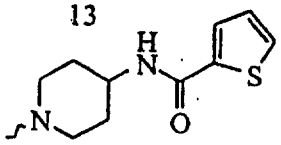
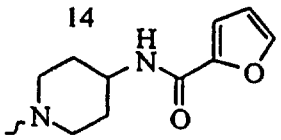
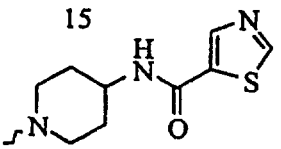
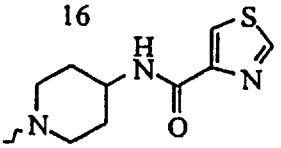
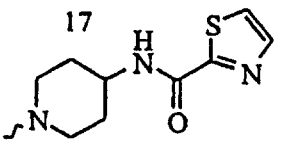
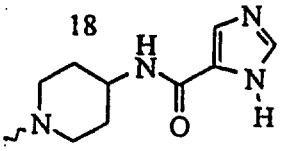
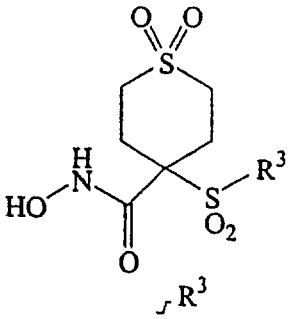
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Table 87



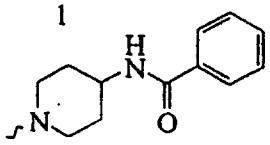
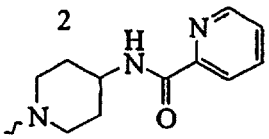
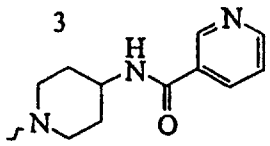
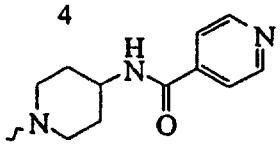
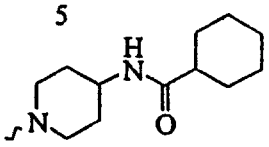
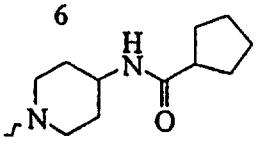
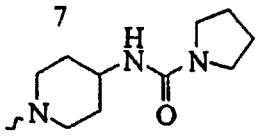
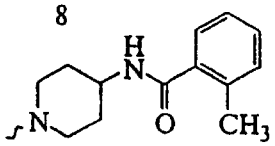
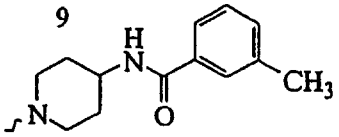
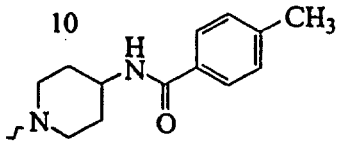
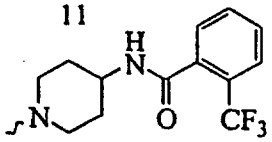
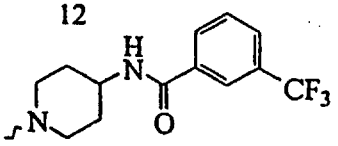
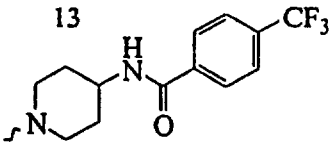
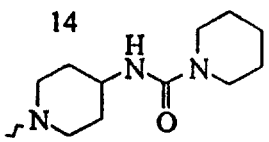
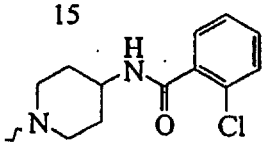
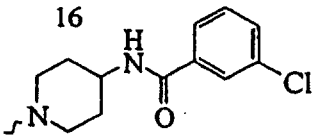
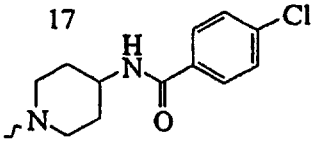
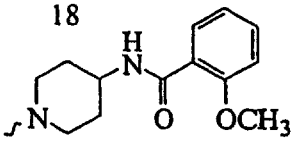
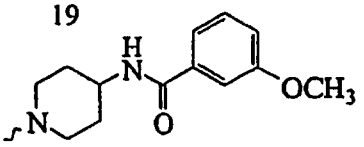
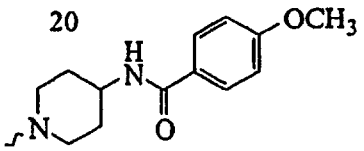
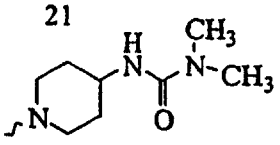
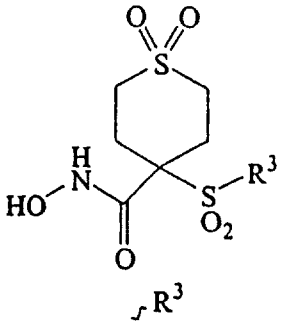
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Table 88



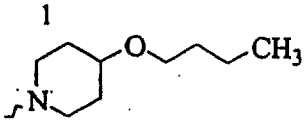
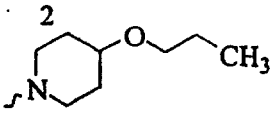
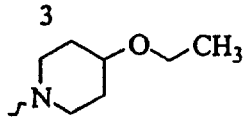
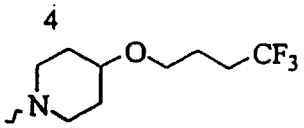
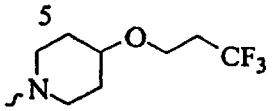
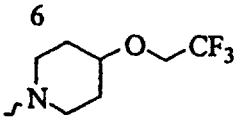
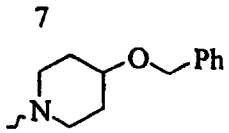
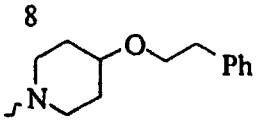
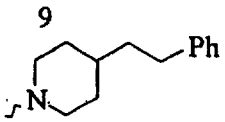
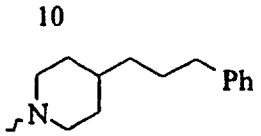
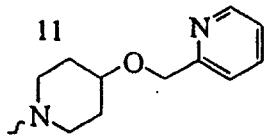
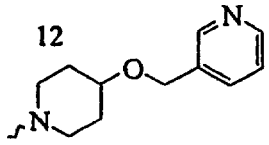
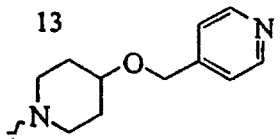
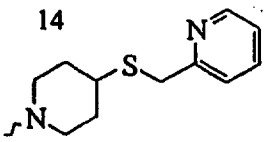
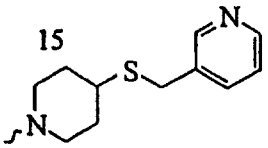
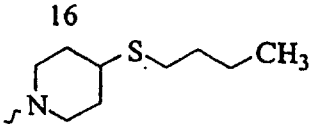
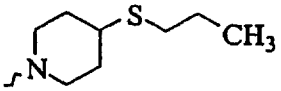
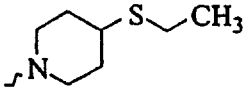
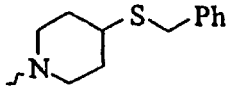
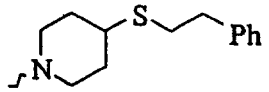
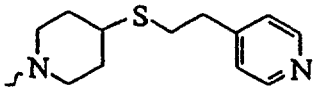
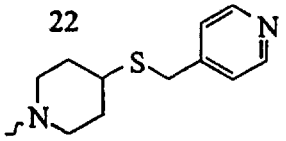
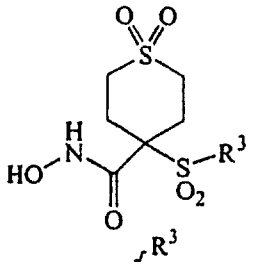
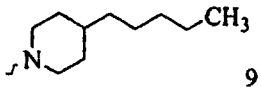
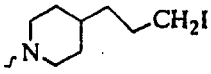
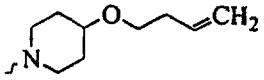
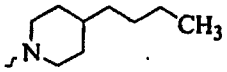
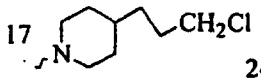
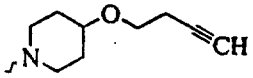
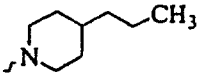
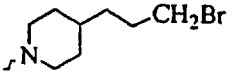
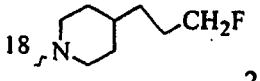
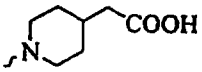
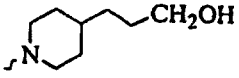
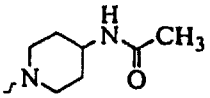
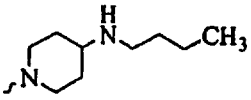
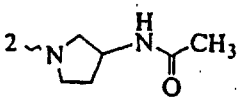
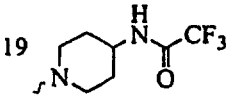
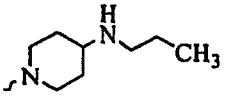
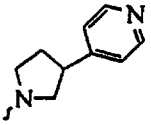
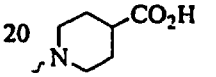
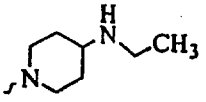
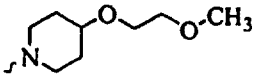
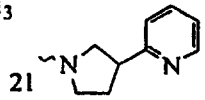
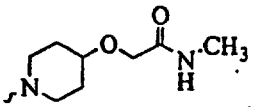
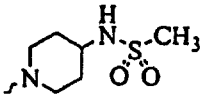
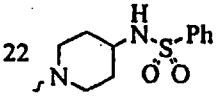
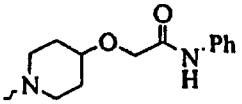
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Table 89



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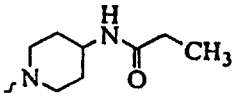
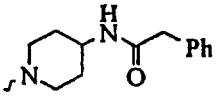
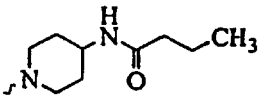
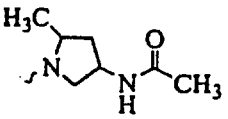
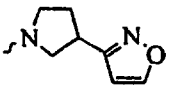
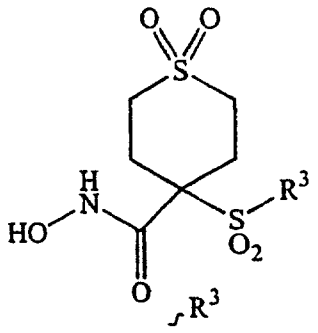
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Table 90



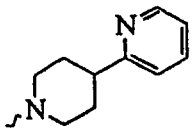
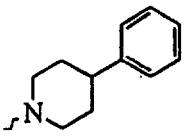
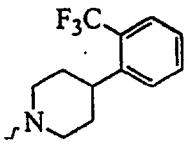
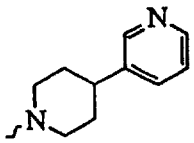
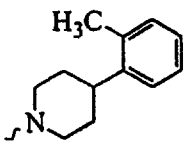
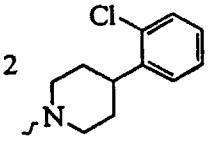
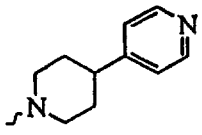
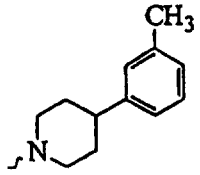
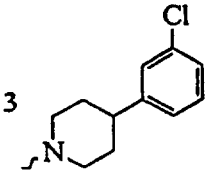
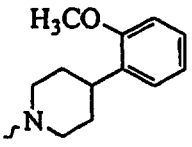
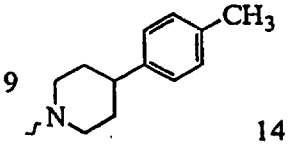
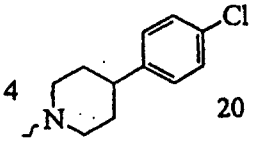
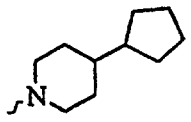
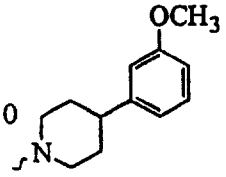
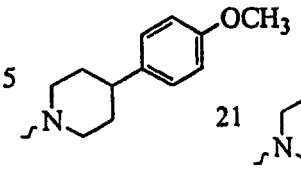
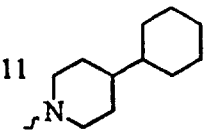
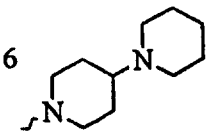
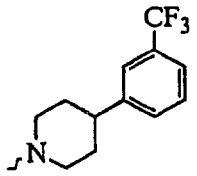
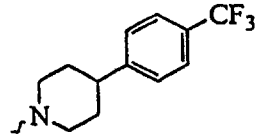
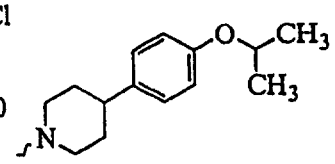
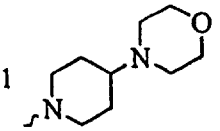
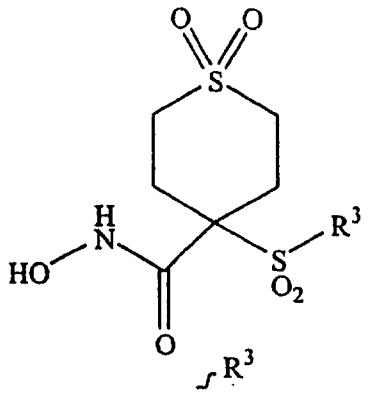
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Table 91



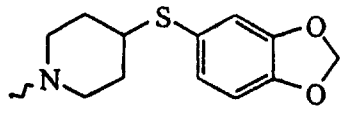
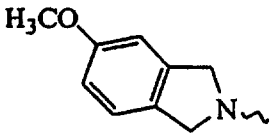
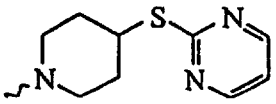
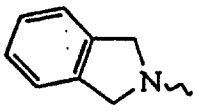
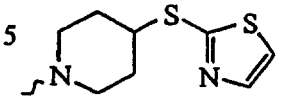
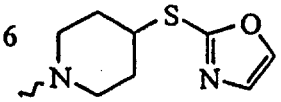
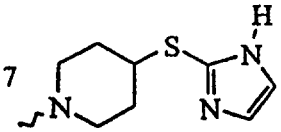
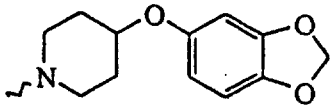
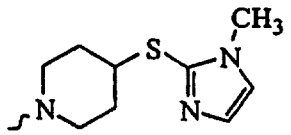
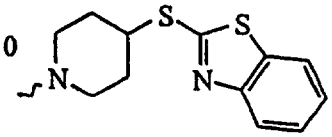
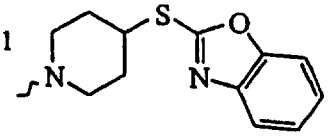
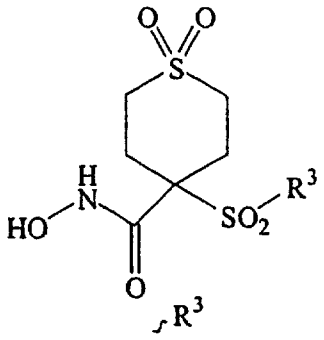
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Table 92



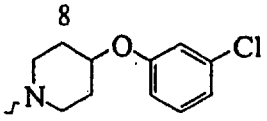
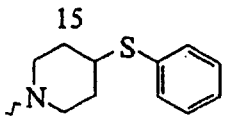
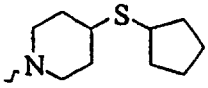
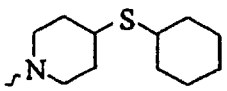
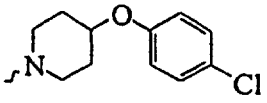
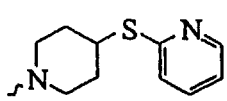
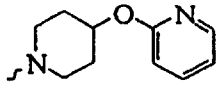
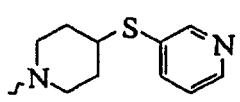
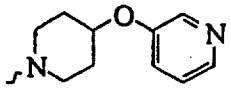
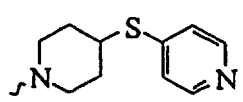
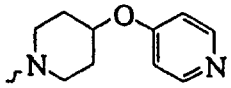
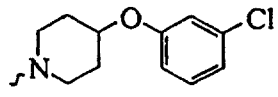
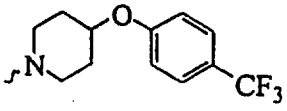
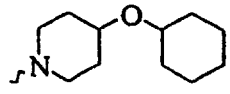
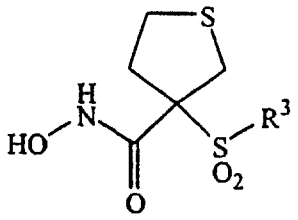
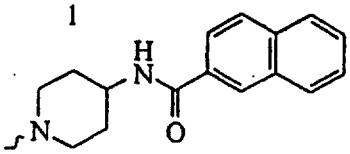
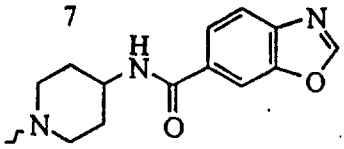
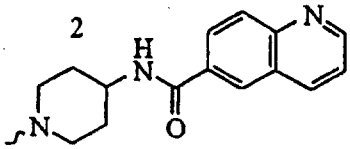
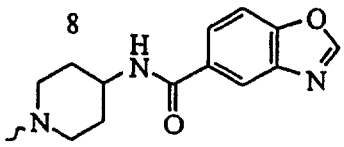
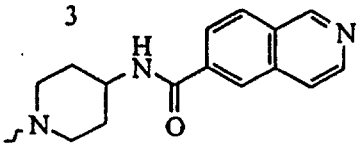
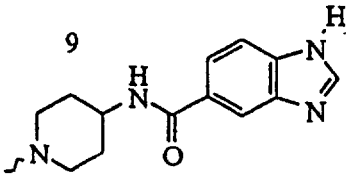
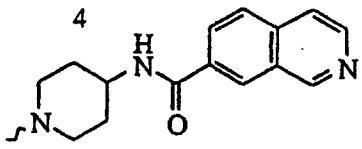
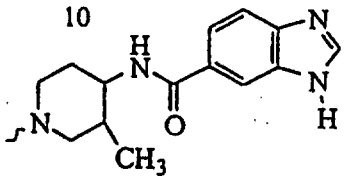
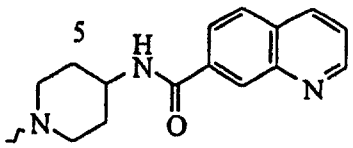
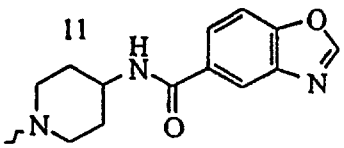
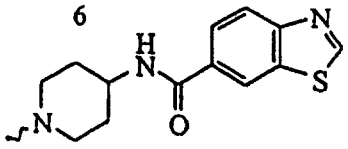
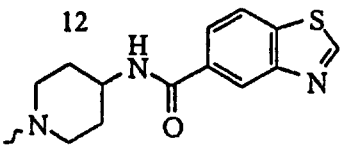
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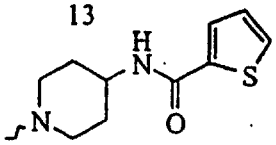
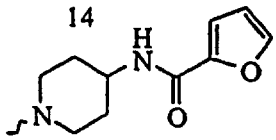
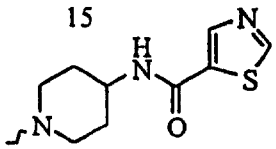
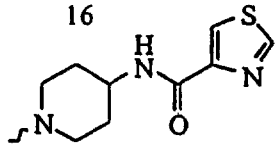
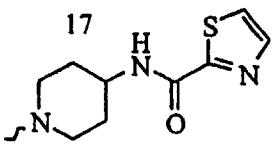
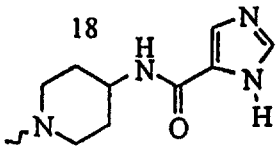
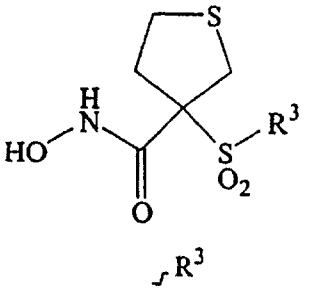
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Table 94



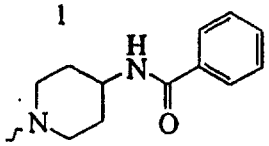
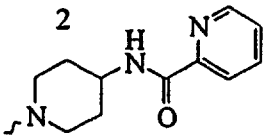
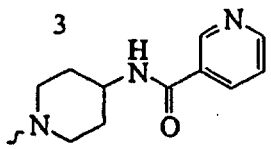
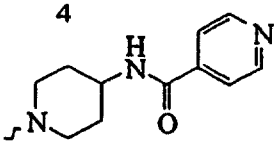
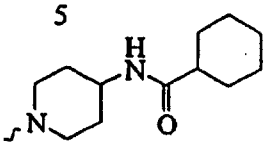
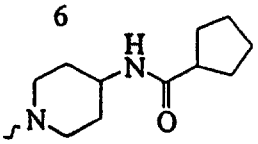
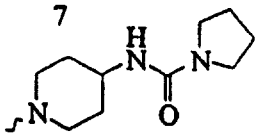
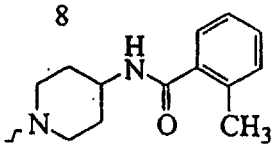
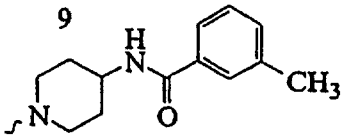
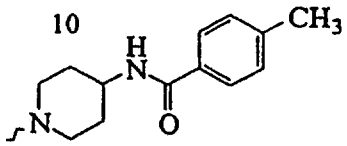
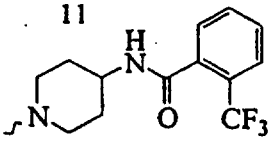
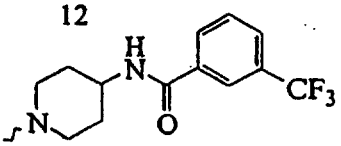
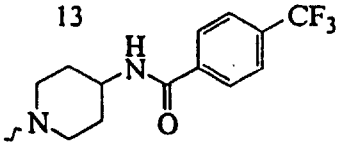
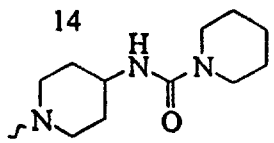
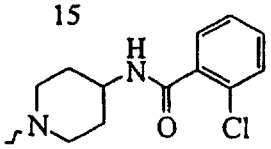
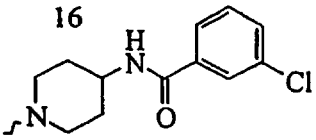
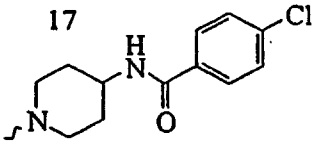
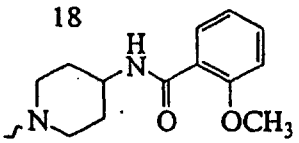
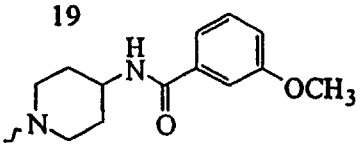
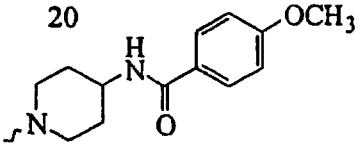
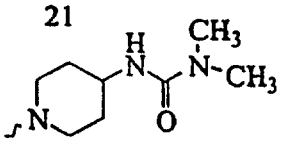
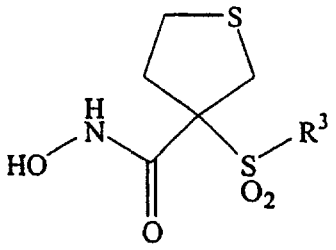
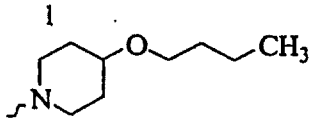
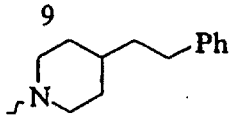
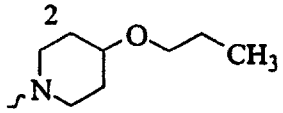
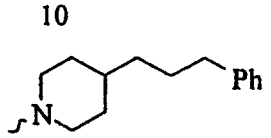
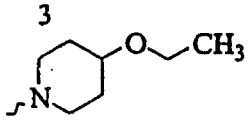
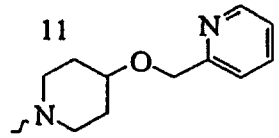
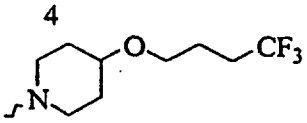
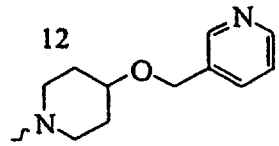
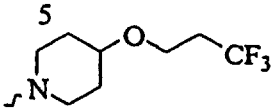
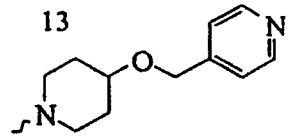
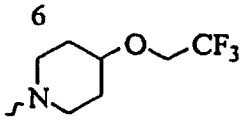
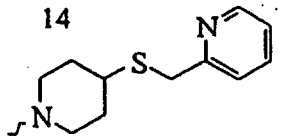
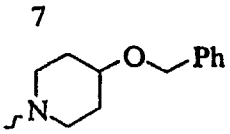
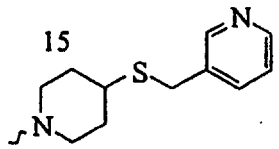
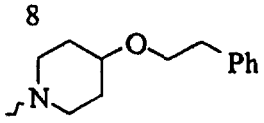
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Table 95



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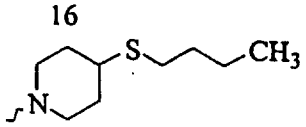
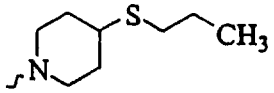
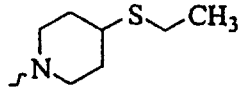
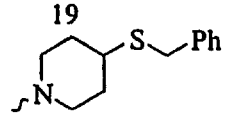
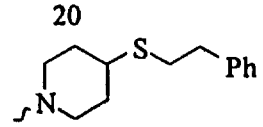
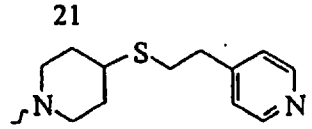
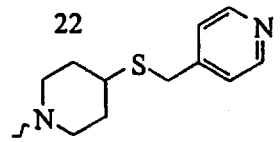
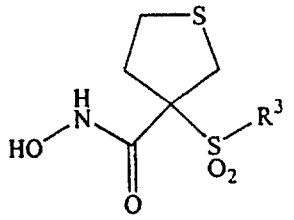
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Table 96



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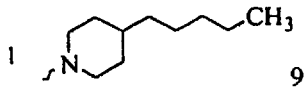
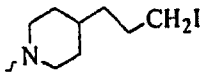
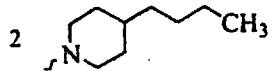
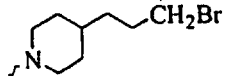
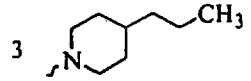
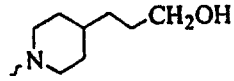
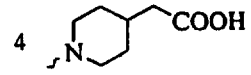
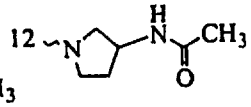
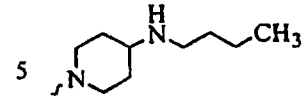
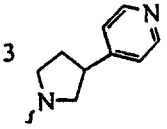
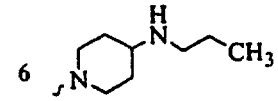
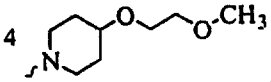
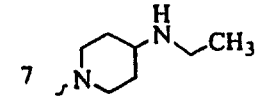
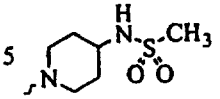
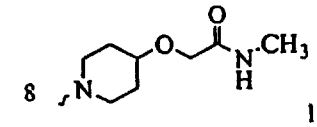
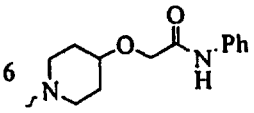
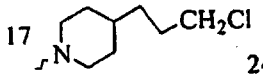
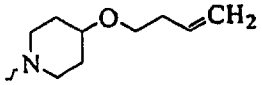
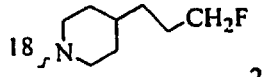
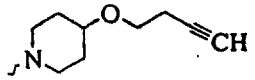
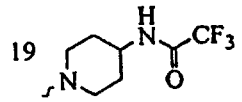
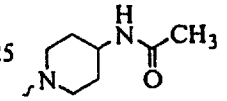
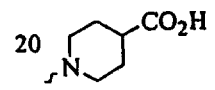
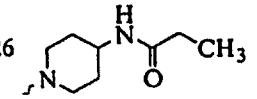
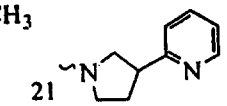
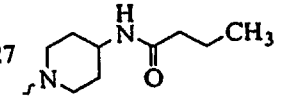
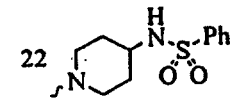
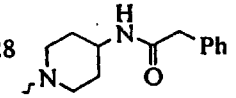
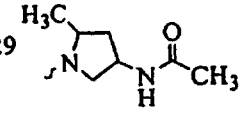
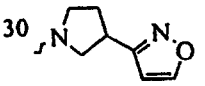
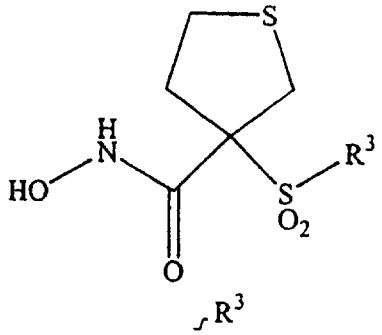
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Table 97



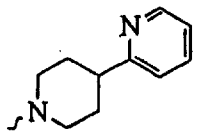
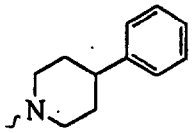
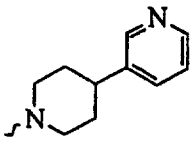
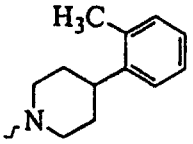
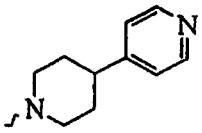
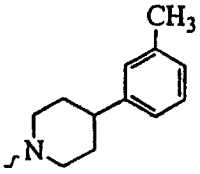
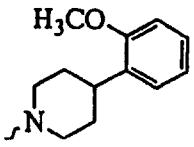
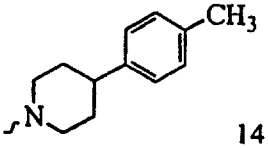
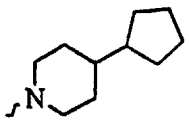
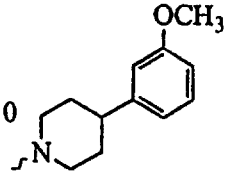
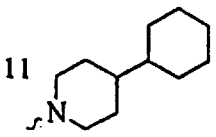
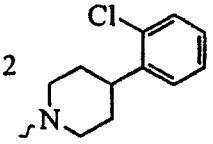
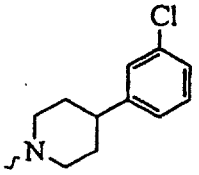
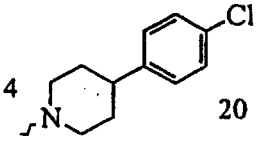
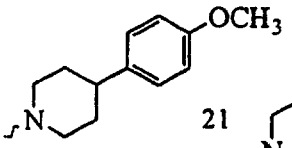
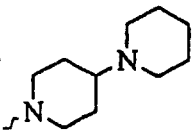
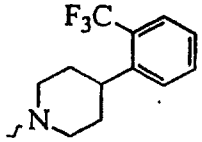
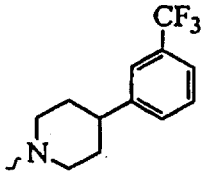
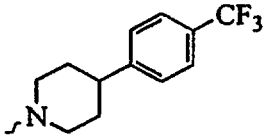
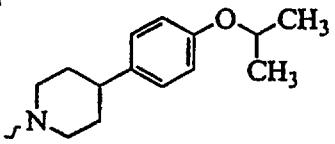
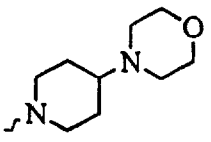
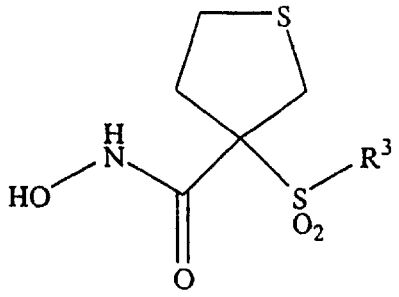
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Table 98



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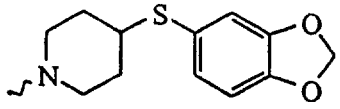
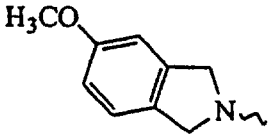
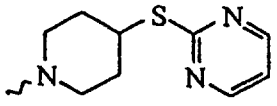
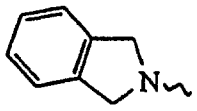
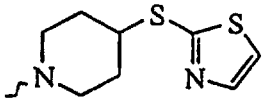
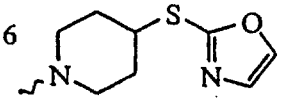
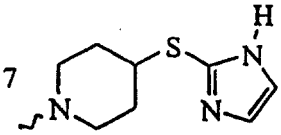
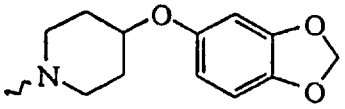
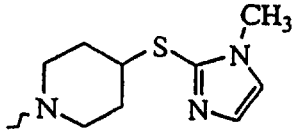
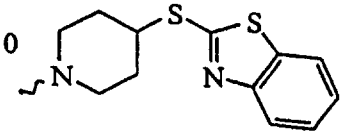
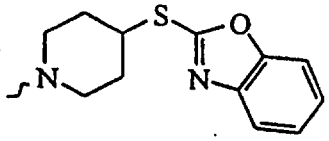
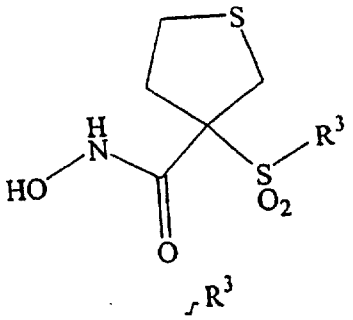
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Table 99



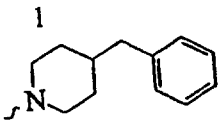
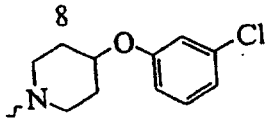
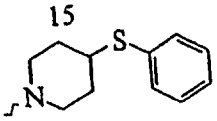
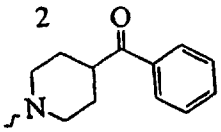
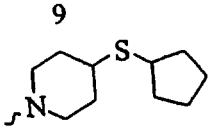
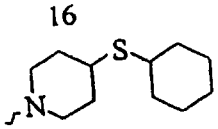
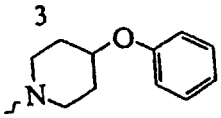
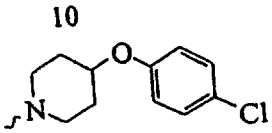
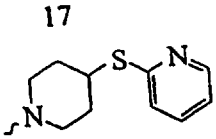
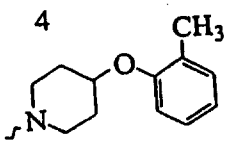
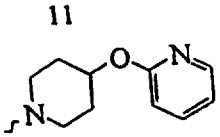
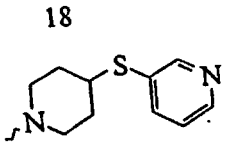
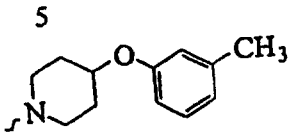
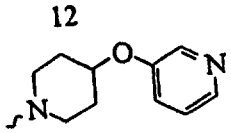
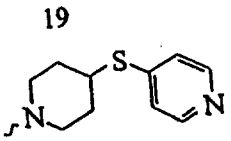
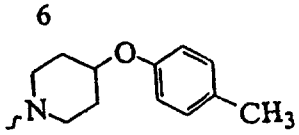
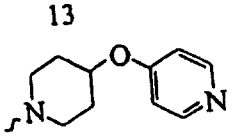
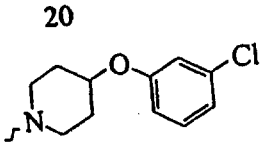
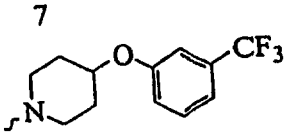
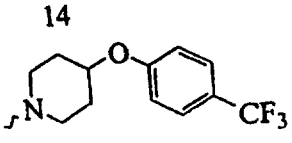
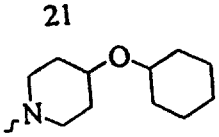
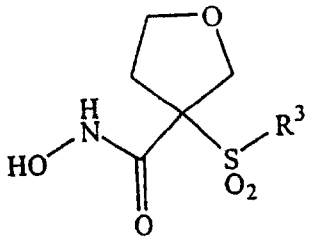
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Table 100



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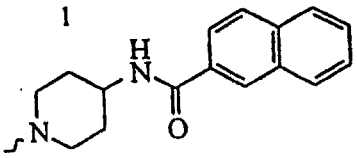
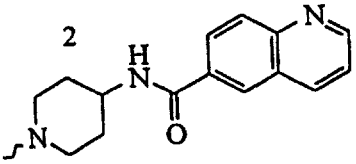
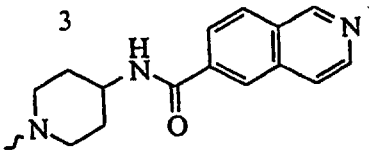
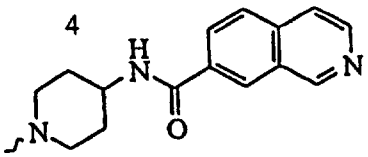
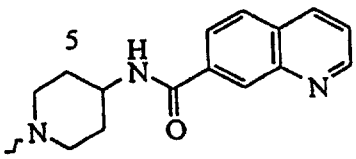
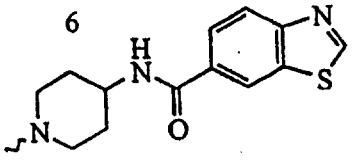
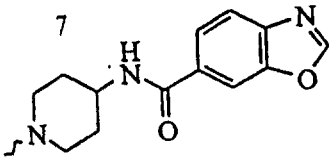
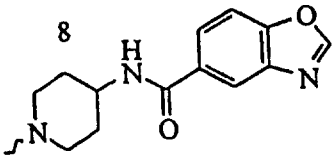
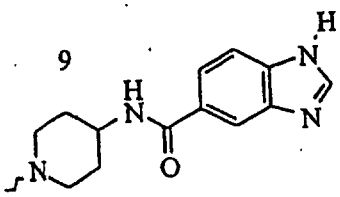
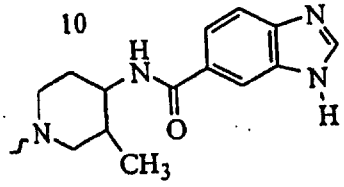
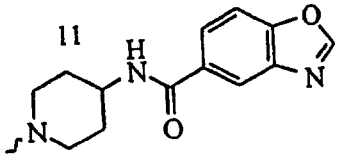
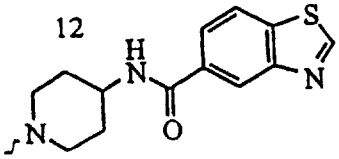
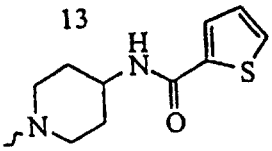
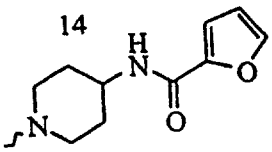
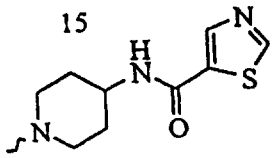
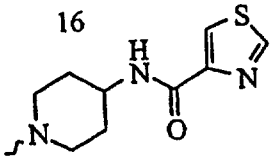
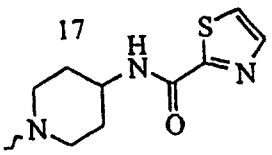
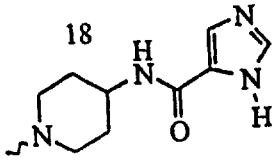
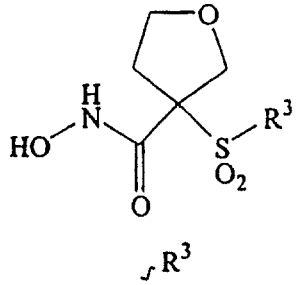
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Table 101



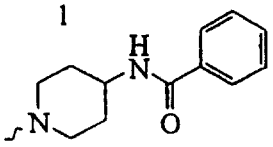
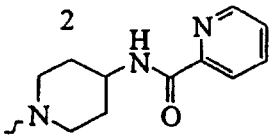
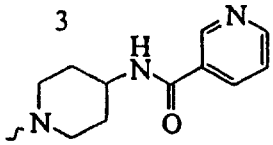
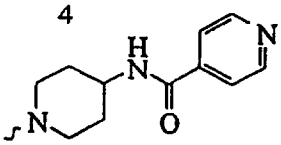
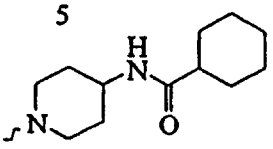
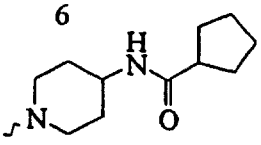
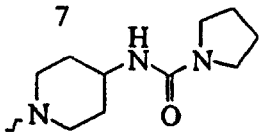
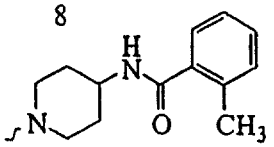
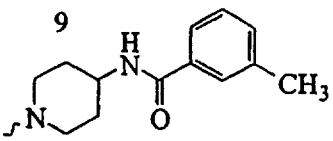
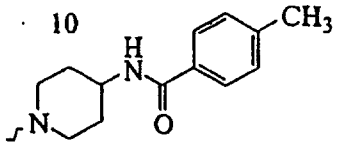
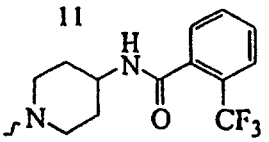
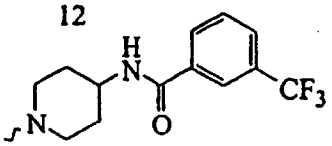
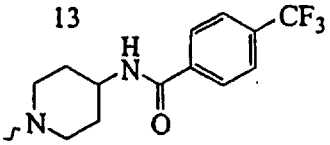
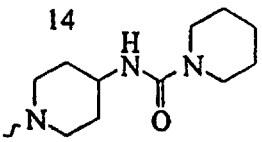
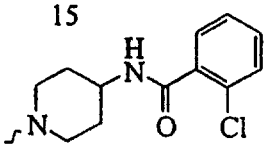
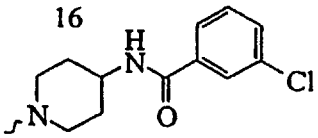
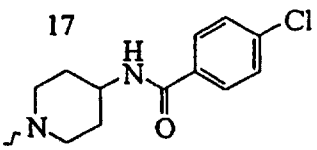
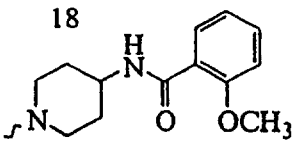
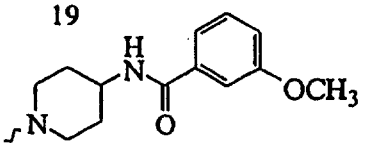
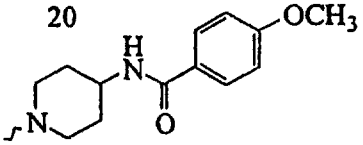
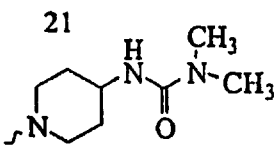
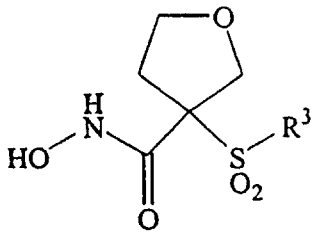
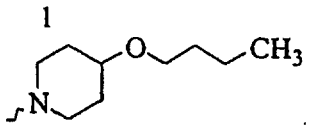
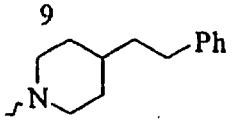
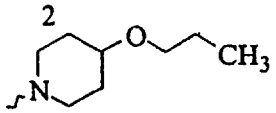
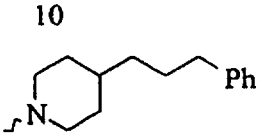
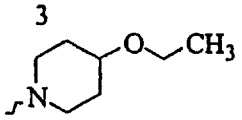
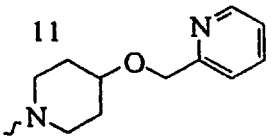
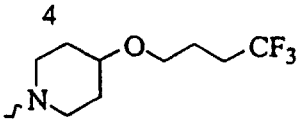
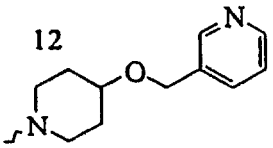
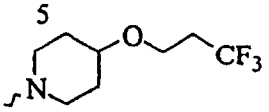
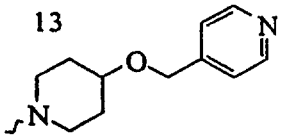
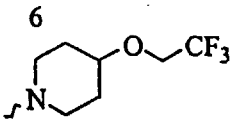
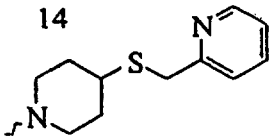
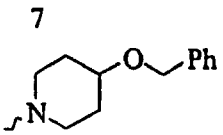
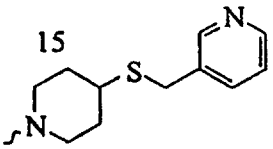
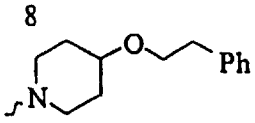
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Table 102



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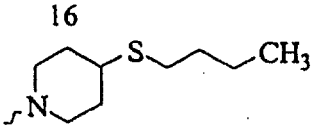
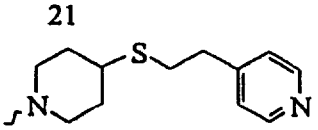
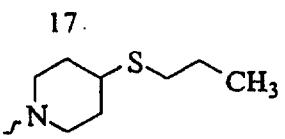
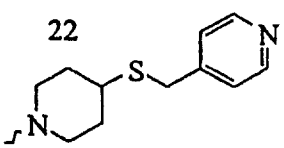
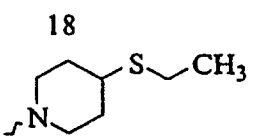
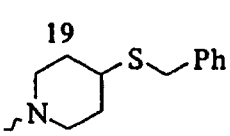
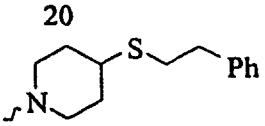
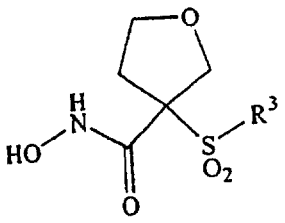
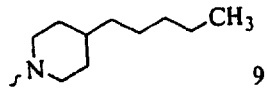
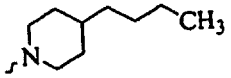
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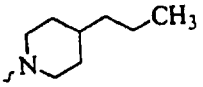
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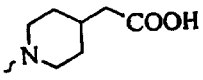


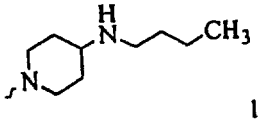
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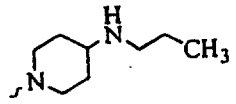
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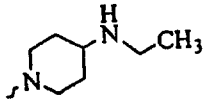
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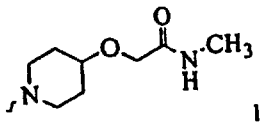
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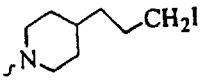
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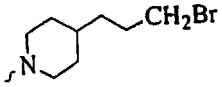
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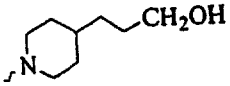
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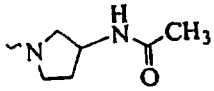
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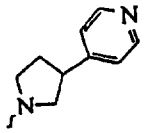
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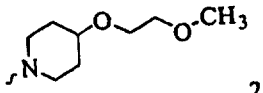
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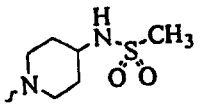
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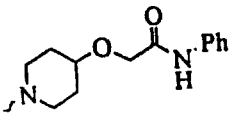
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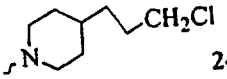
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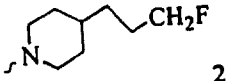
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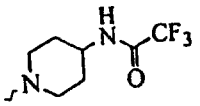
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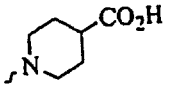
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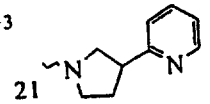
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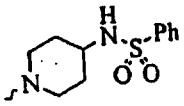
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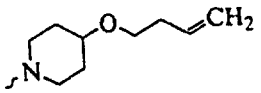
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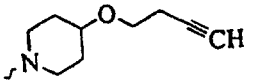
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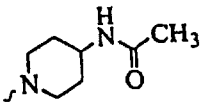
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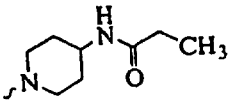
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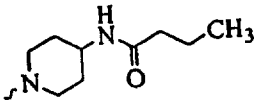
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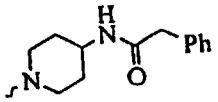
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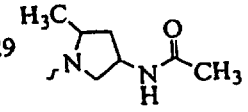
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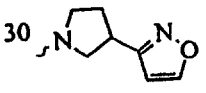
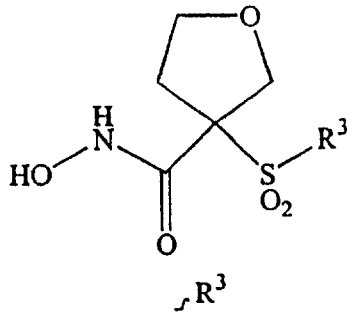
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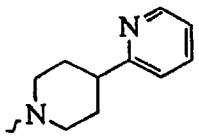
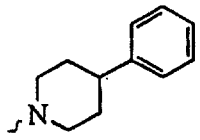
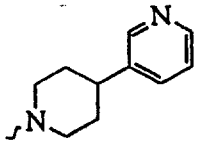
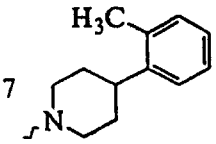
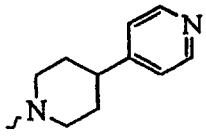
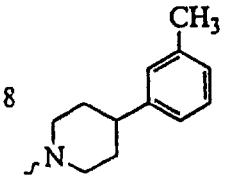
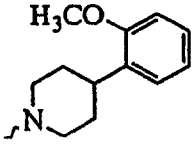
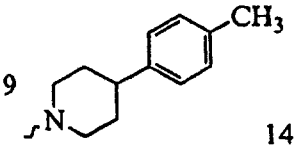
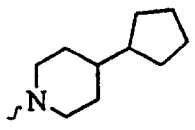
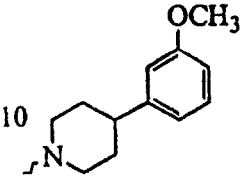
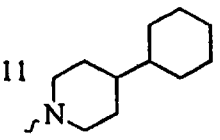
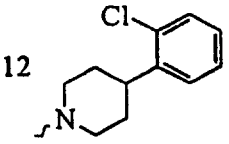
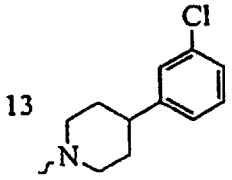
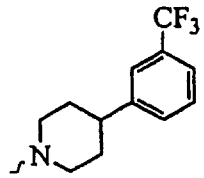
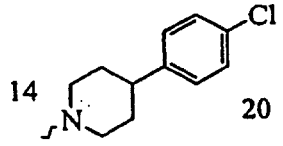
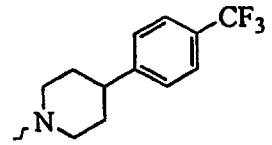
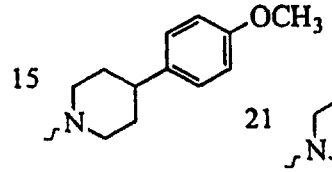
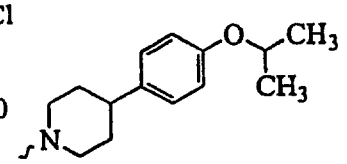
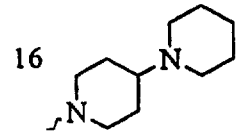
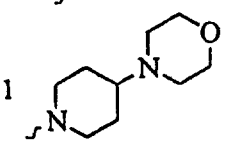
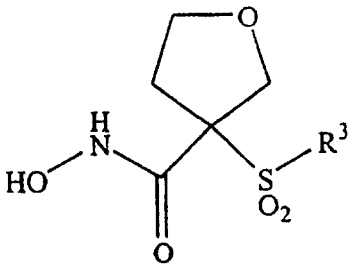
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Table 105



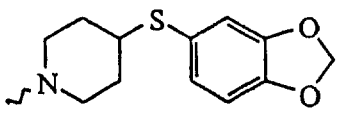
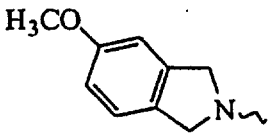
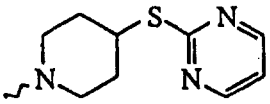
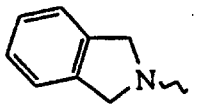
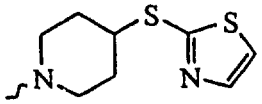
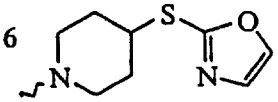
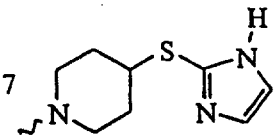
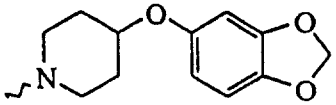
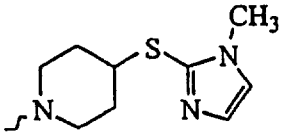
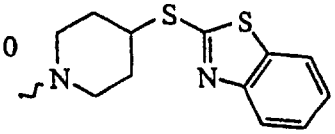
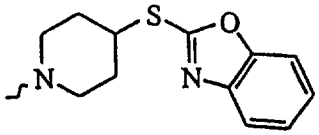
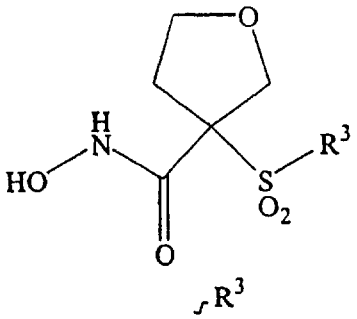
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Table 106



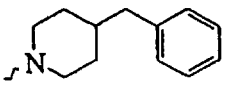
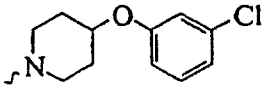
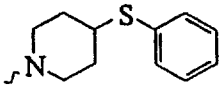
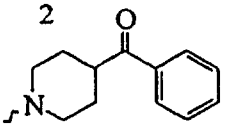
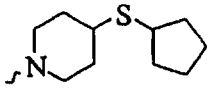
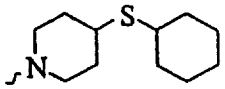
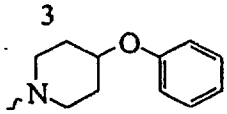
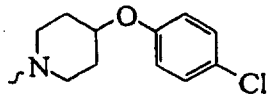
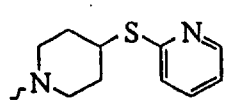
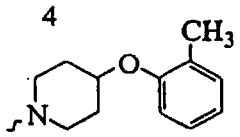
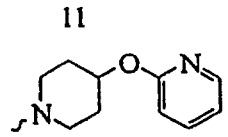
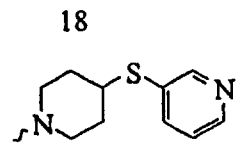
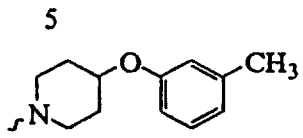
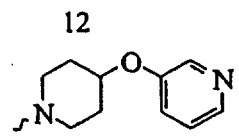
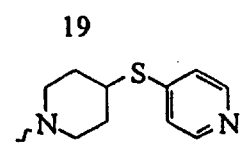
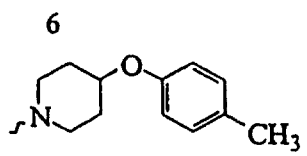
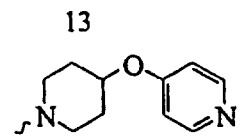
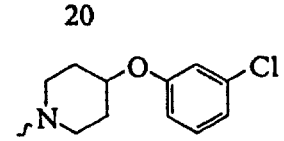
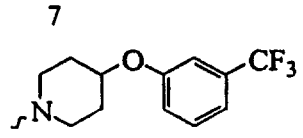
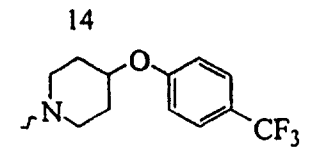
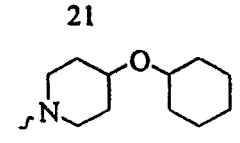
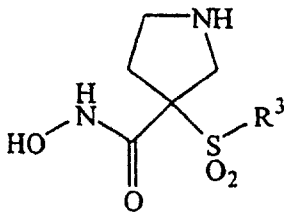
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Table 107



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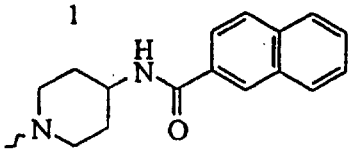
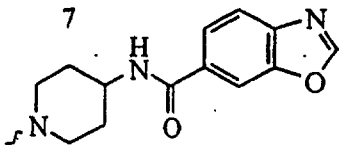
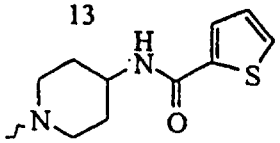
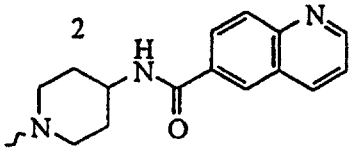
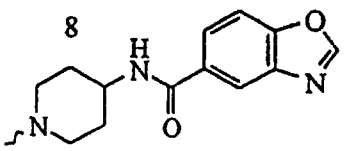
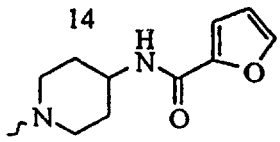
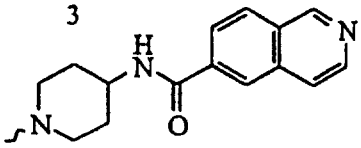
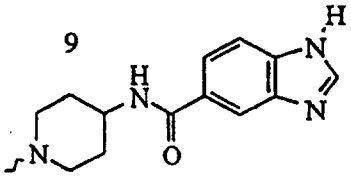
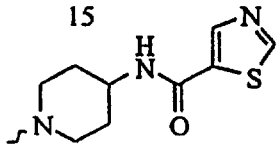
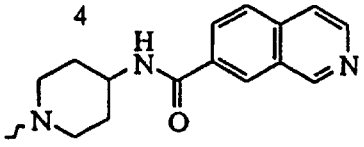
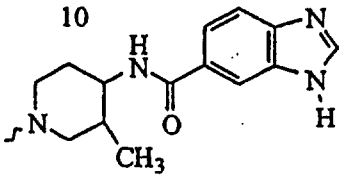
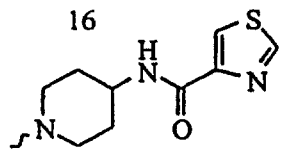
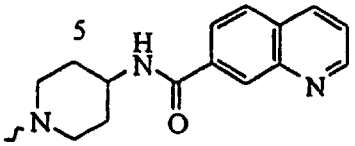
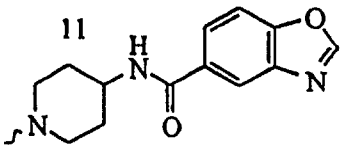
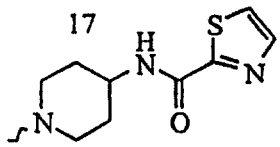
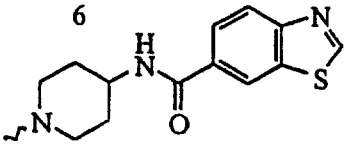
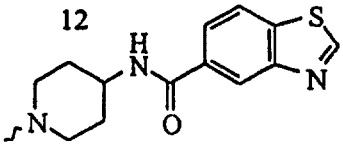
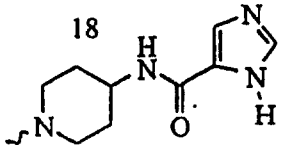
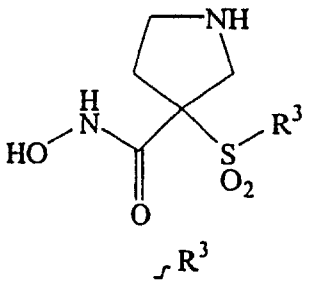
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Table 108



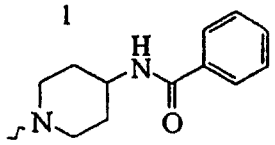
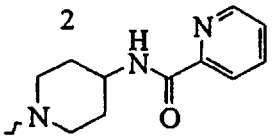
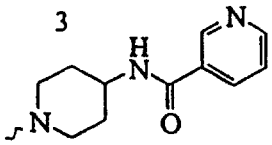
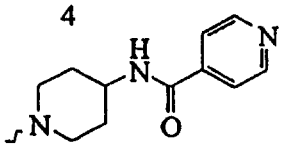
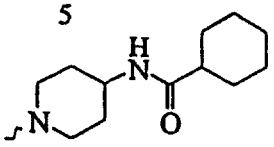
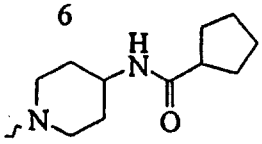
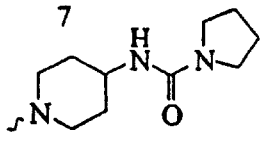
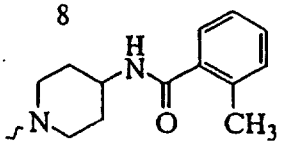
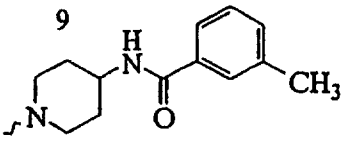
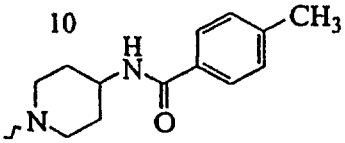
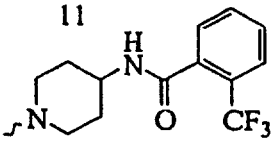
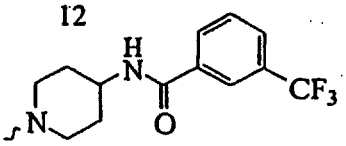
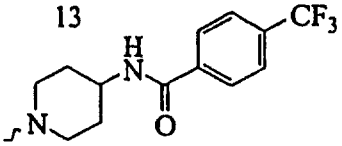
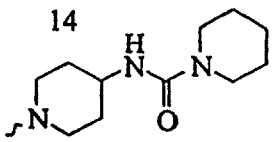
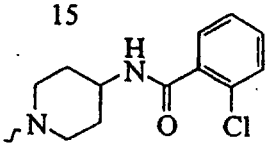
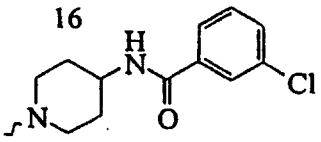
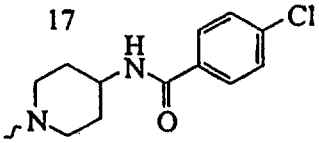
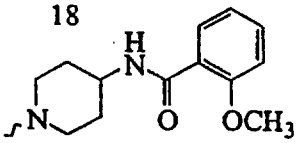
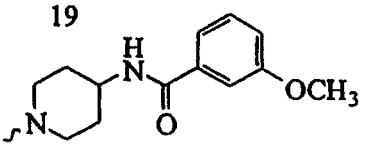
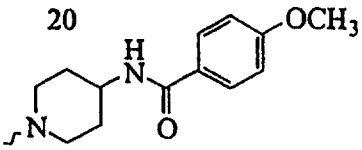
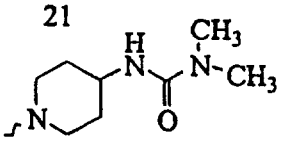
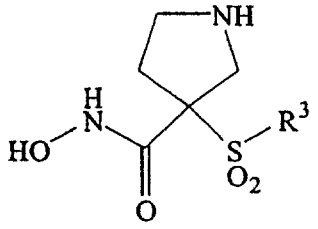
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Table 109



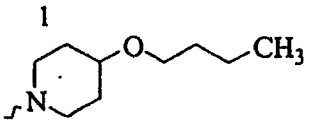
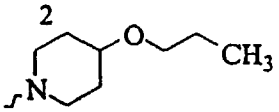
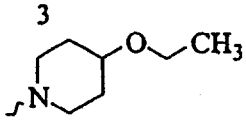
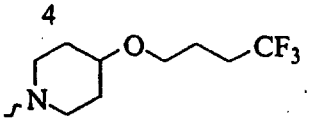
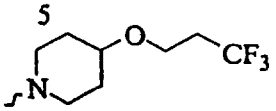
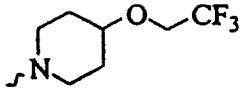
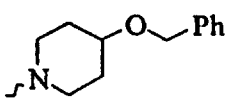
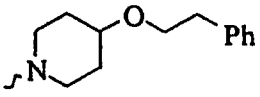
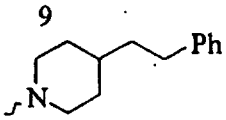
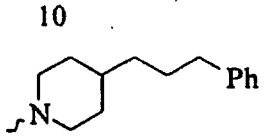
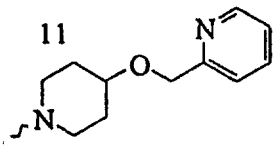
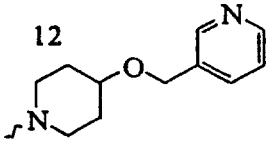
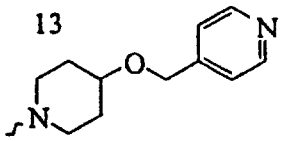
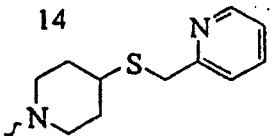
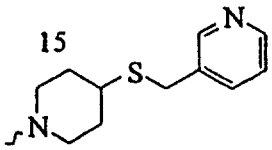
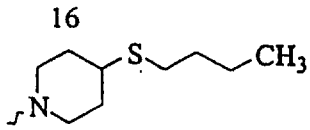
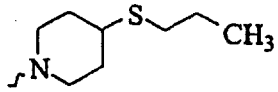
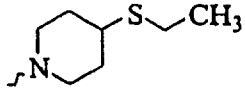
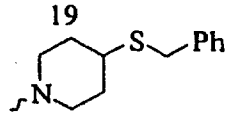
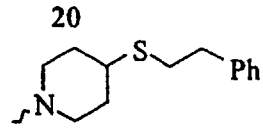
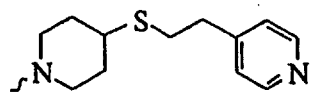
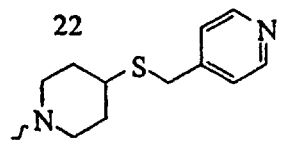
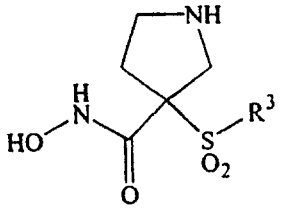
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Table 110



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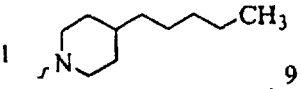
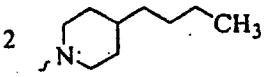
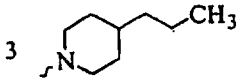
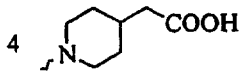
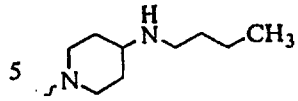
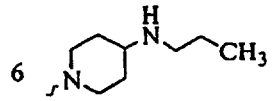
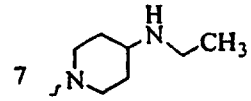
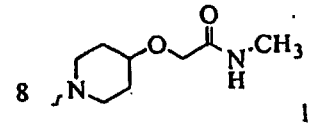
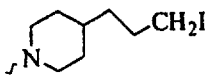
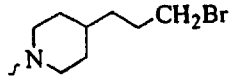
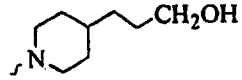
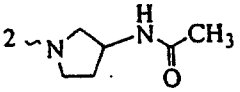
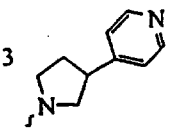
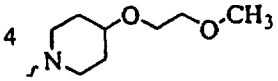
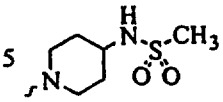
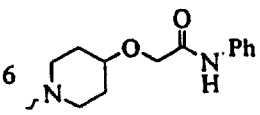
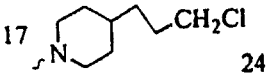
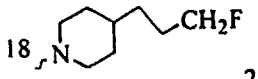
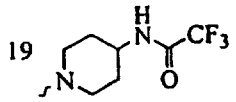
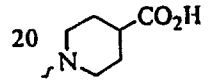
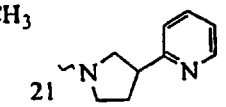
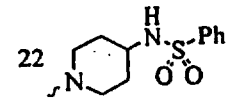
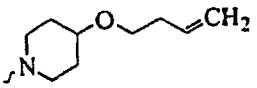
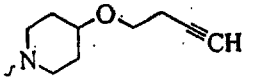
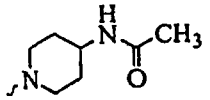
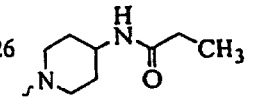
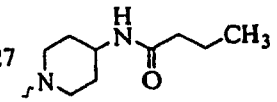
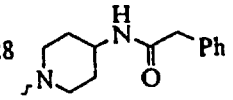
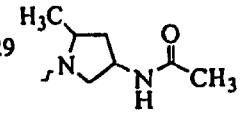
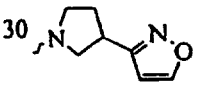
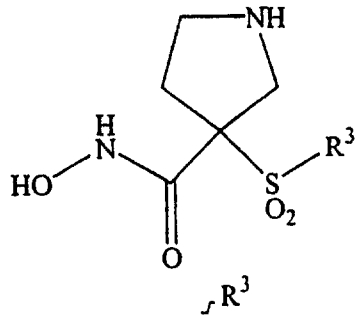
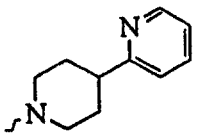
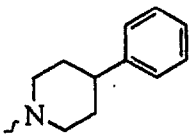
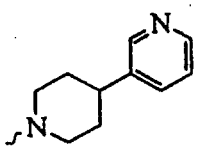
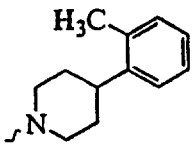
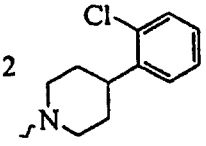
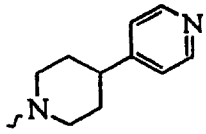
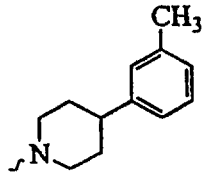
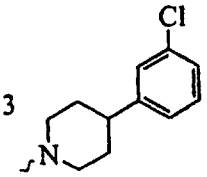
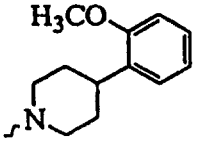
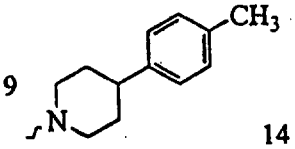
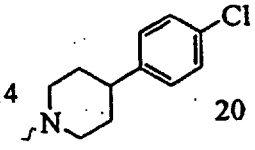
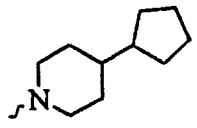
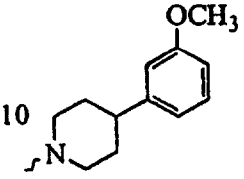
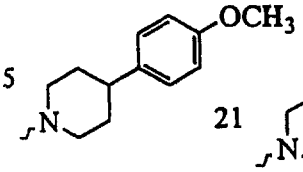
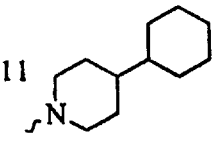
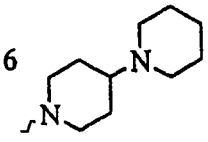
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Table 111



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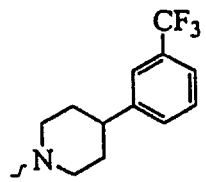
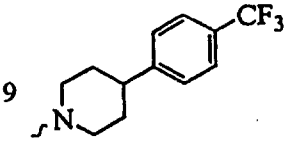
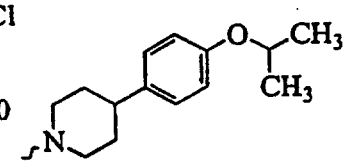
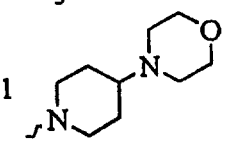
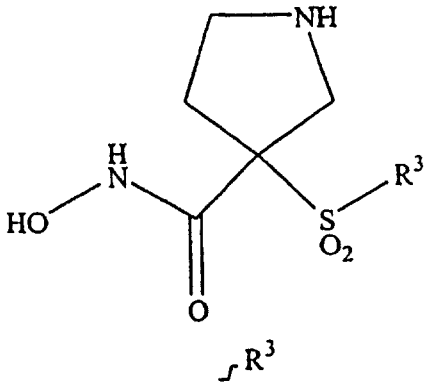
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Table 112



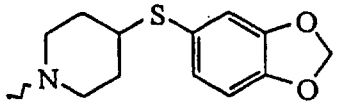
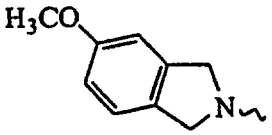
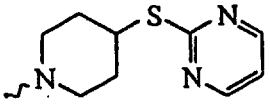
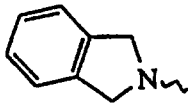
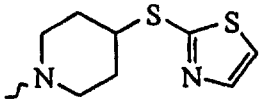
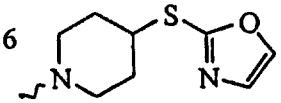
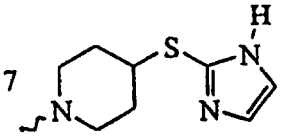
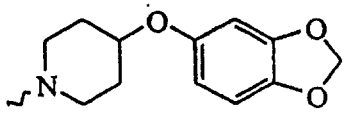
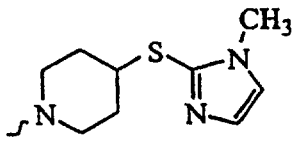
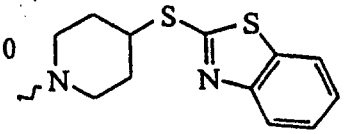
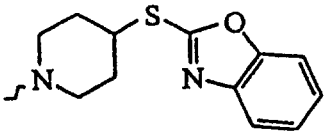
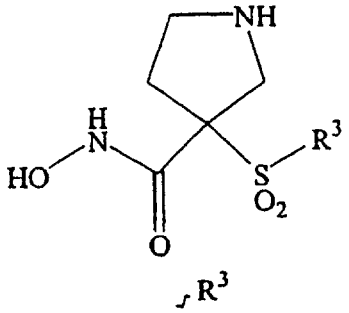
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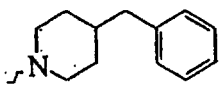
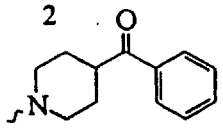
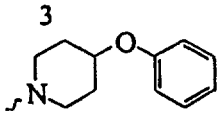
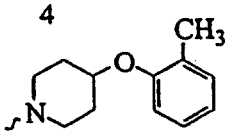
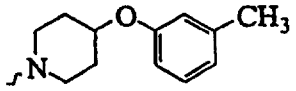
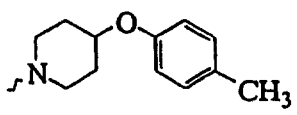
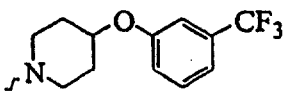
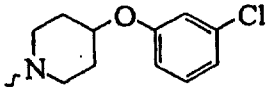
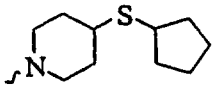
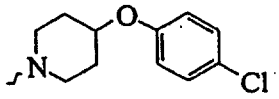
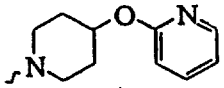
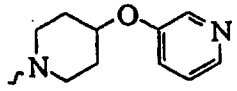
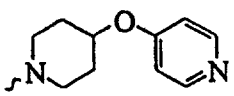
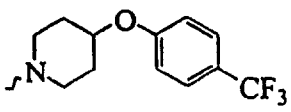
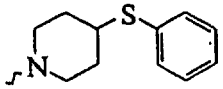
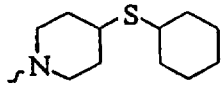
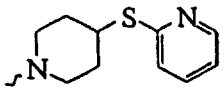
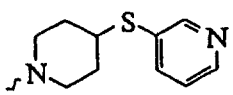
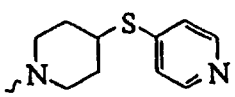
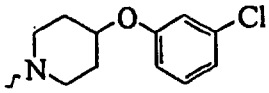
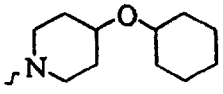
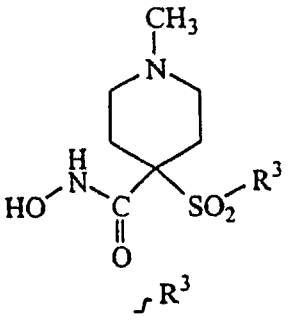
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Table 114



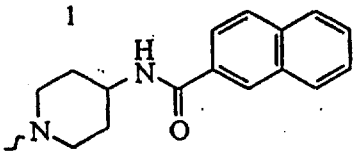
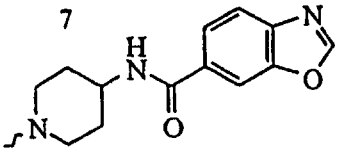
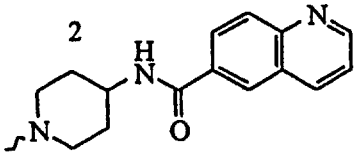
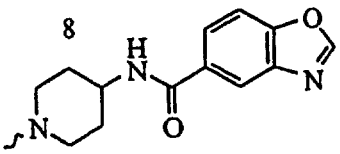
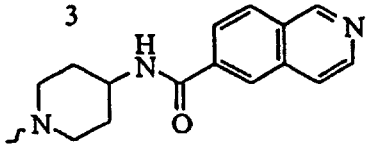
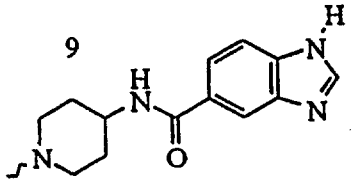
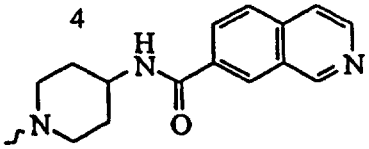
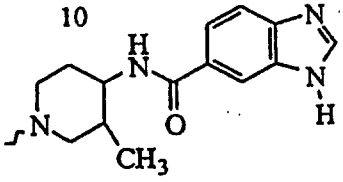
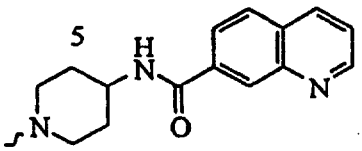
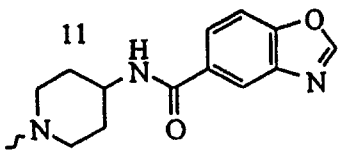
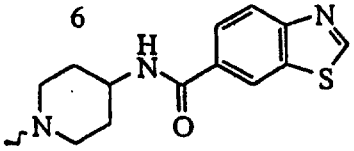
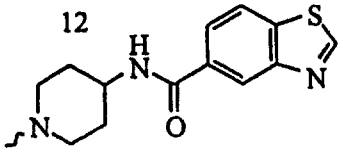
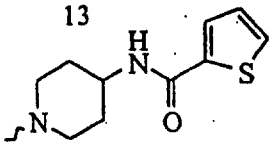
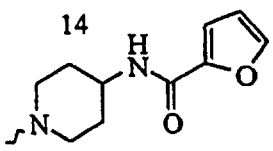
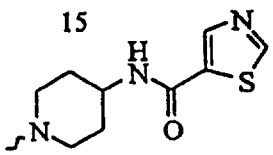
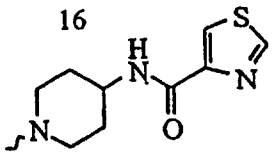
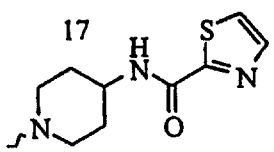
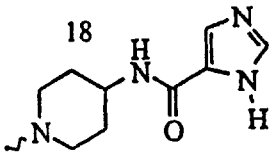
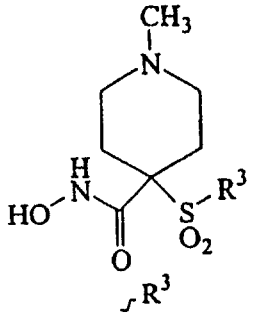
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Table 115



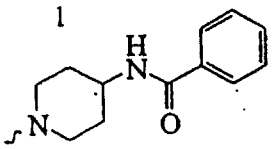
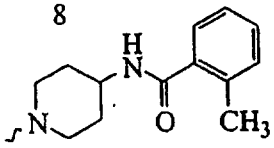
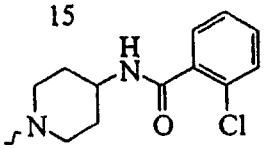
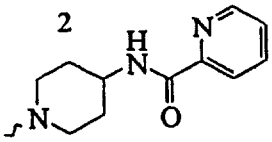
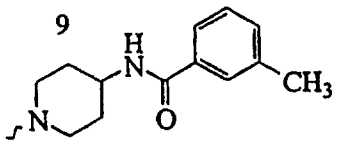
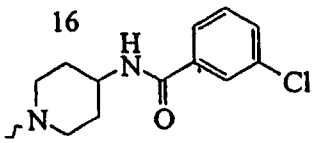
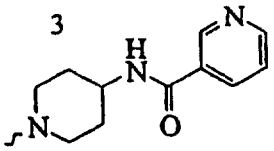
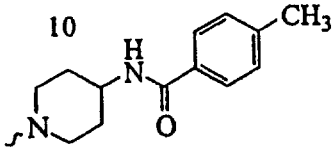
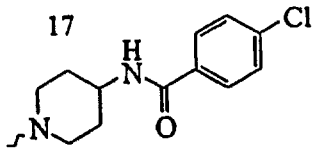
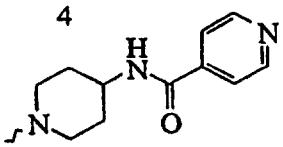
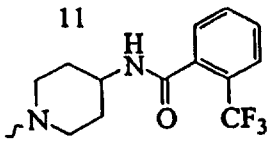
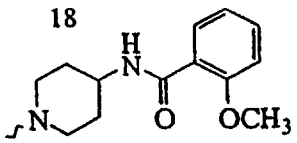
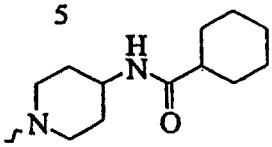
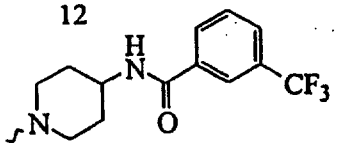
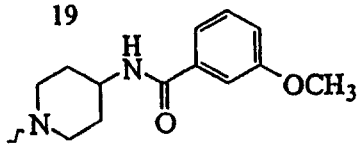
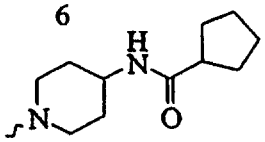
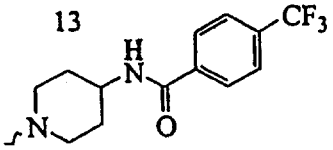
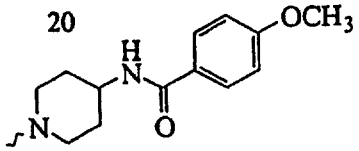
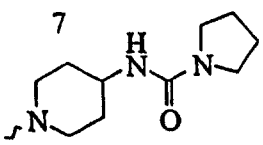
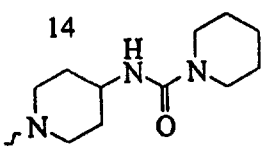
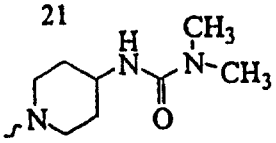
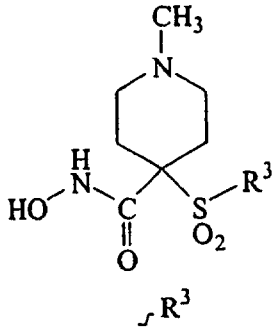
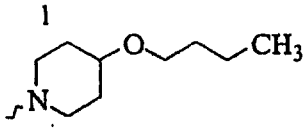
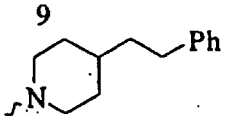
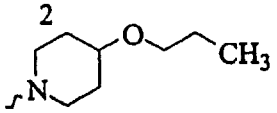
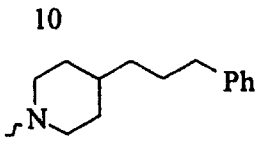
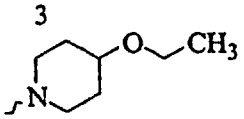
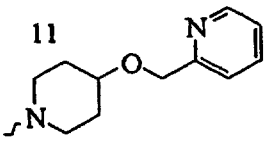
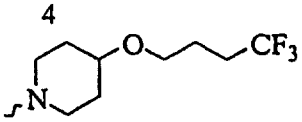
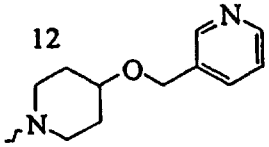
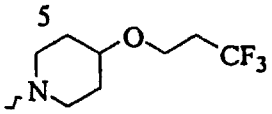
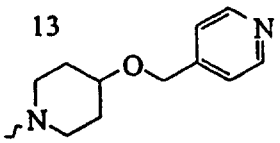
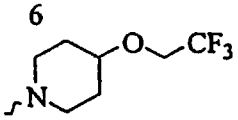
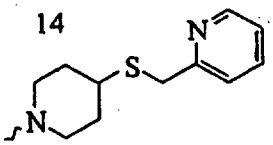
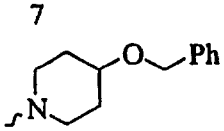
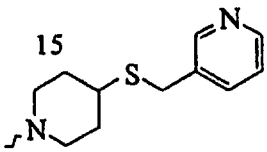
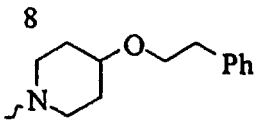
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Table 116



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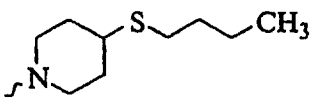
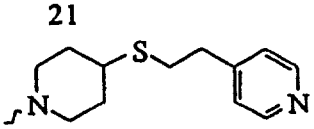
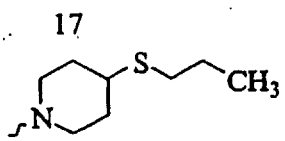
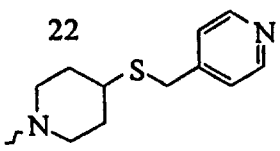
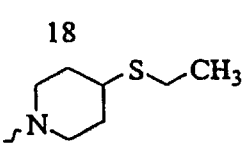
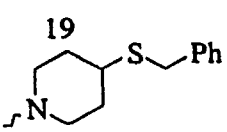
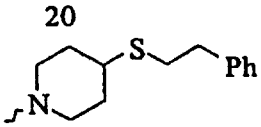
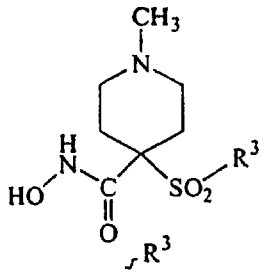
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Table 117



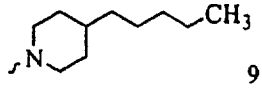
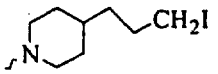
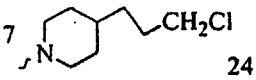
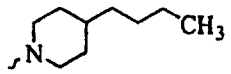
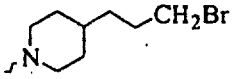
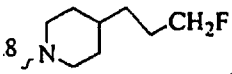
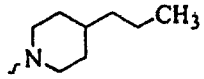
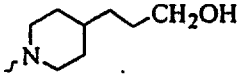
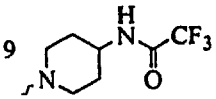
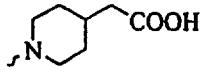
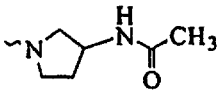
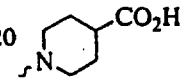
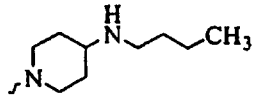
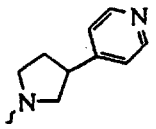
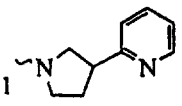
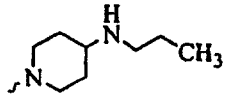
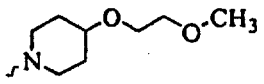
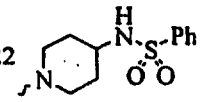
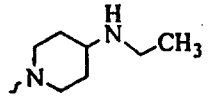
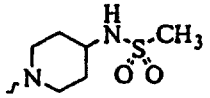
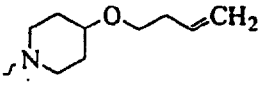
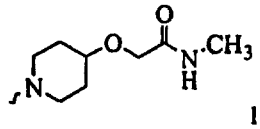
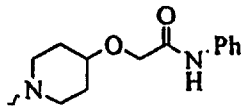
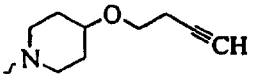
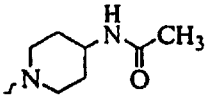
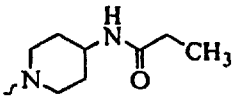
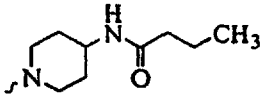
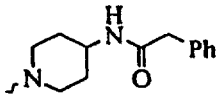
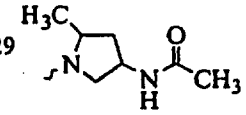
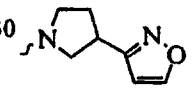
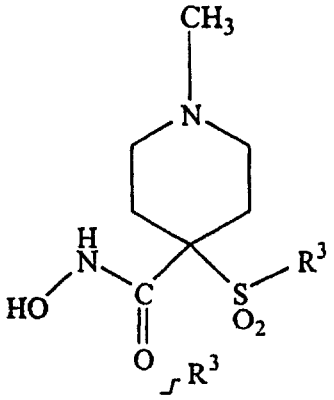
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Table 118



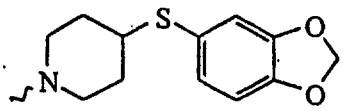
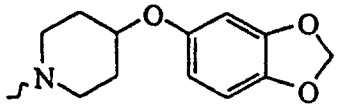
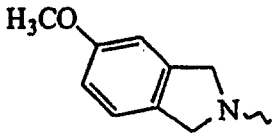
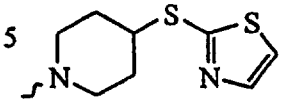
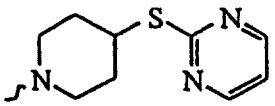
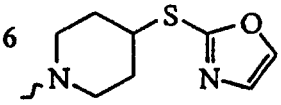
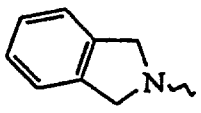
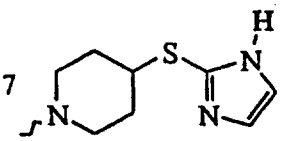
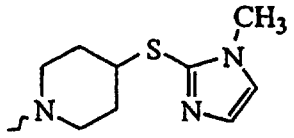
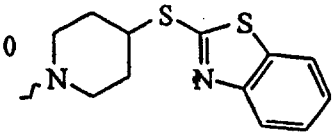
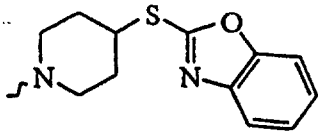
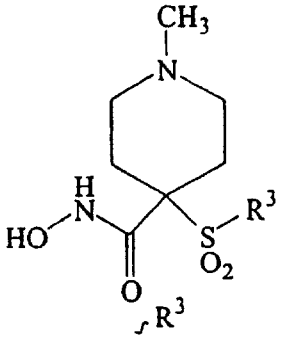
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Table 119



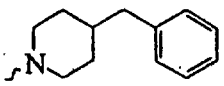
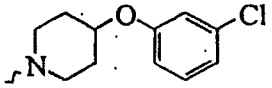
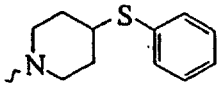
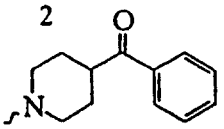
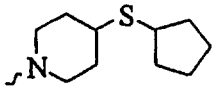
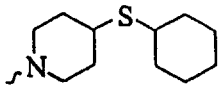
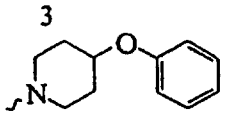
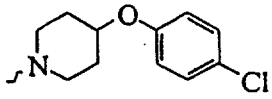
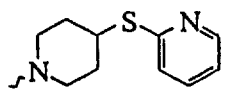
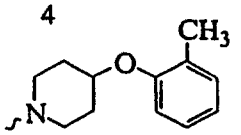
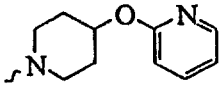
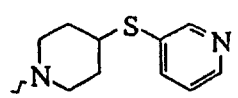
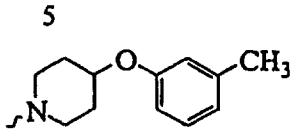
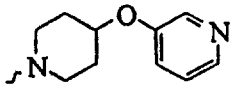
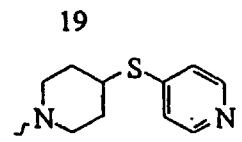
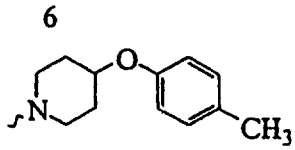
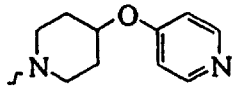
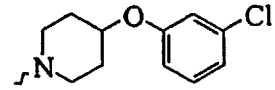
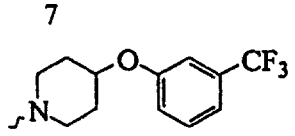
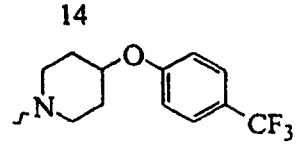
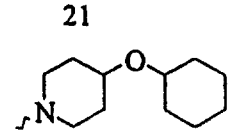
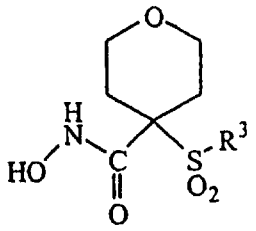
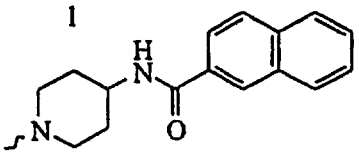
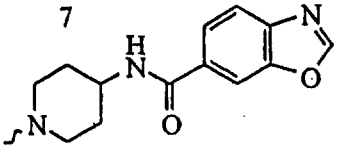
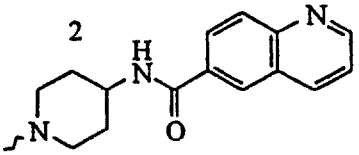
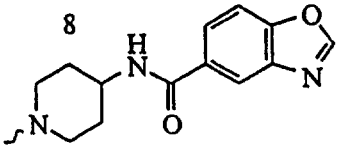
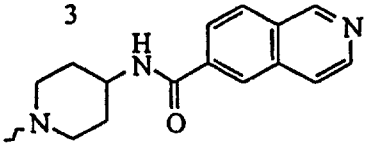
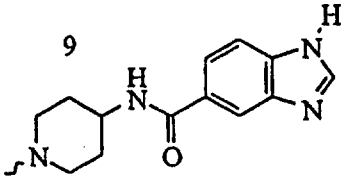
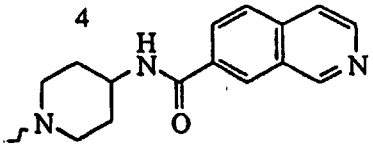
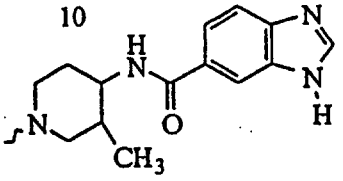
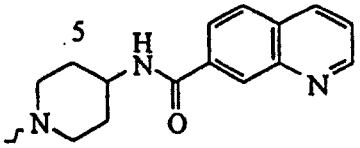
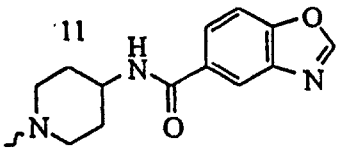
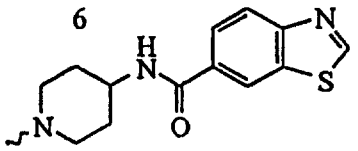
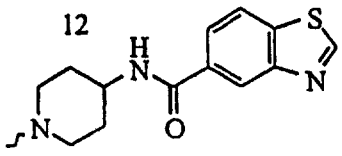
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Table 120





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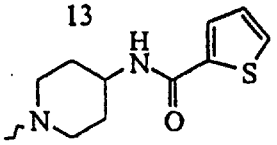
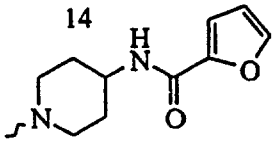
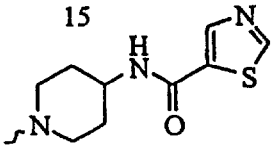
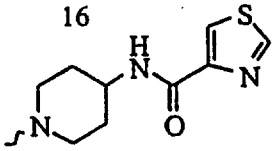
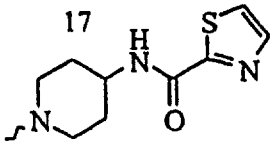
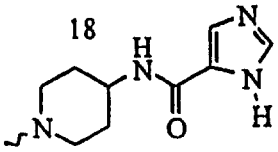
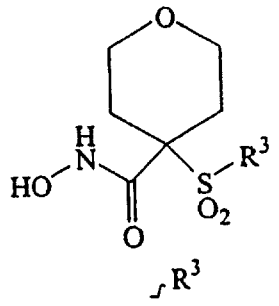
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Table 121



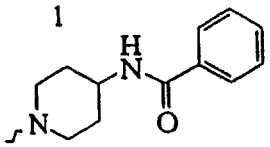
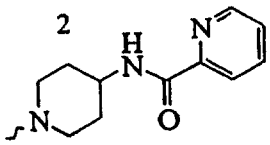
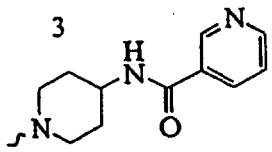
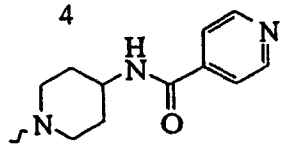
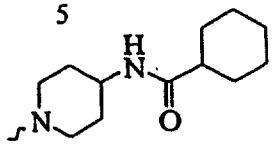
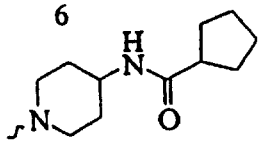
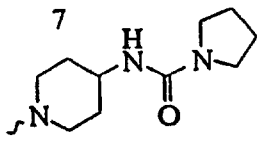
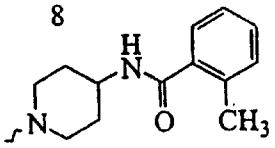
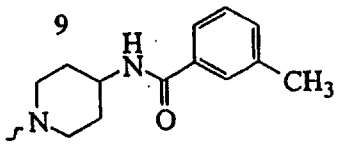
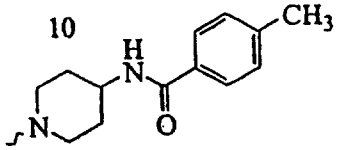
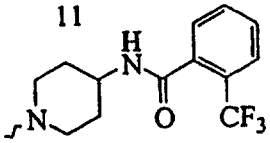
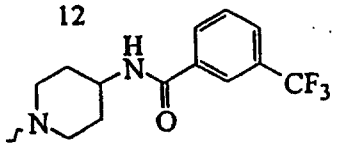
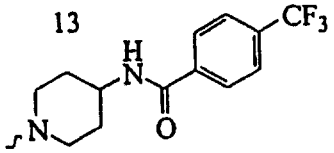
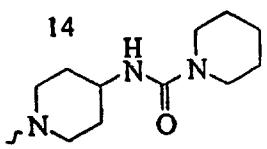
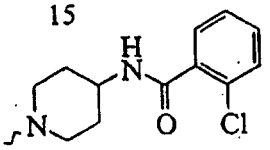
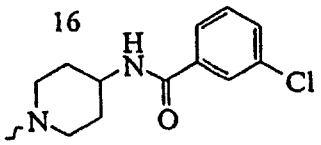
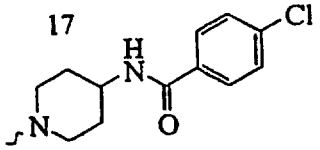
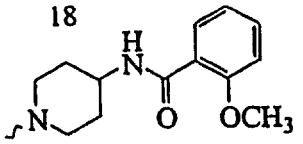
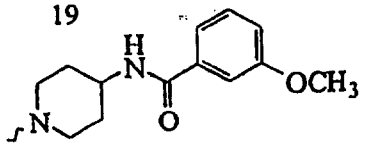
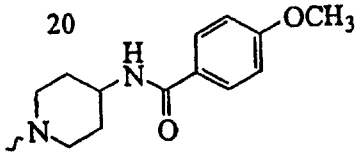
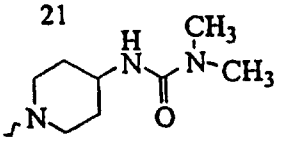
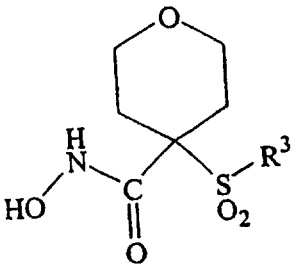
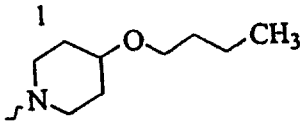
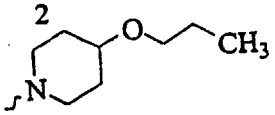
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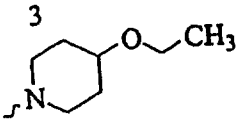
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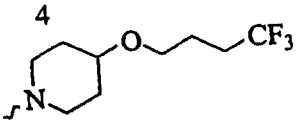


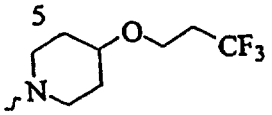
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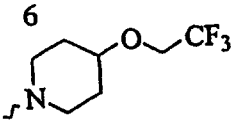
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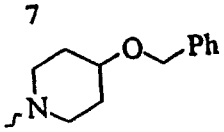
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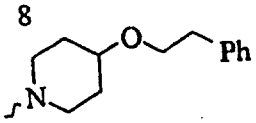
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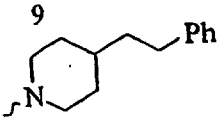
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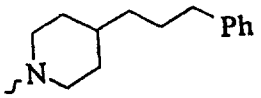
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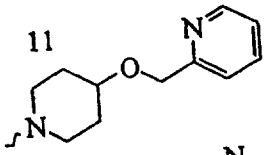
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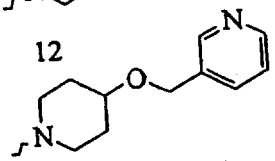
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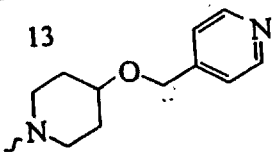
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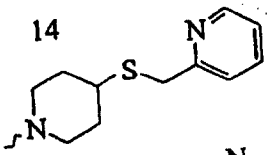
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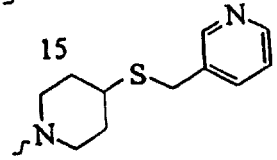
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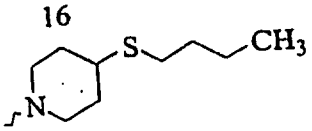
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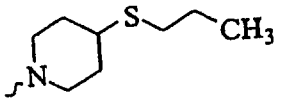
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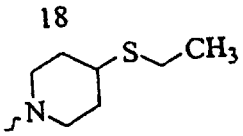
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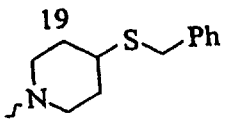
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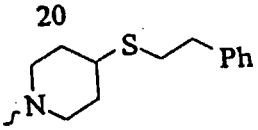
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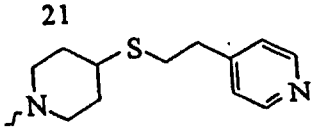
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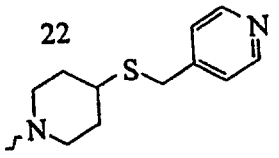
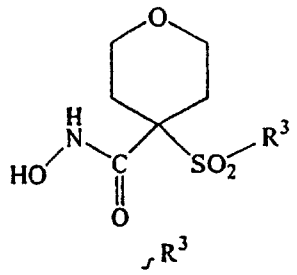
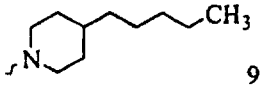
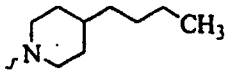
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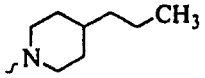
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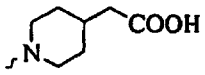


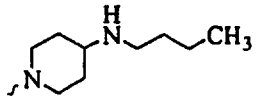
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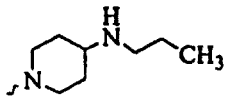
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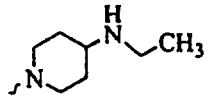
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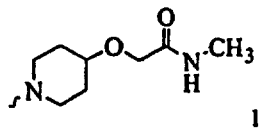
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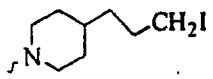
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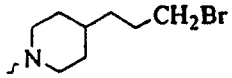
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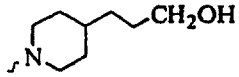
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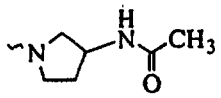
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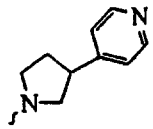
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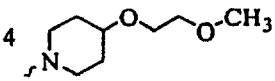
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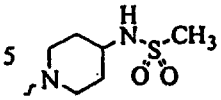
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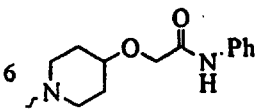
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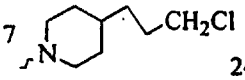
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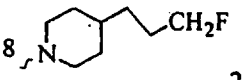
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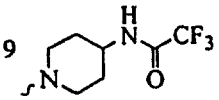
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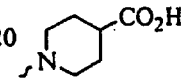
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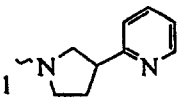
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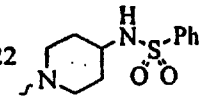
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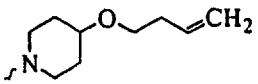
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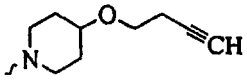
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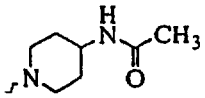
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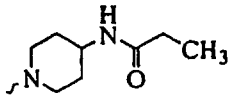
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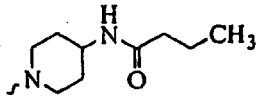
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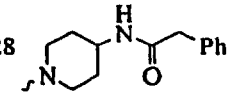
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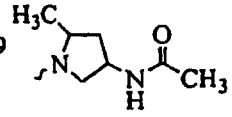
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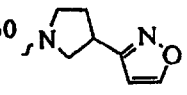
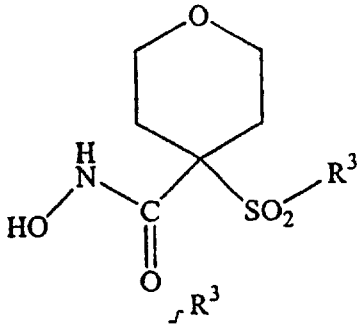
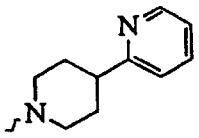
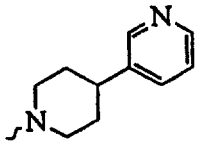
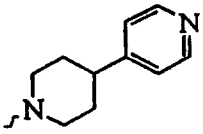
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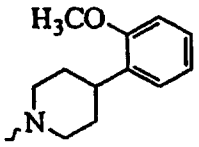
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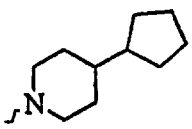


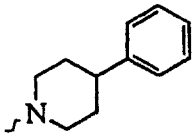
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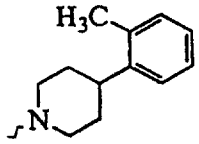
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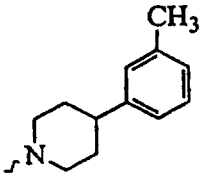
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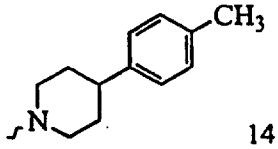
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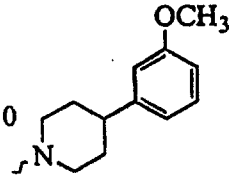
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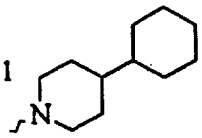
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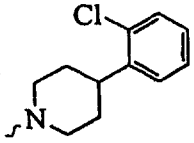
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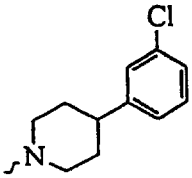
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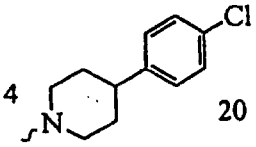
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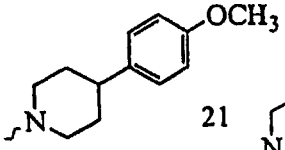
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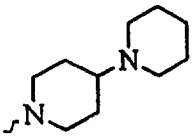
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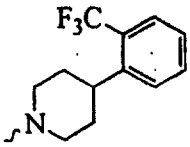
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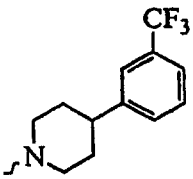
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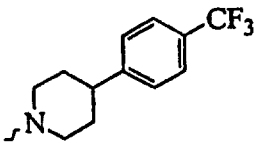
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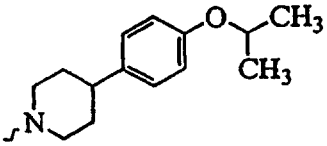
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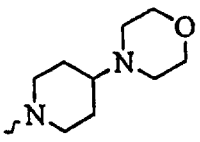
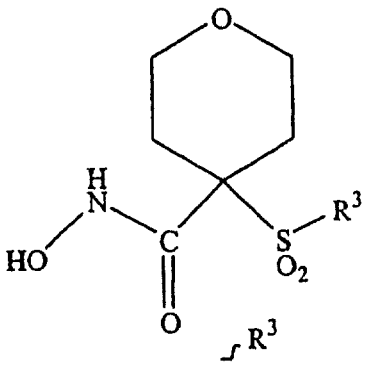
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Table 125



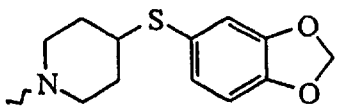
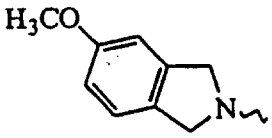
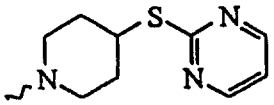
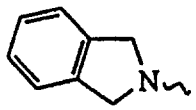
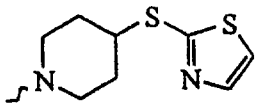
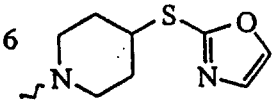
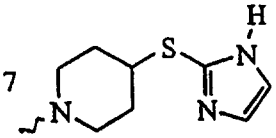
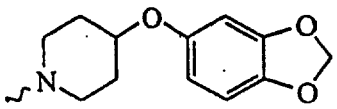
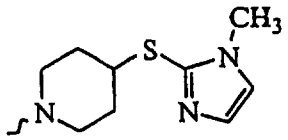
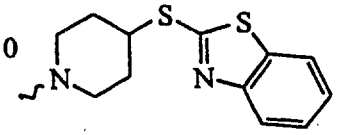
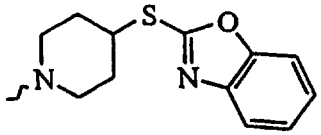
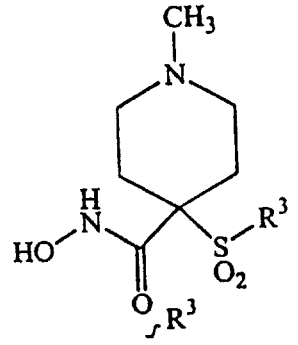
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Table 126



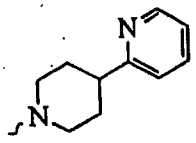
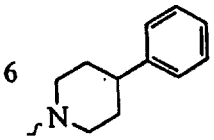
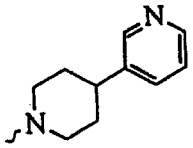
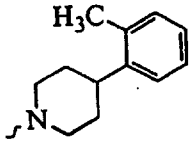
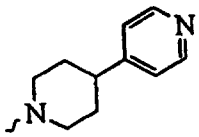
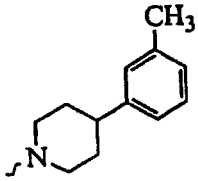
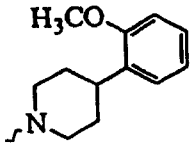
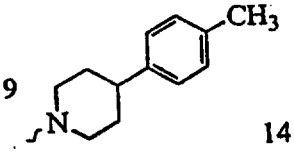
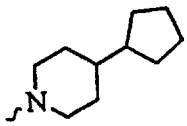
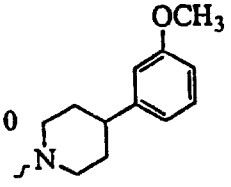
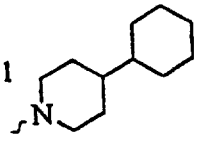
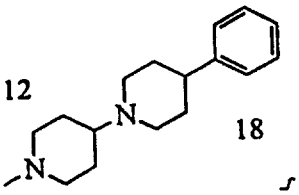
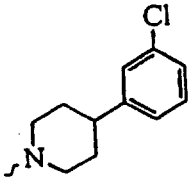
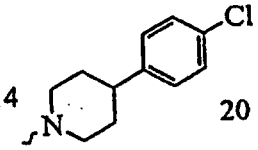
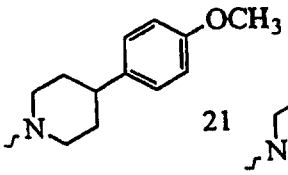
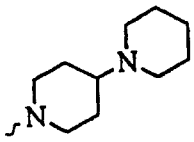
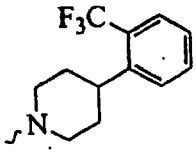
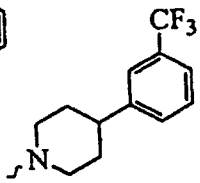
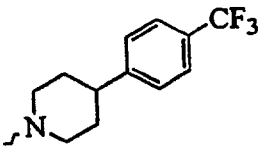
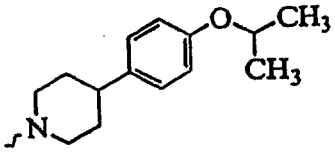
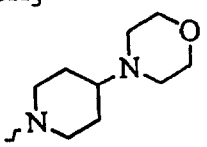
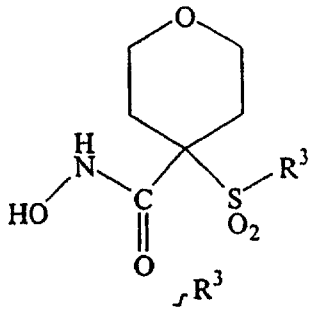
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Table 127



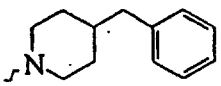
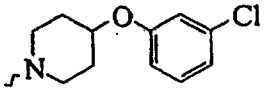
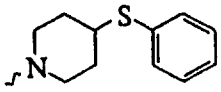
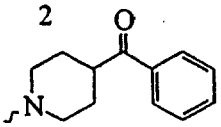
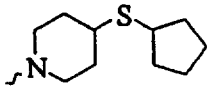
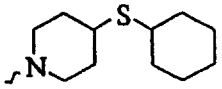
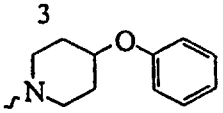
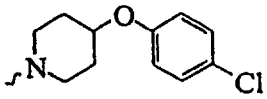
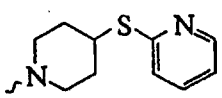
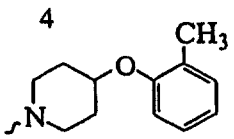
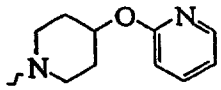
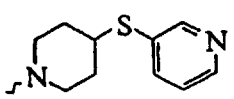
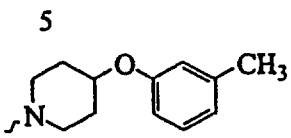
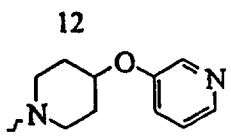
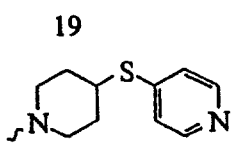
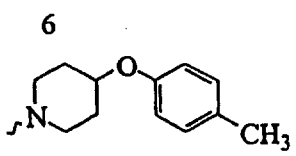
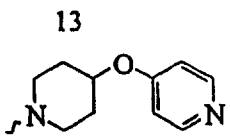
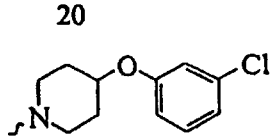
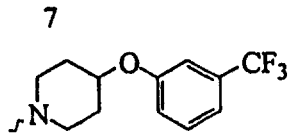
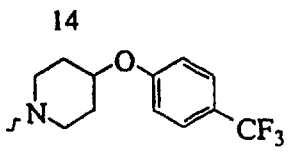
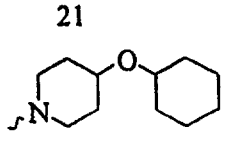
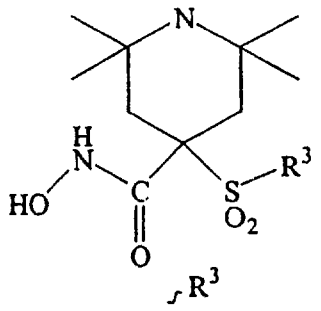
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Table 128



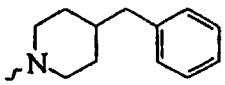
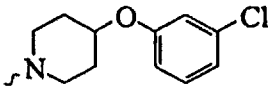
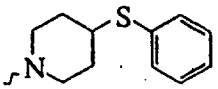
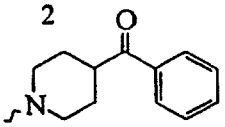
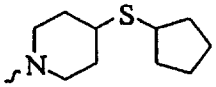
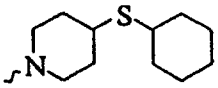
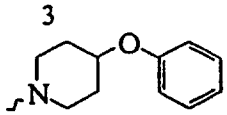
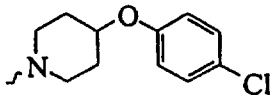
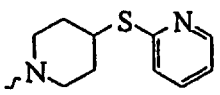
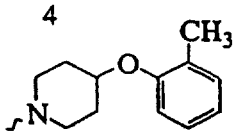
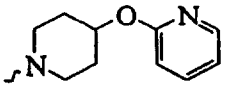
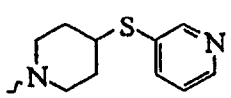
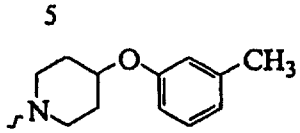
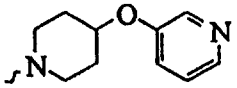
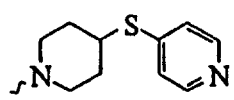
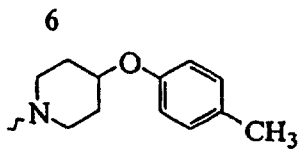
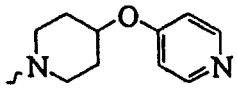
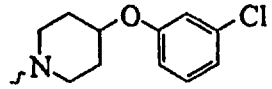
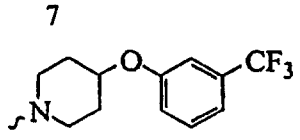
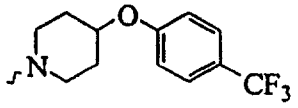
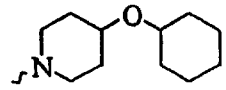
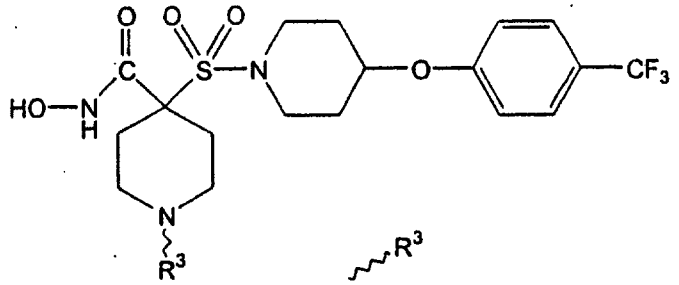
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Table 129



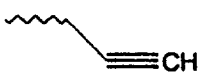
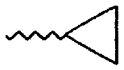
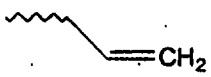
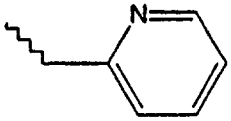
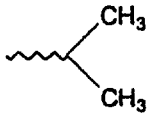
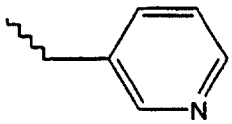
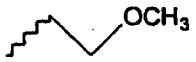
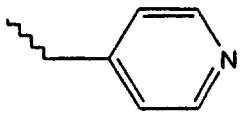
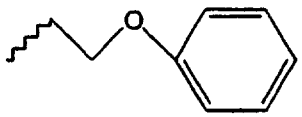
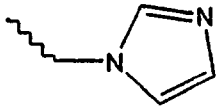
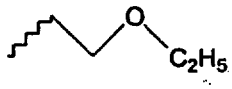
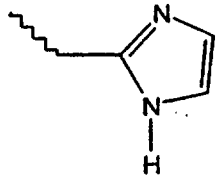
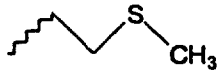
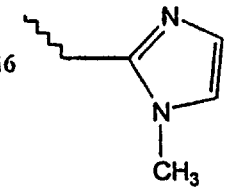
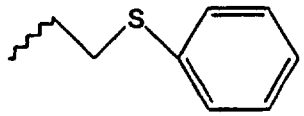
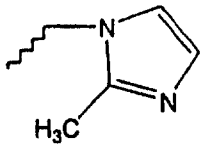
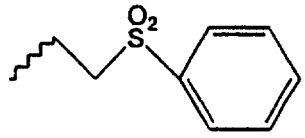
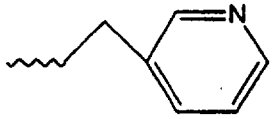
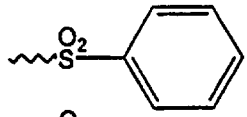
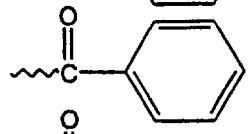
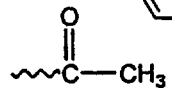
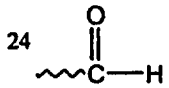
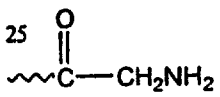
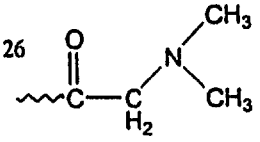
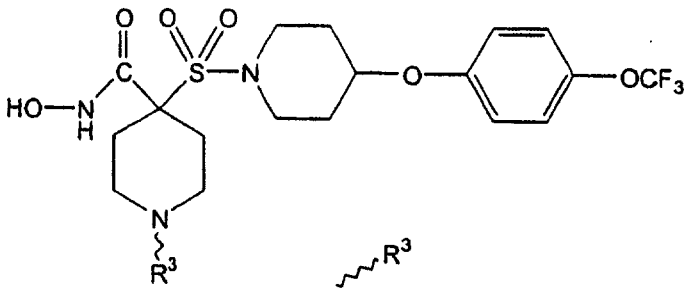
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Table 130



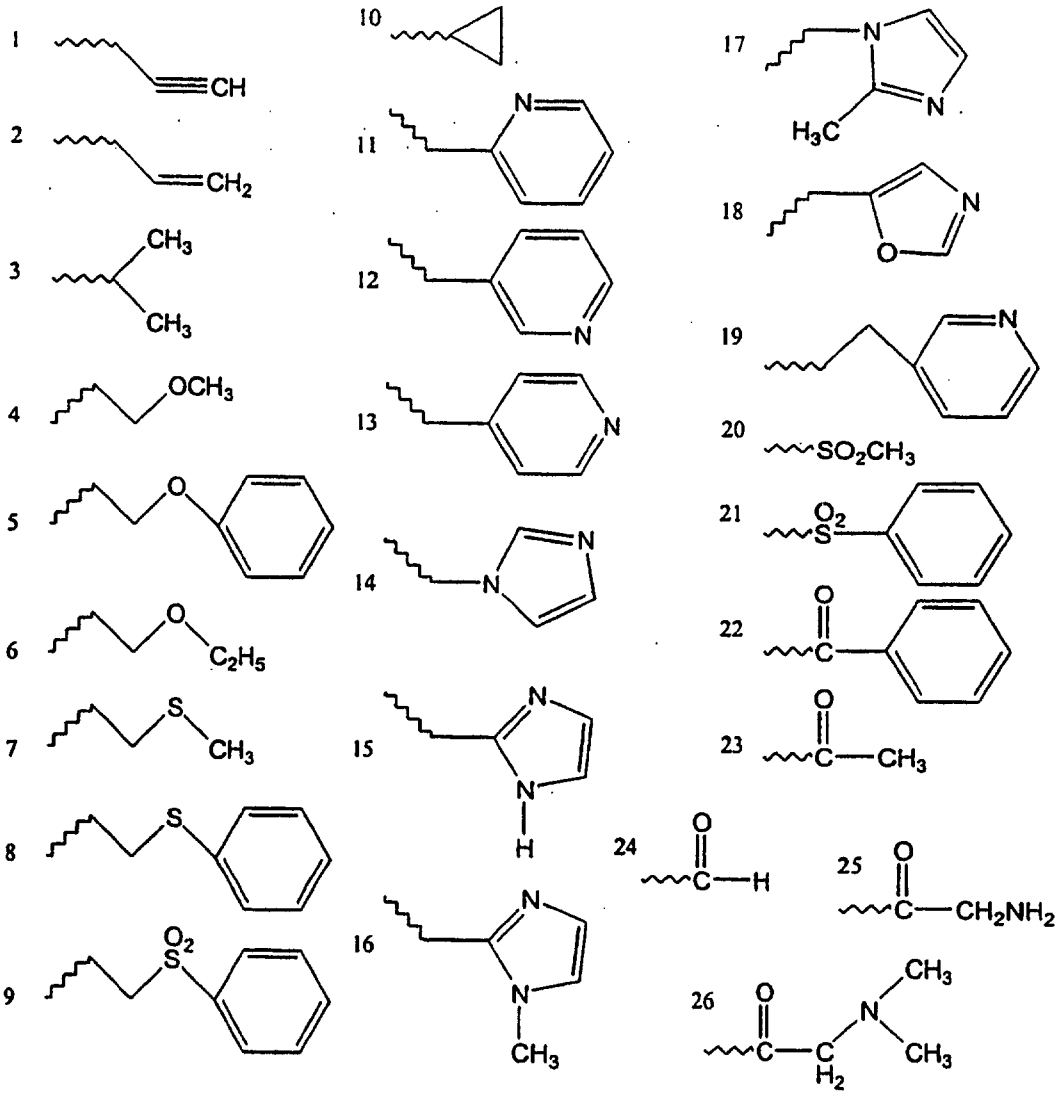
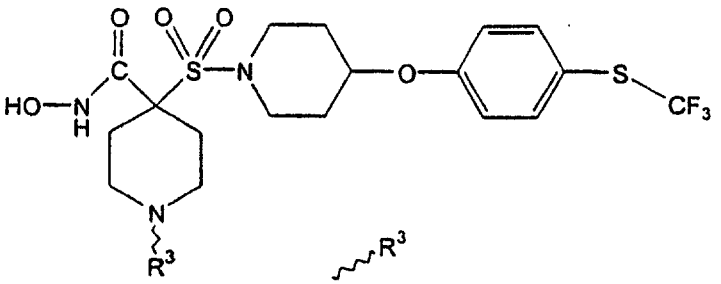

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Table 131



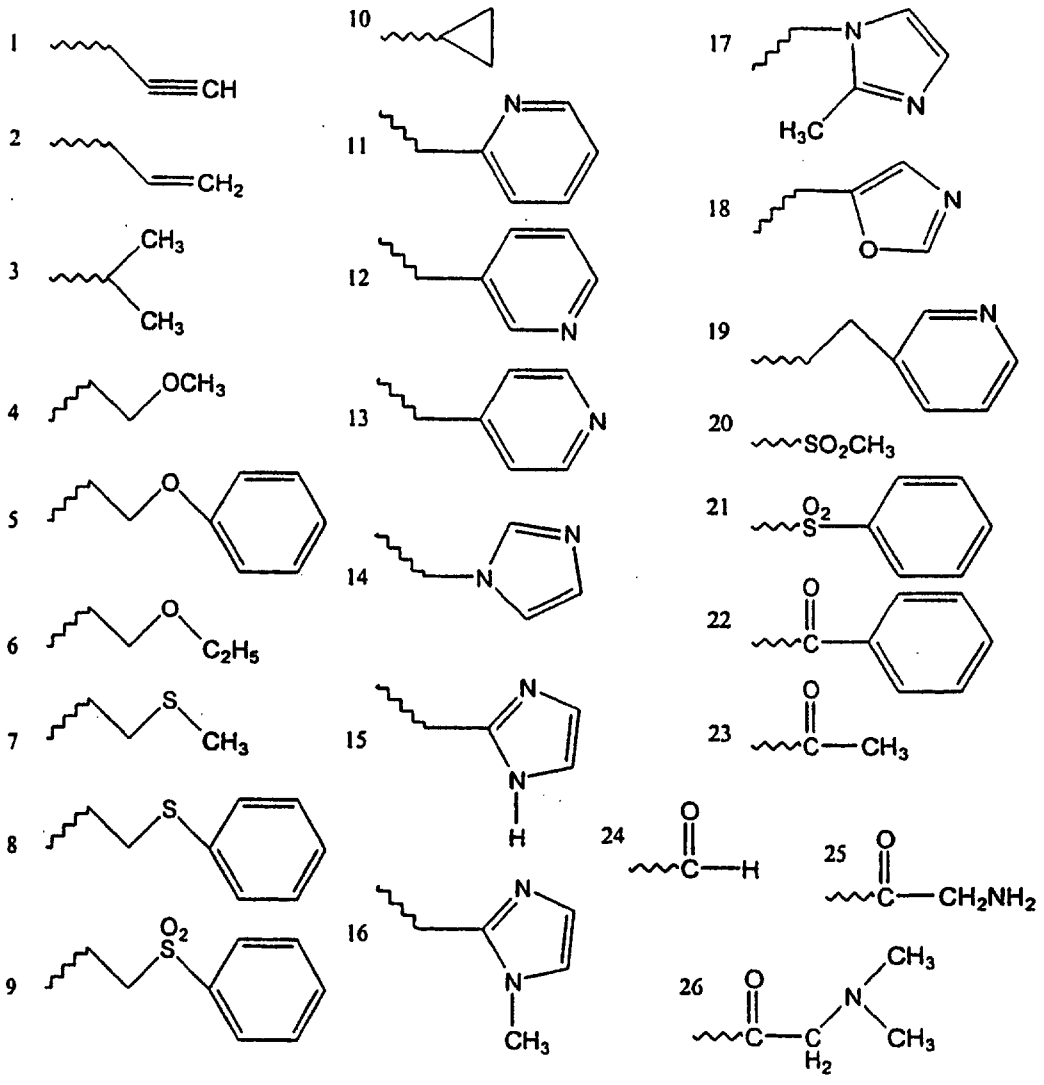
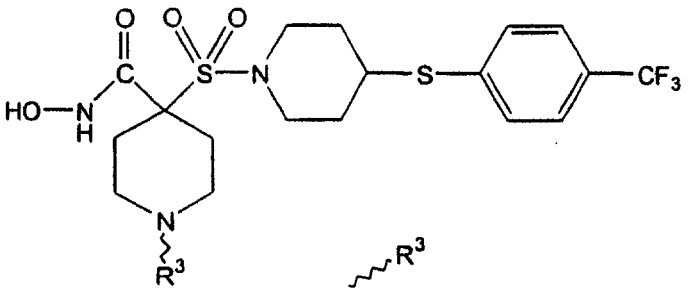

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Table 132



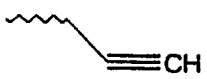
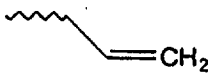
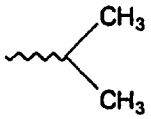
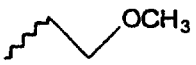
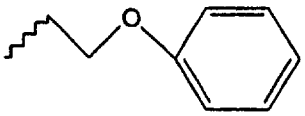
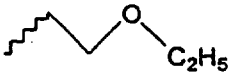
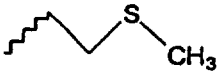
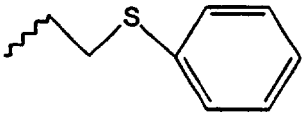
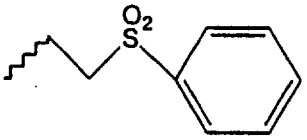
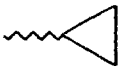
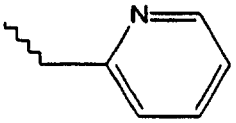
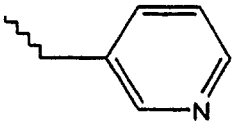
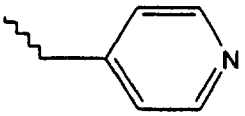
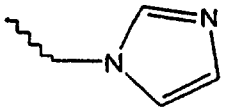
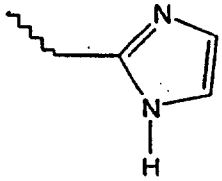
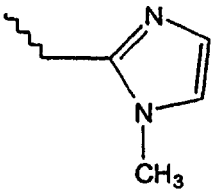
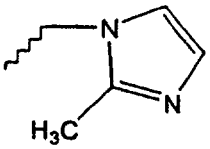
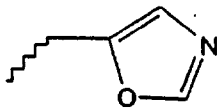
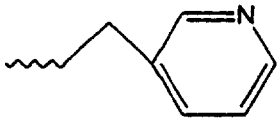
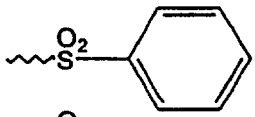
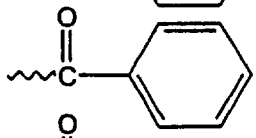
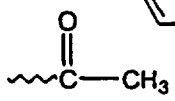
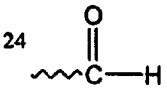
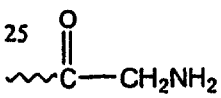
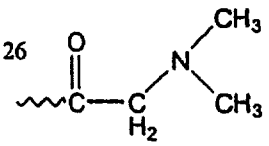
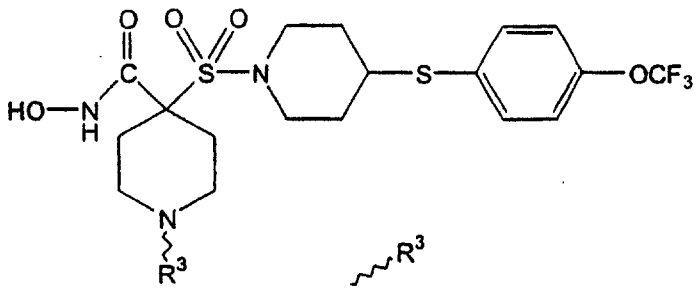
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Table 133



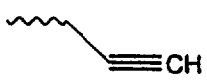
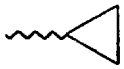
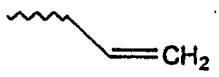
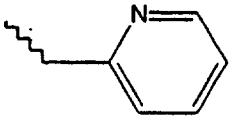
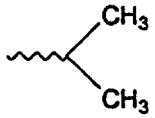
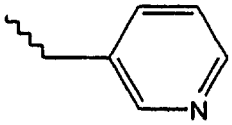
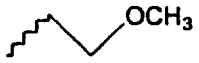
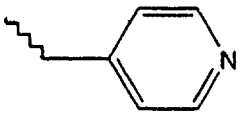
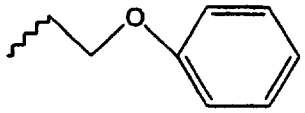
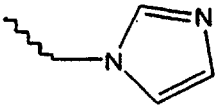
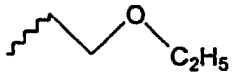
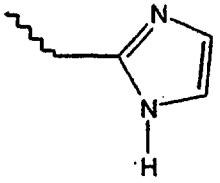
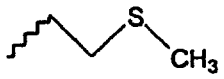
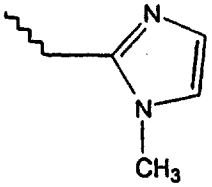
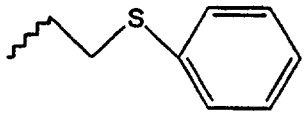
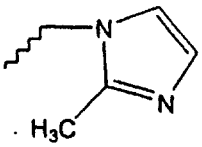
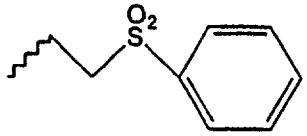
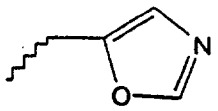
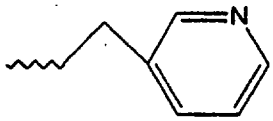
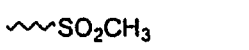
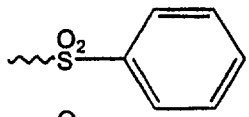
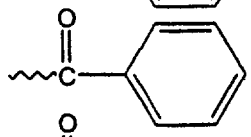
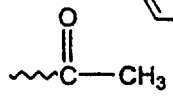
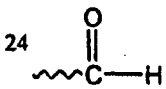
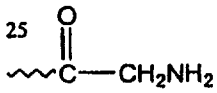
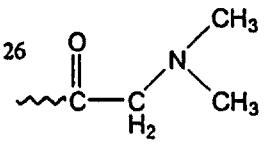
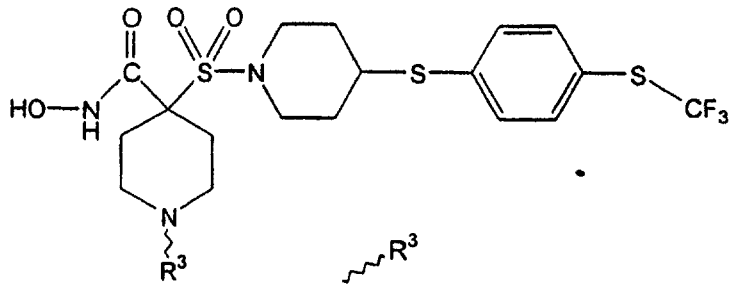
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Table 134



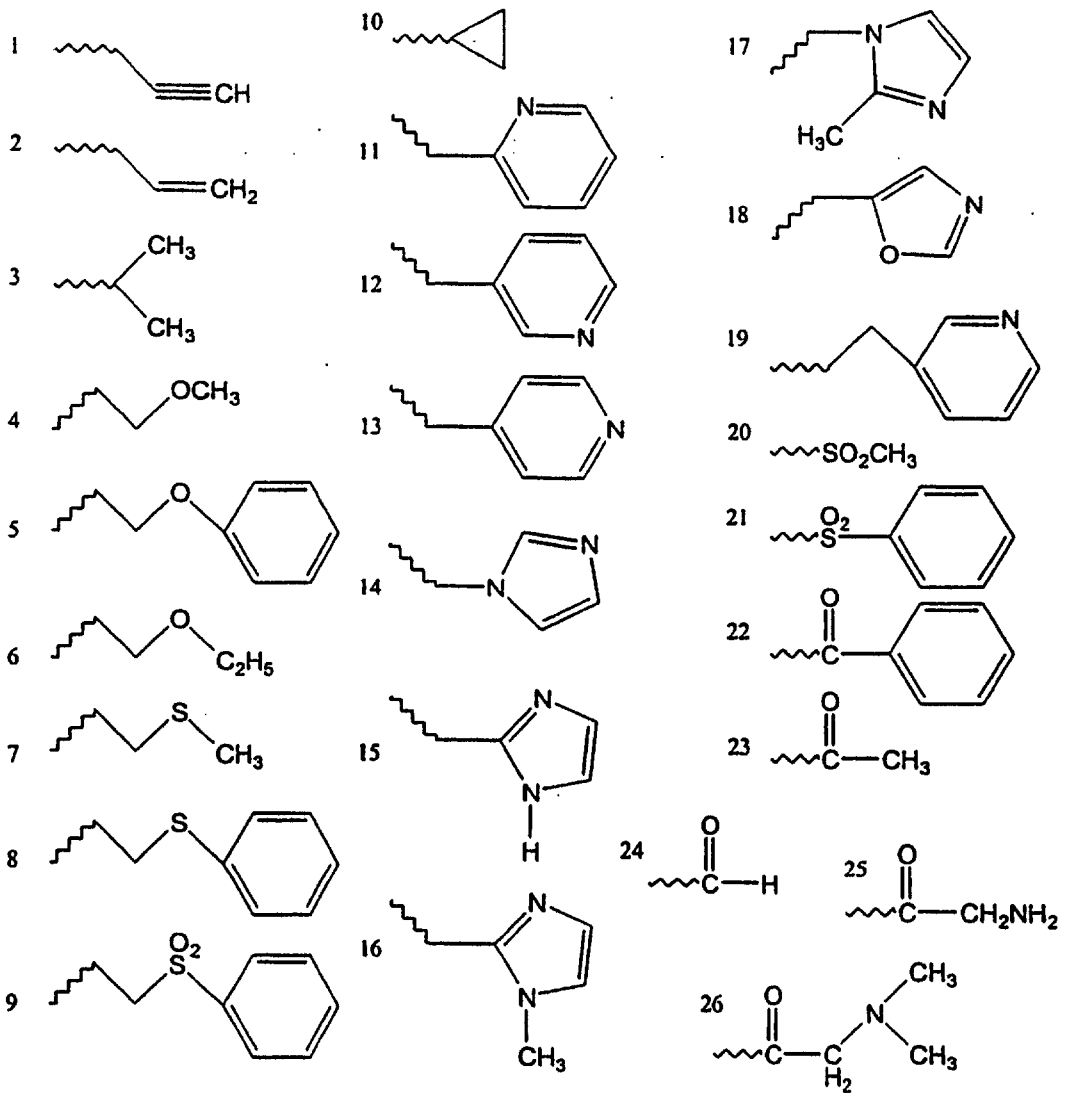
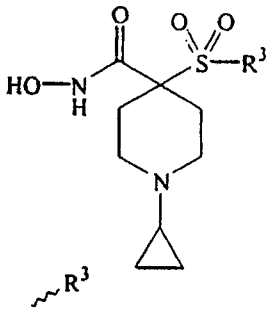


Table 135



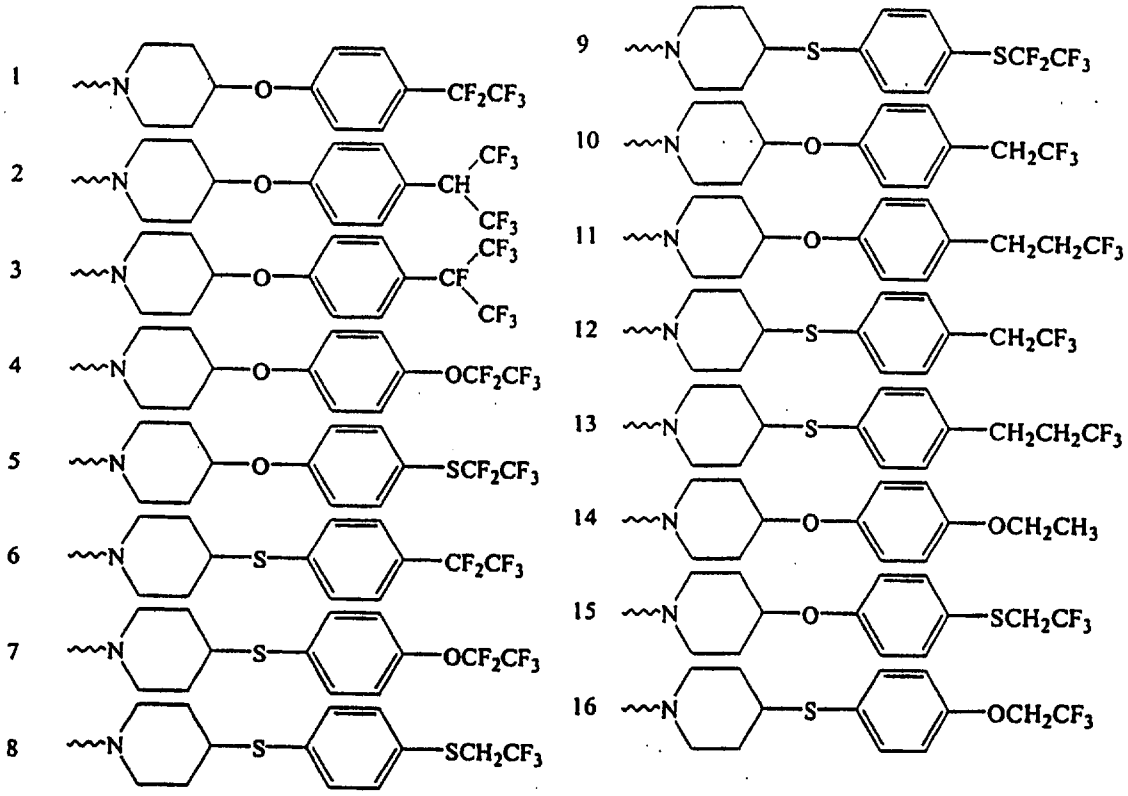
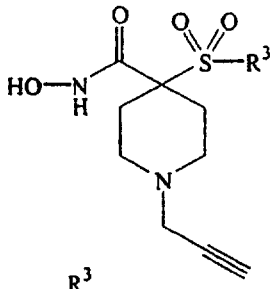
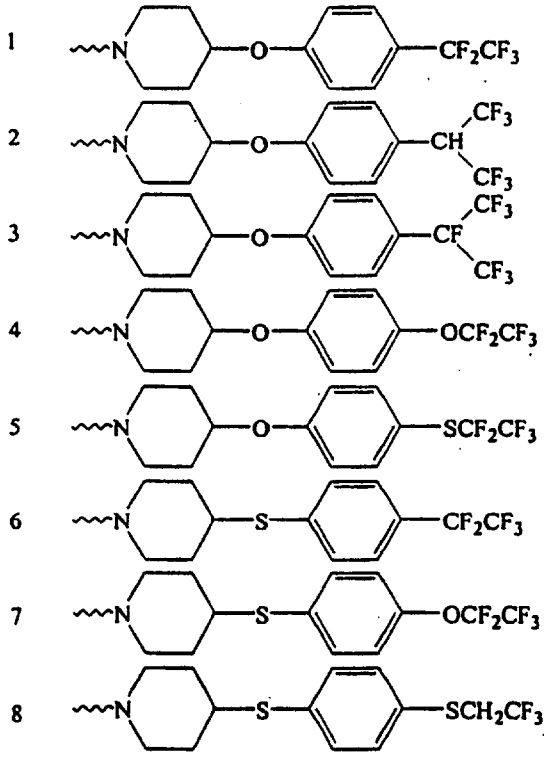


Table 136







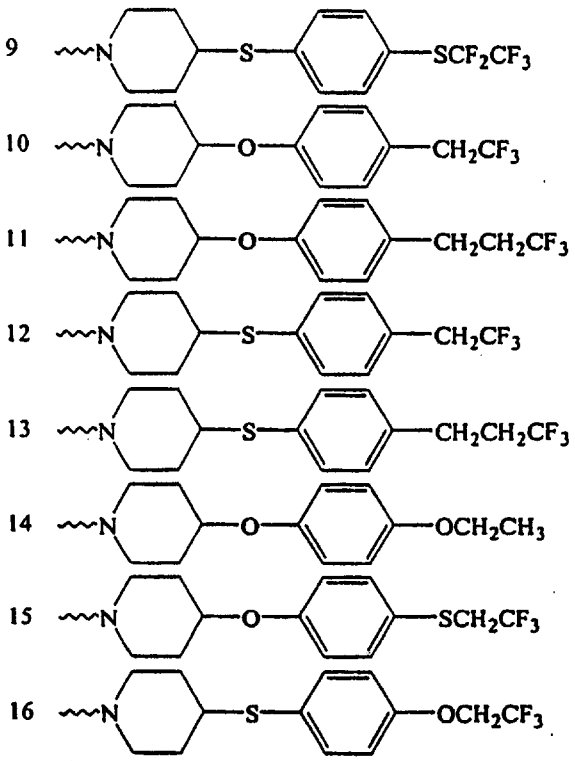
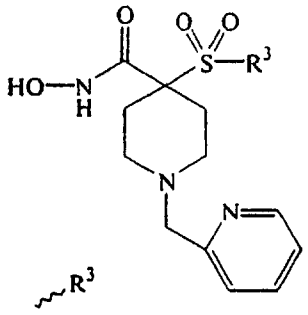


Table 137



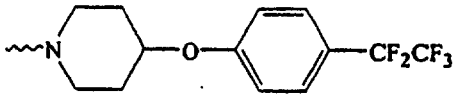
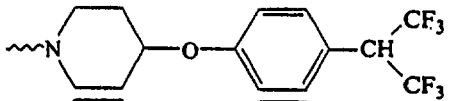
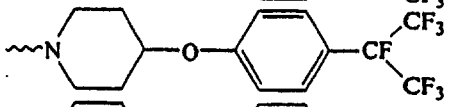
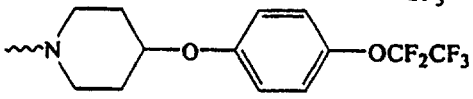
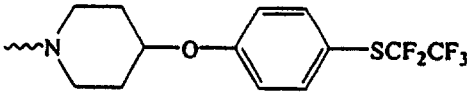
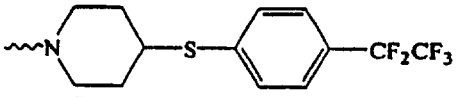
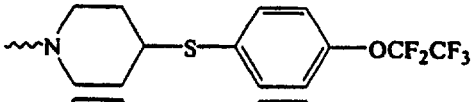
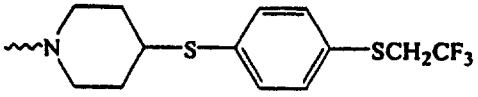
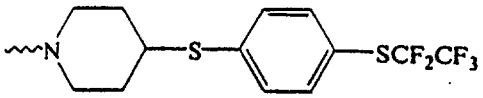
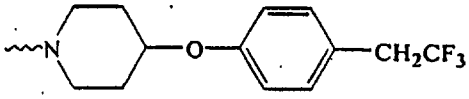
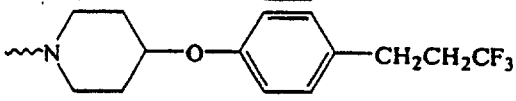
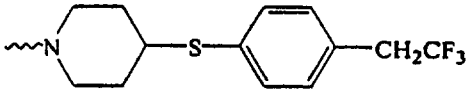
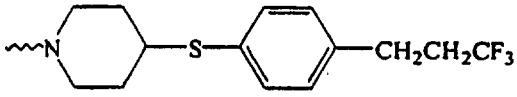
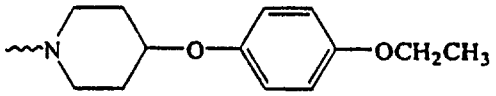
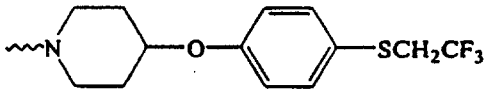
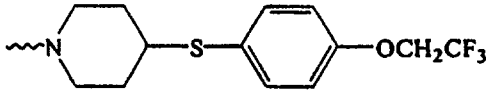
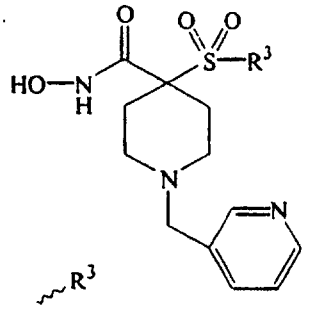
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Table 138



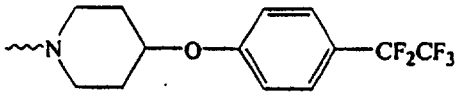
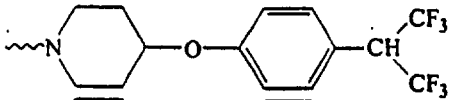
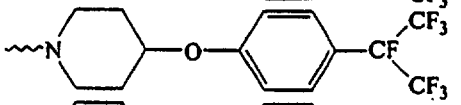
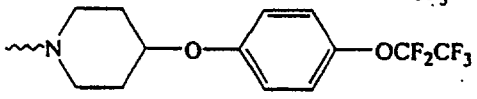
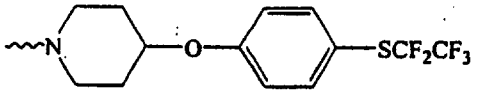
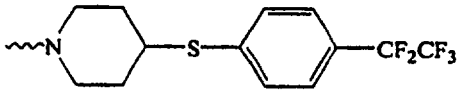
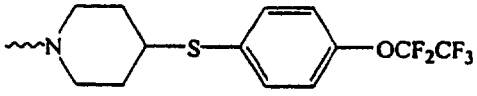
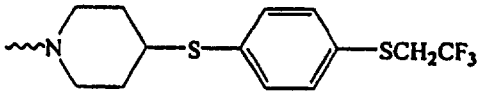
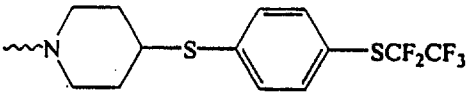
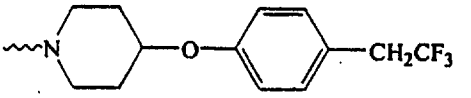
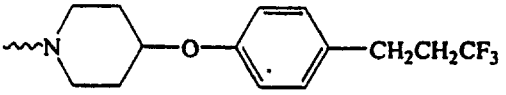
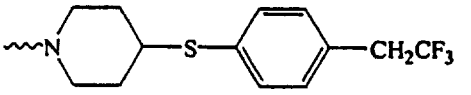
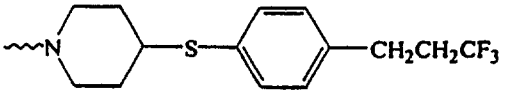
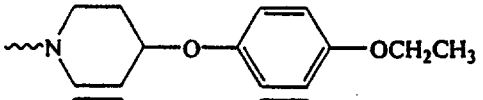
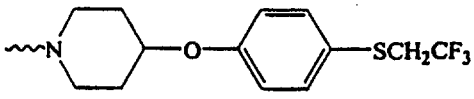
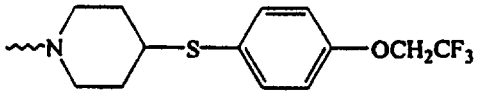
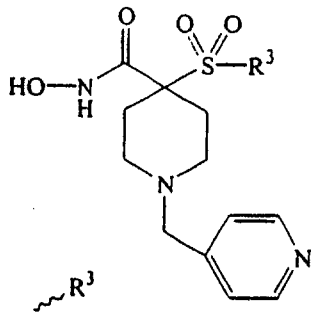
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Table 139



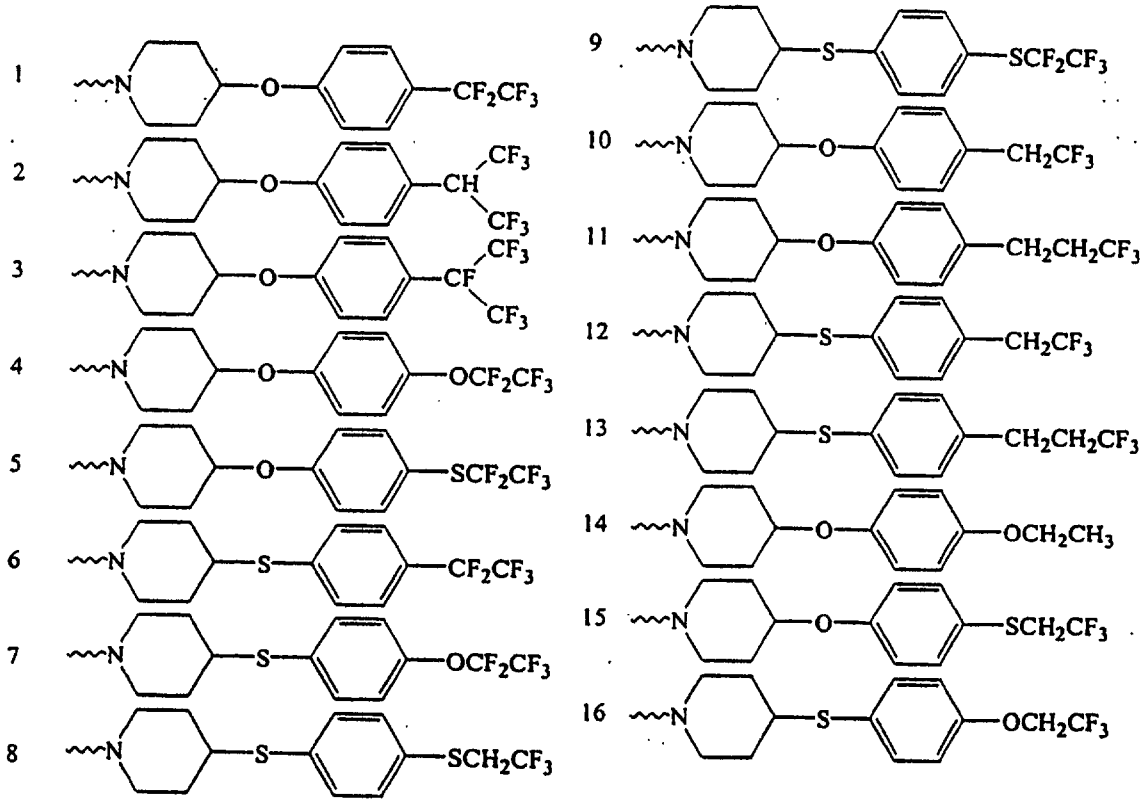
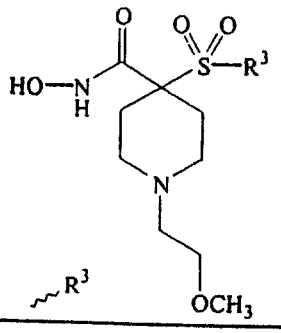


Table 140



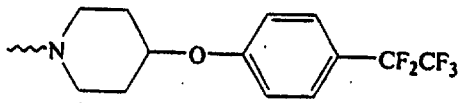
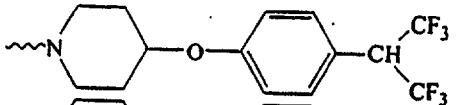
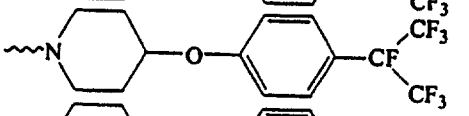
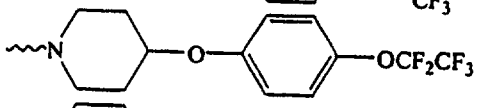
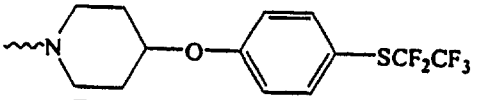
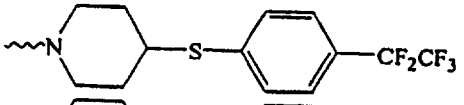
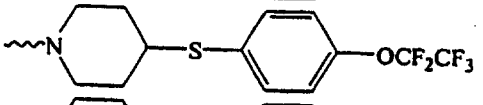
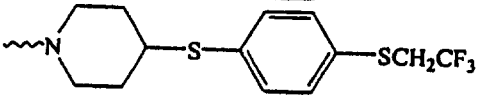
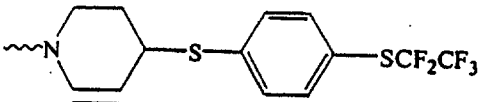
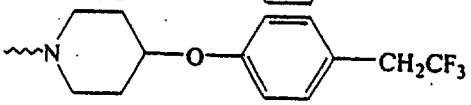
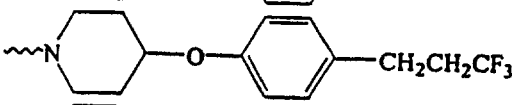
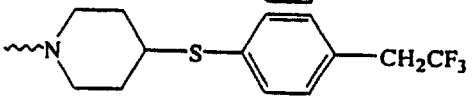
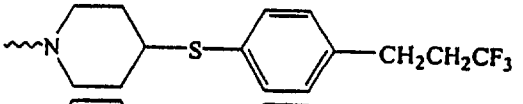
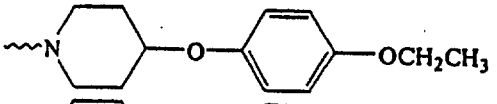
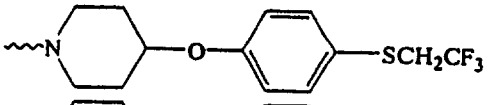
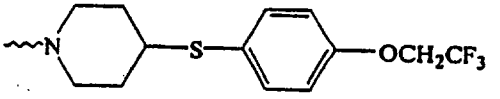
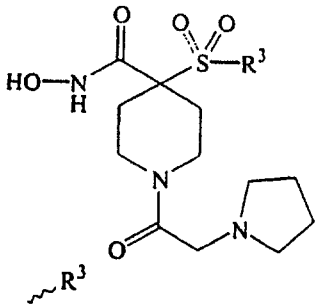
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Table 141



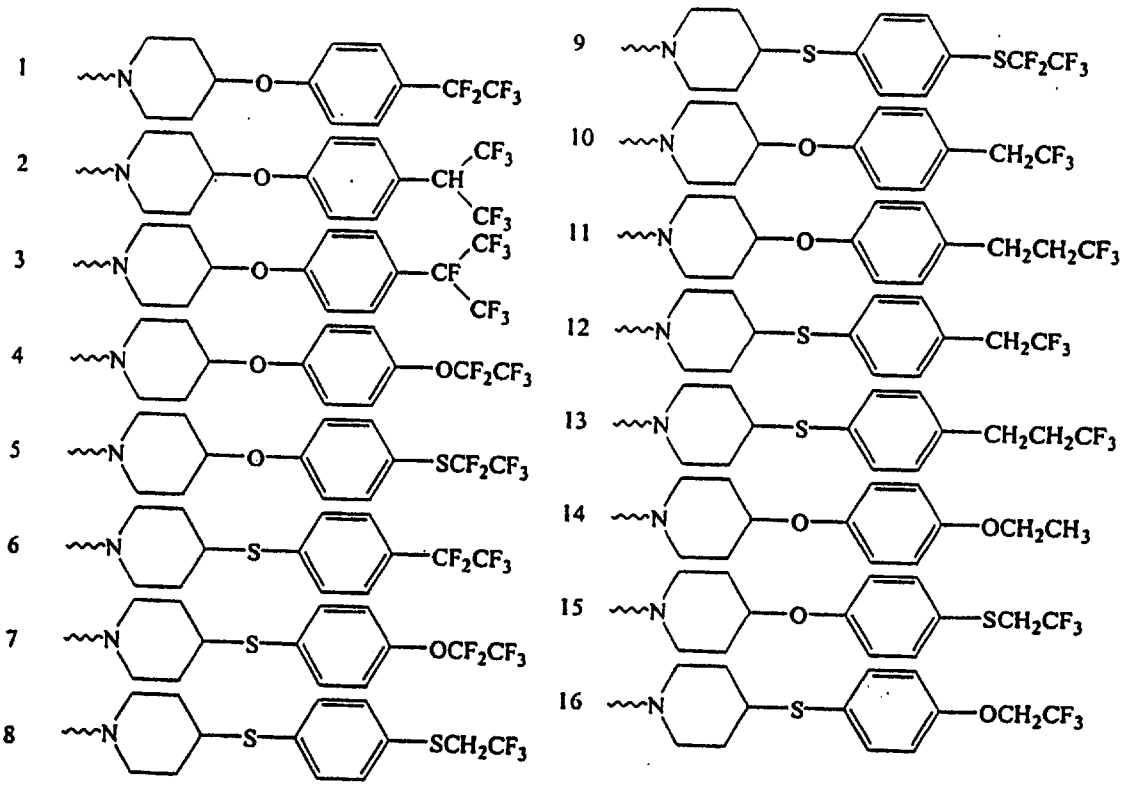
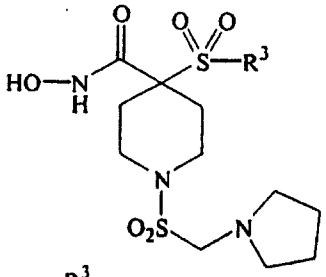

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CF3
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OCF2CF3
SCF2CF3
CF2CF3
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SCH2CF3
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Table 142



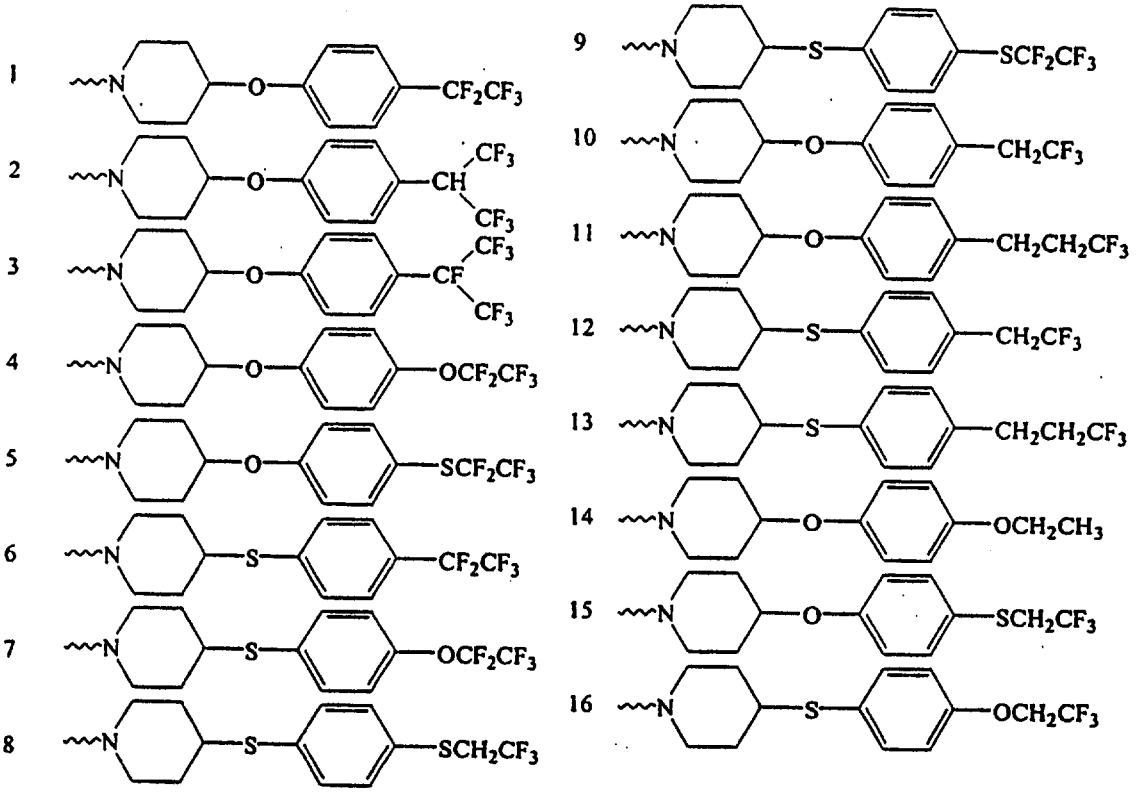
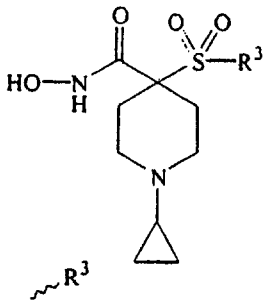


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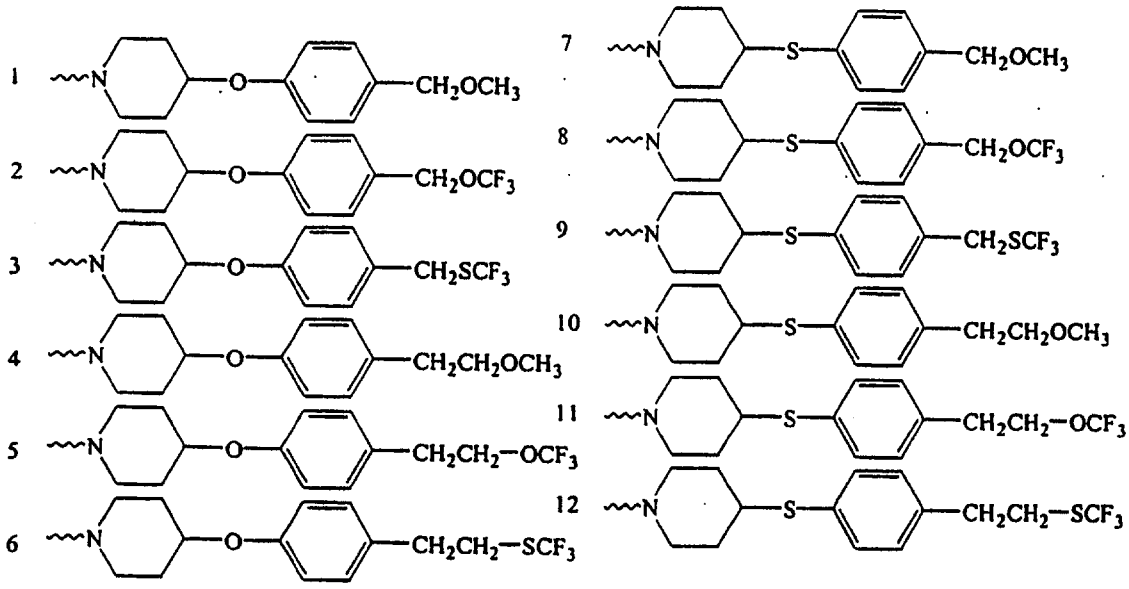
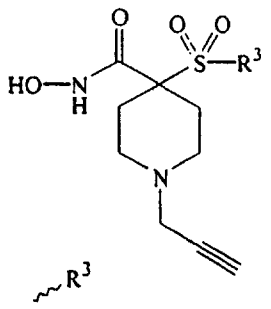

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CH2OCH3
CH2OCF3
CH2SCF3
CH2CH2OCH3
CH2CH2—OCF3
CH2CH2—SCF3

Table 144



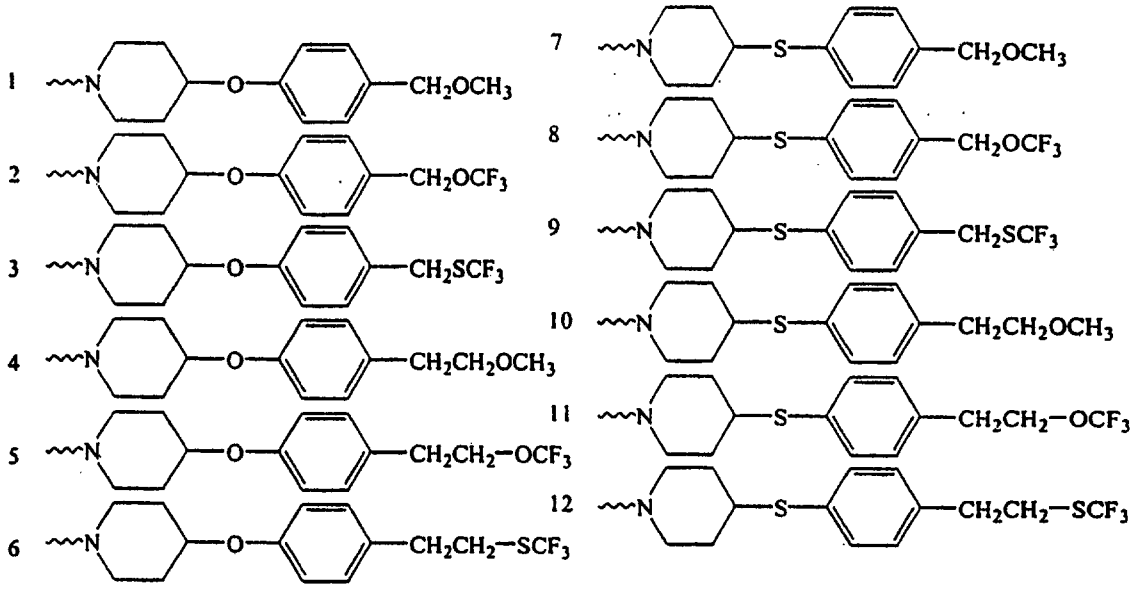
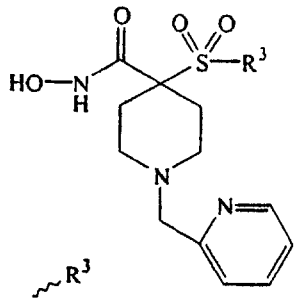

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2 CH2OCF3
3 CH2SCF3
4 CH2CH2OCH3
5 CH2CH2—OCF3
6 CH2CH2—SCF3
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8 CH2OCF3
9 CH2SCF3
10 CH2CH2OCH3
11 CH2CH2—OCF3
12 CH2CH2—SCF3

Table 145



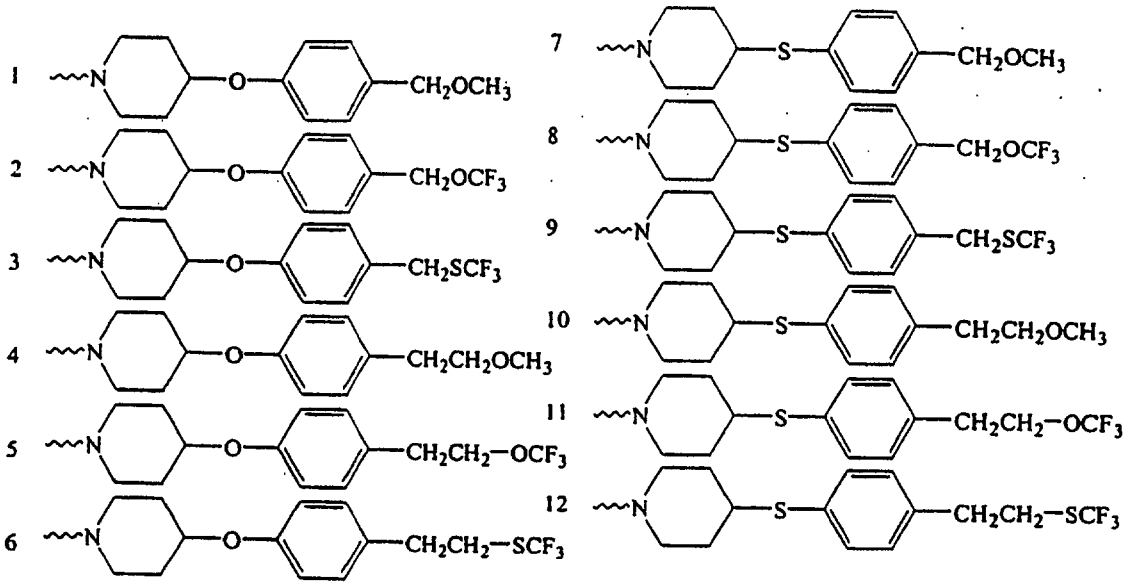
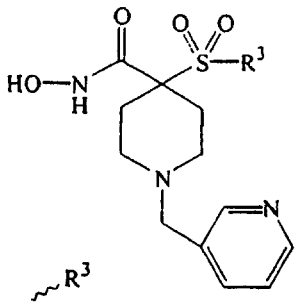

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CH2OCH3
CH2OCF3
CH2SCF3
CH2CH2OCH3
CH2CH2–OCF3
CH2CH2–SCF3

Table 146



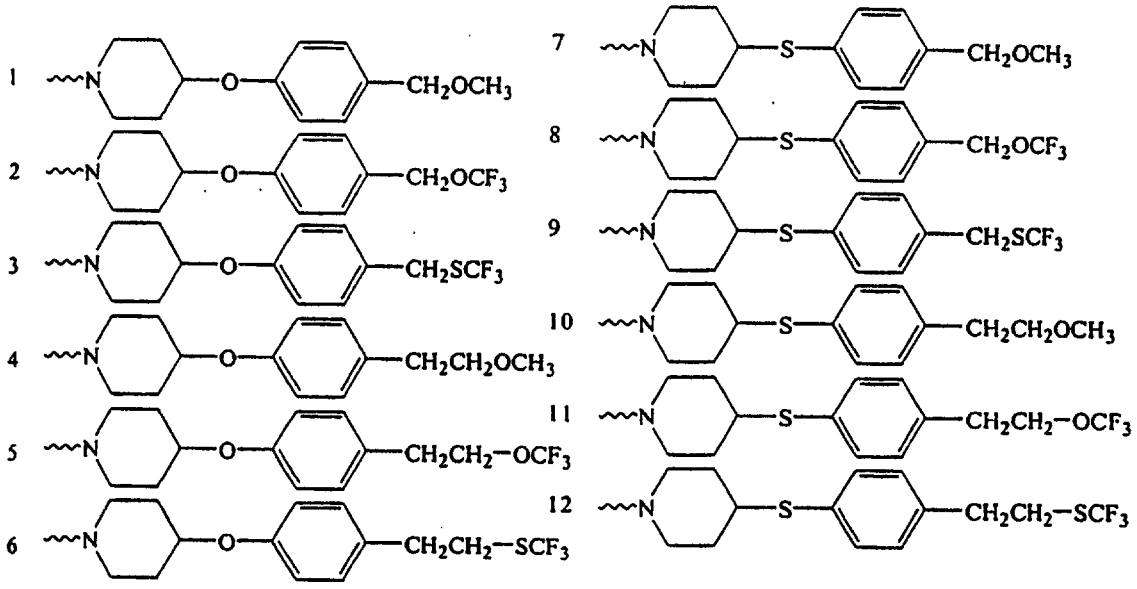
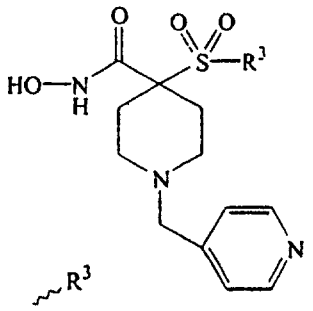

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3 CH2SCF3
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5 CH2CH2–OCF3
6 CH2CH2–SCF3
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8 CH2OCF3
9 CH2SCF3
10 CH2CH2OCH3
11 CH2CH2–OCF3
12 CH2CH2–SCF3

Table 147



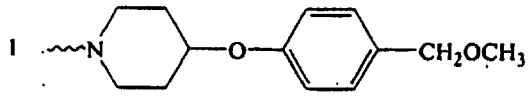
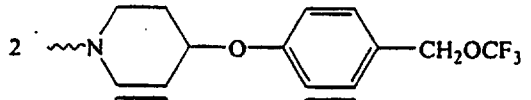
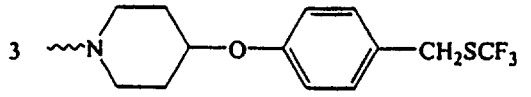
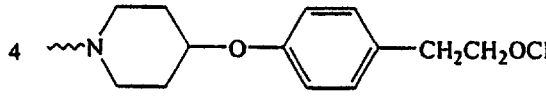
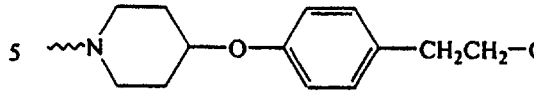
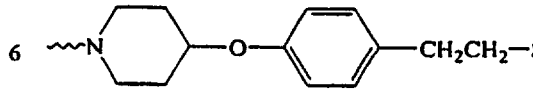
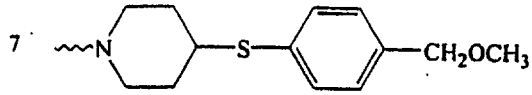
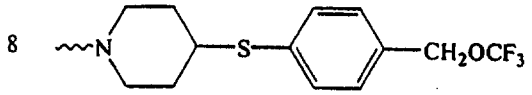
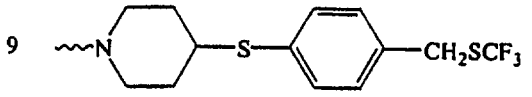
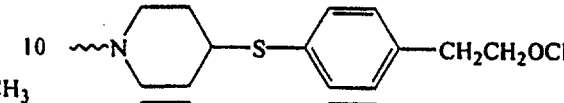
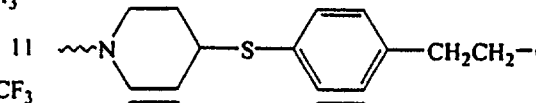
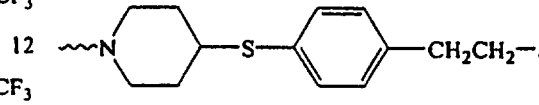
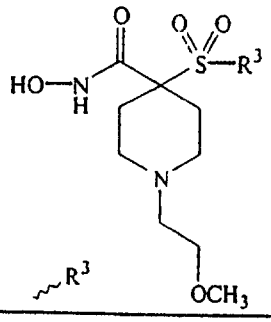
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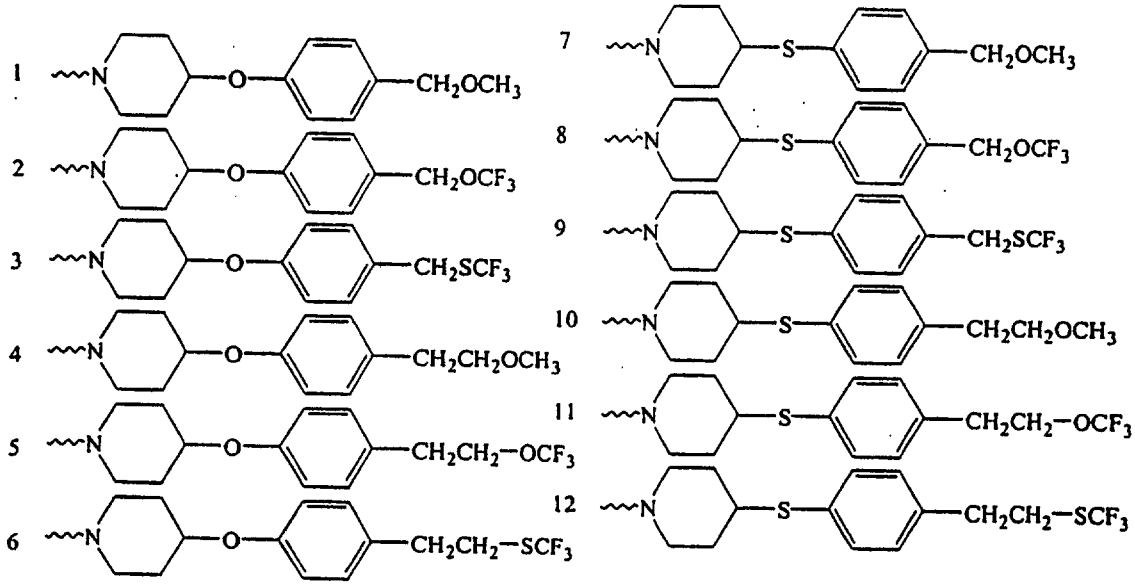
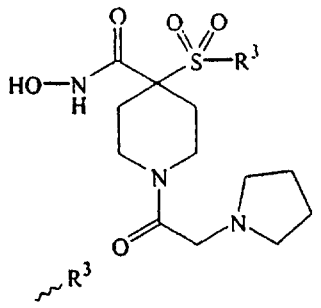

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CH2OCH3
CH2OCF3
CH2SCF3
CH2CH2OCH3
CH2CH2–OCF3
CH2CH2–SCF3

Table 149



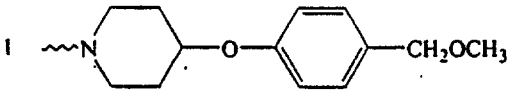
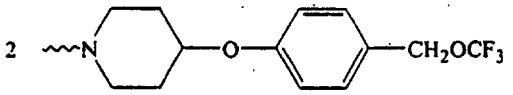
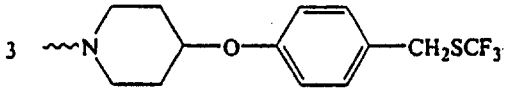
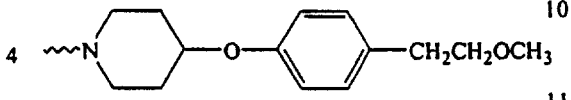
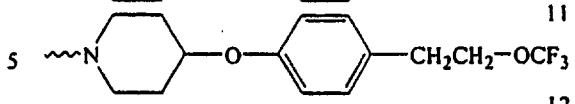
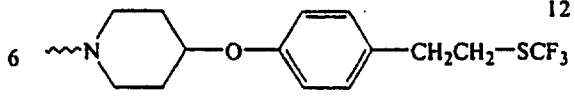
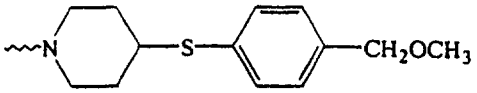
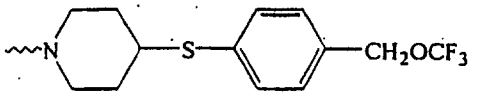
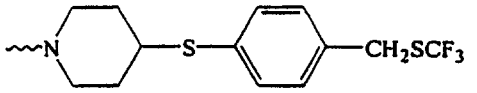
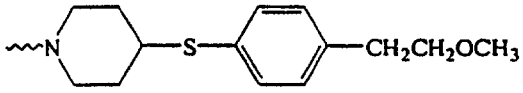
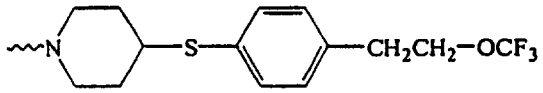
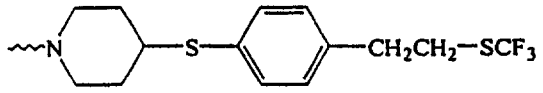
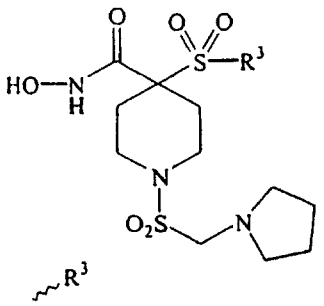
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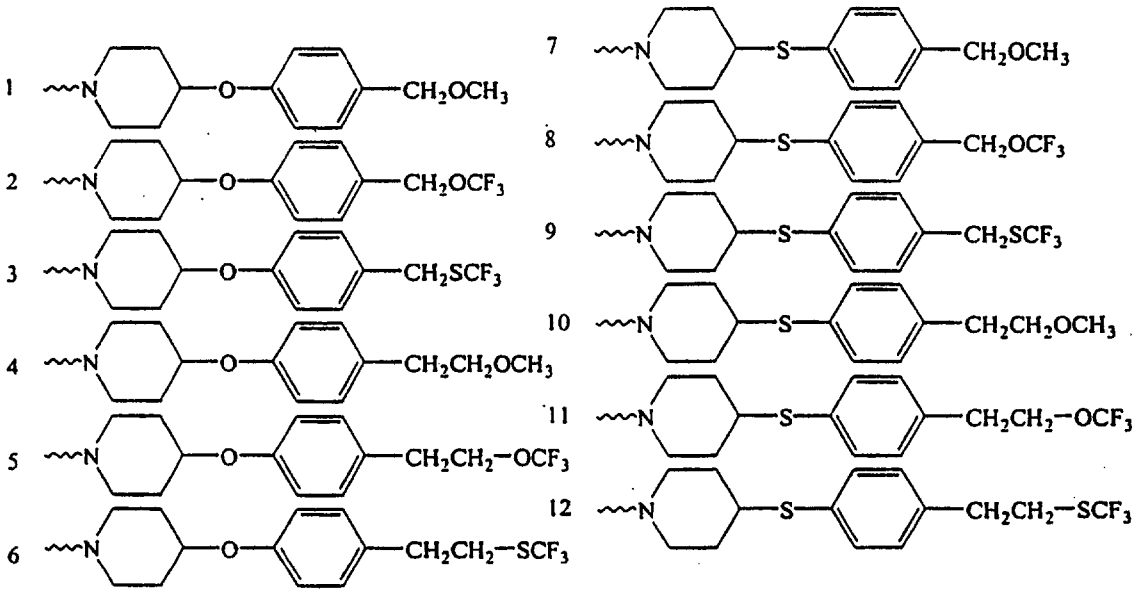
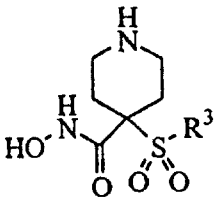


Table 151



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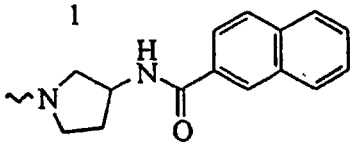
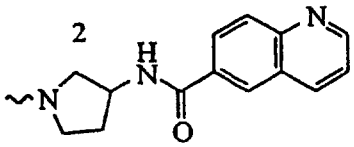
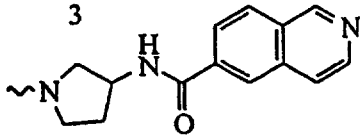
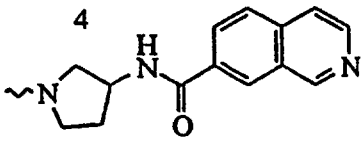
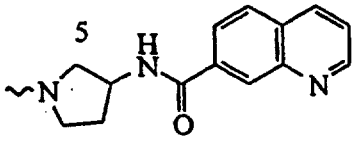
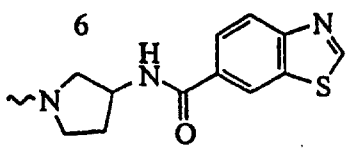
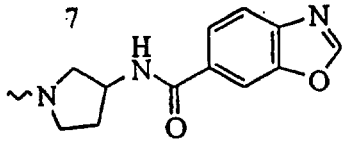
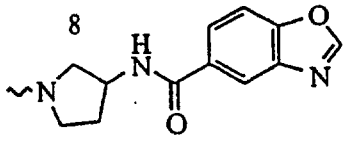
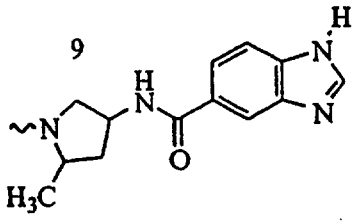
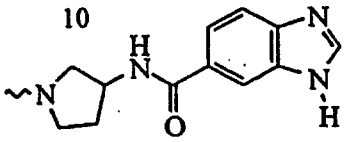
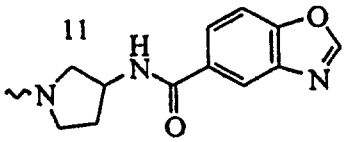
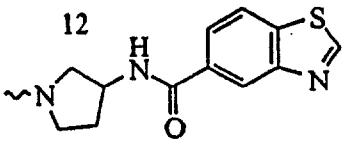
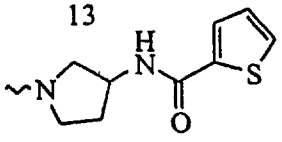
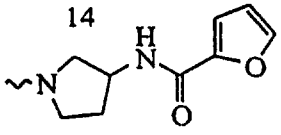
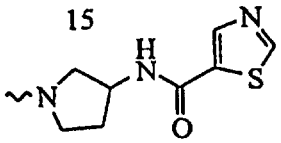
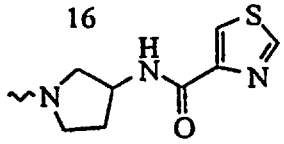
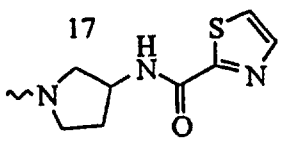
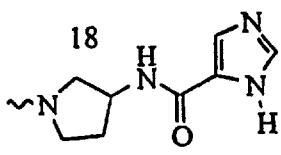
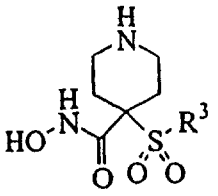
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Table 152



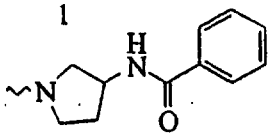
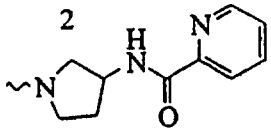
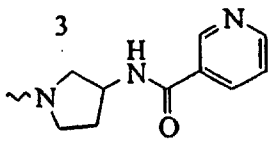
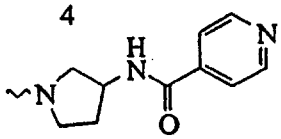
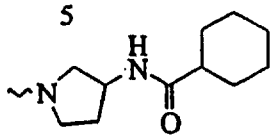
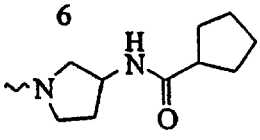
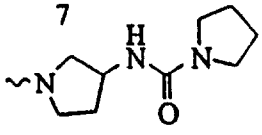
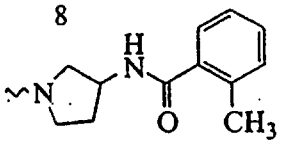
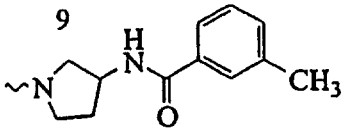
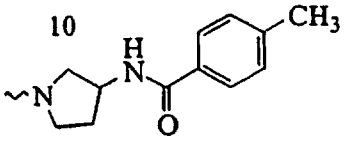
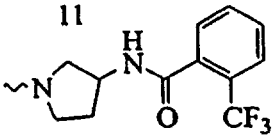
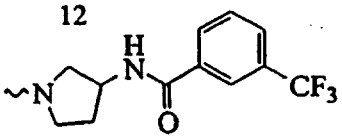
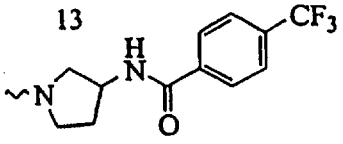
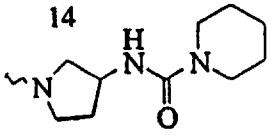
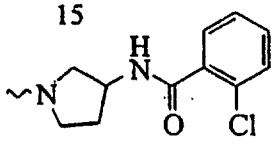
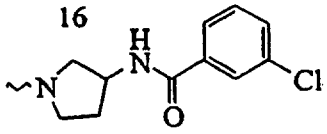
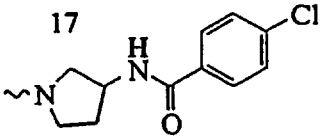
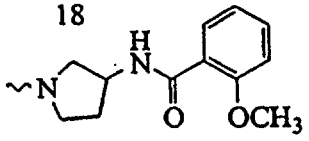
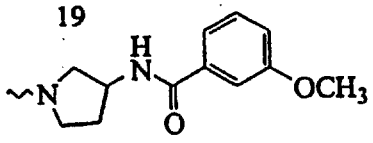
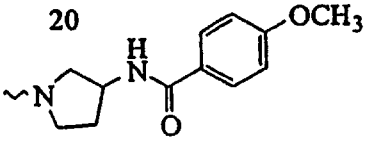
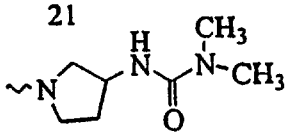
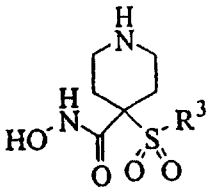
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Table 153



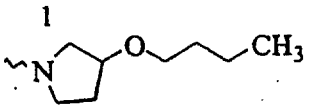
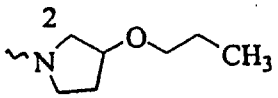
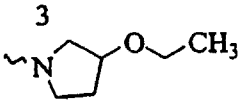
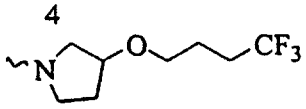
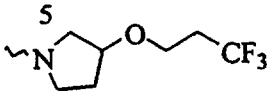
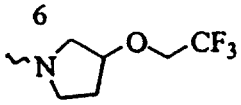
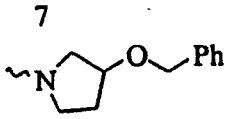
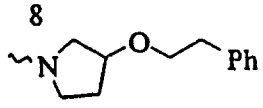
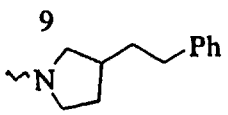
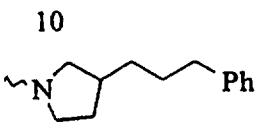
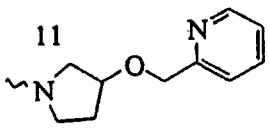
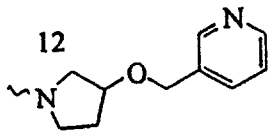
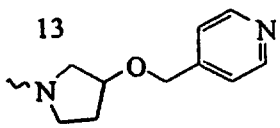
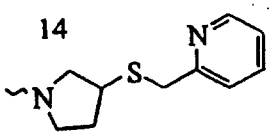
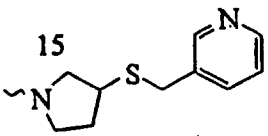
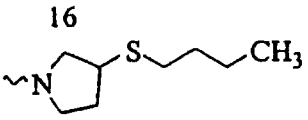
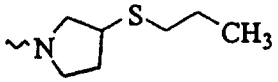
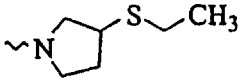
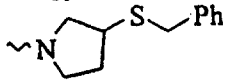
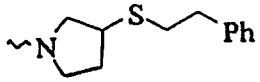
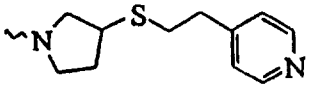
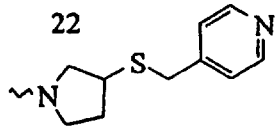
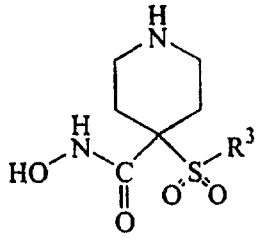
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Table 154





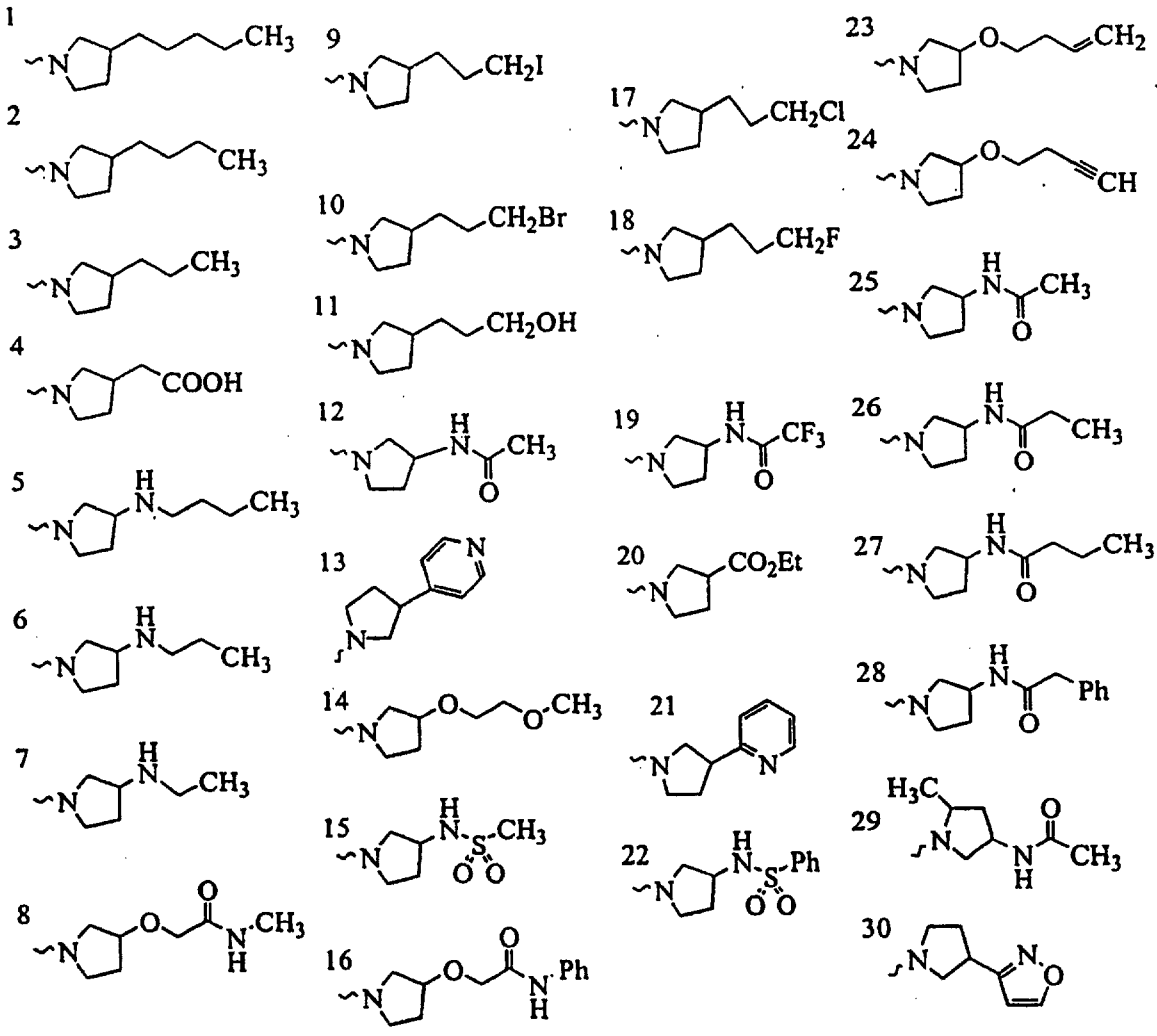
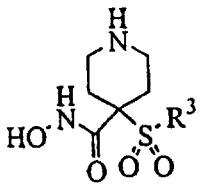
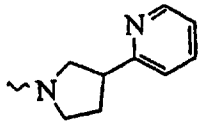

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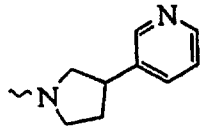
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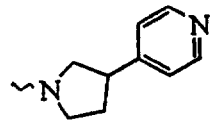


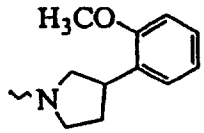
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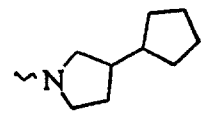
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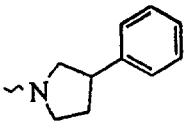
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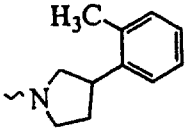
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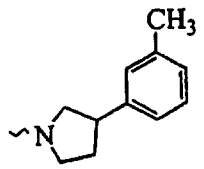
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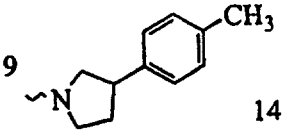
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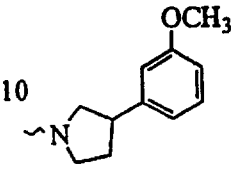
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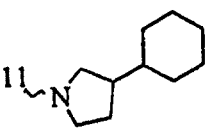
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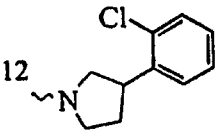
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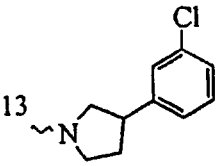
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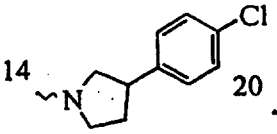
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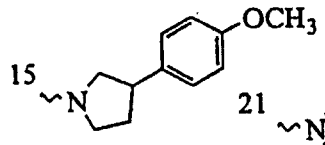
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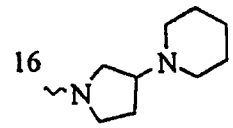
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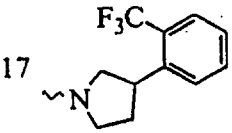
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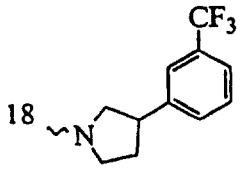
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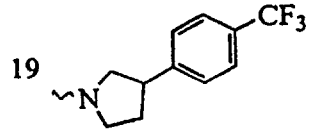
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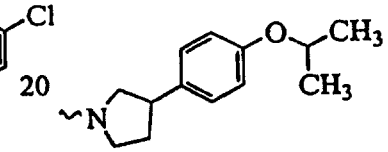
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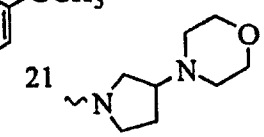
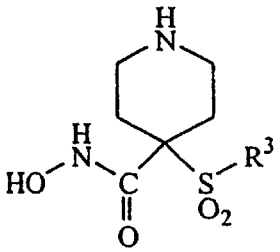
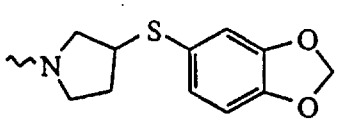
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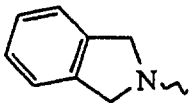
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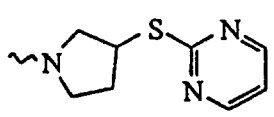


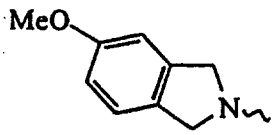
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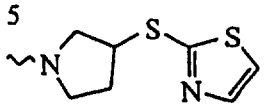
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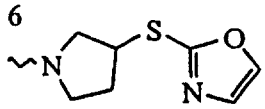
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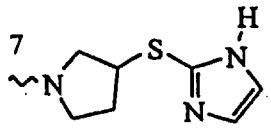
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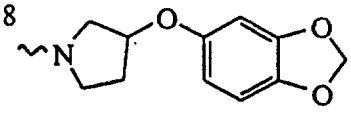
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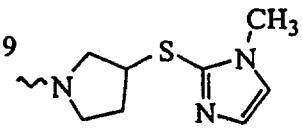
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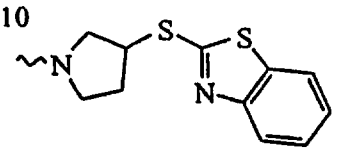
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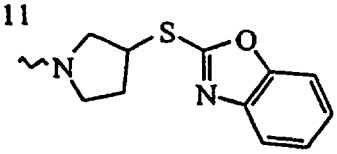
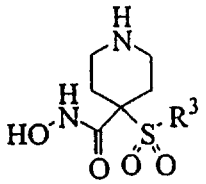
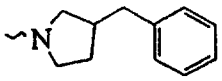
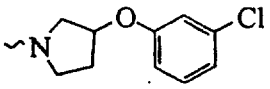
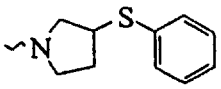
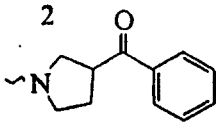
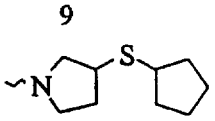
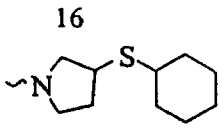
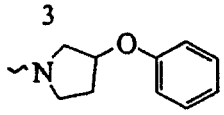
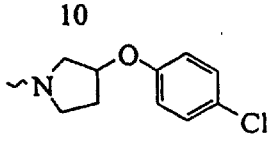
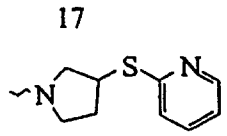
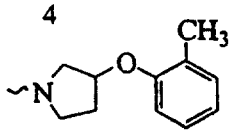
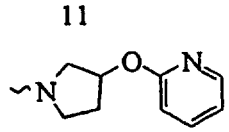
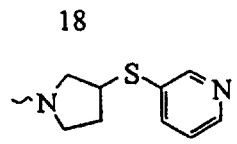
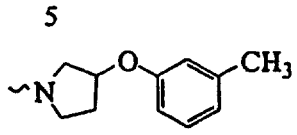
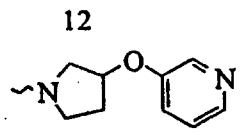
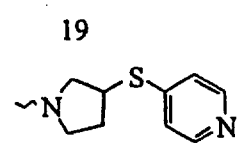
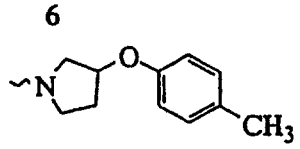
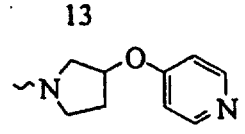
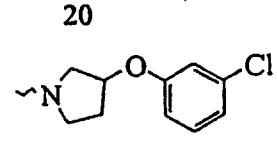
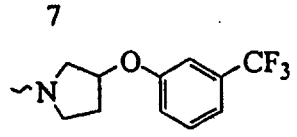
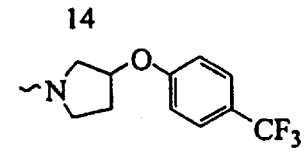
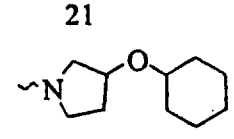
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Table 157

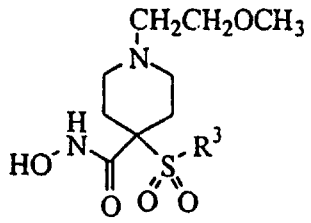


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Table 158



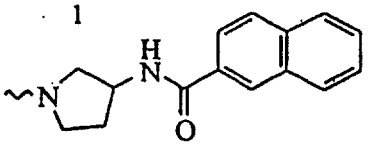
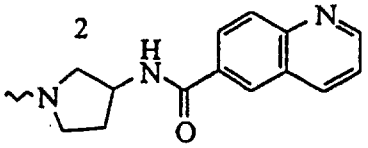
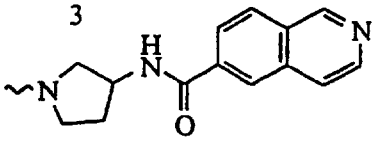
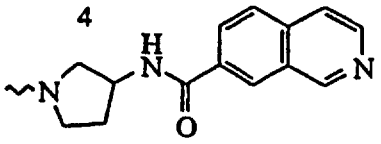
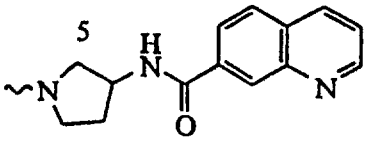
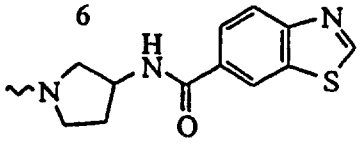
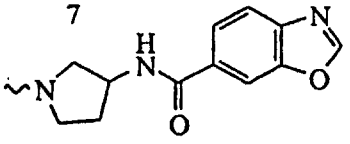
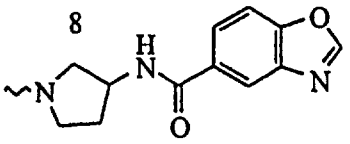
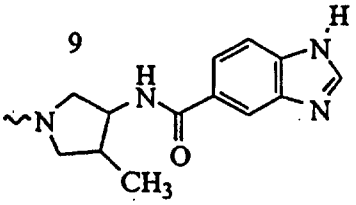
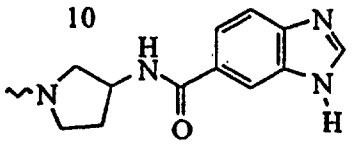
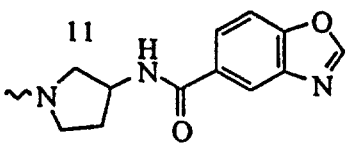
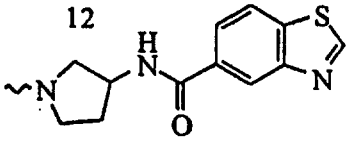
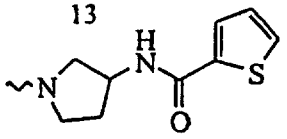
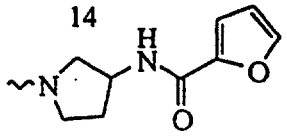
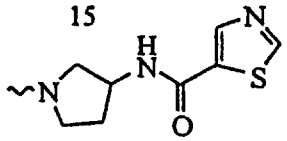
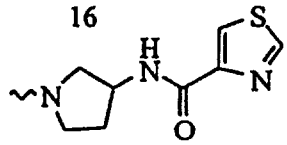
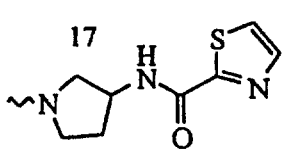
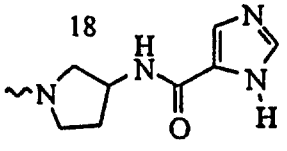
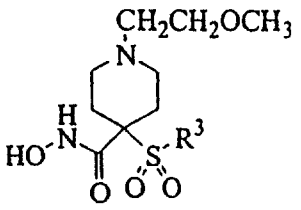
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Table 159



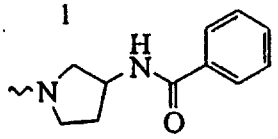
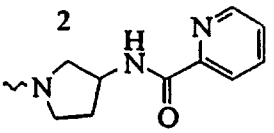
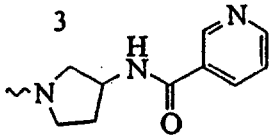
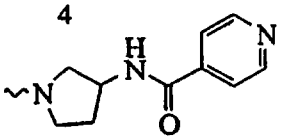
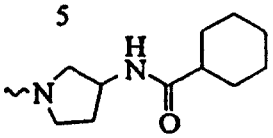
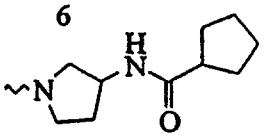
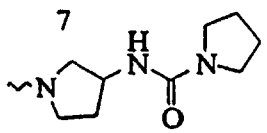
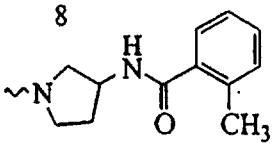
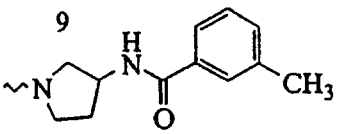
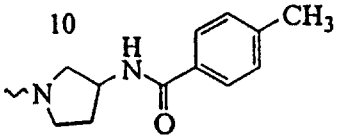
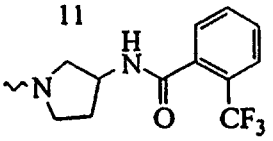
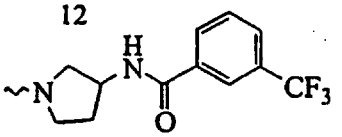
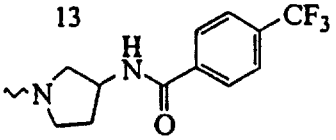
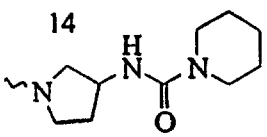
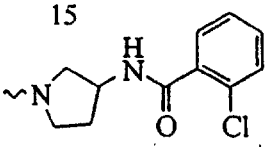
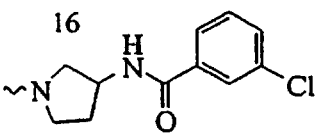
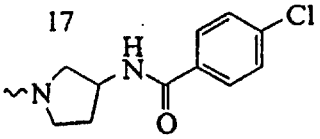
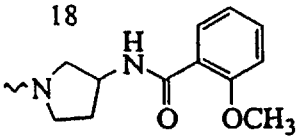
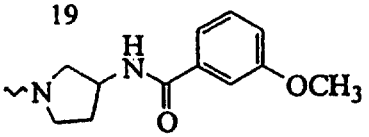
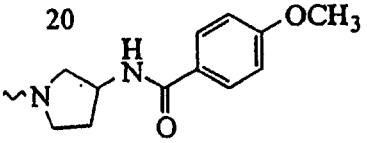
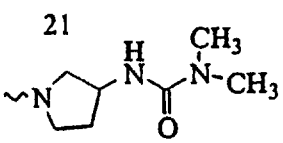
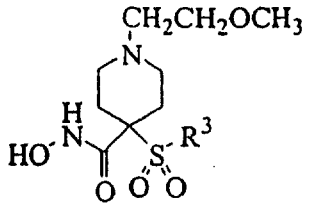
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Table 160



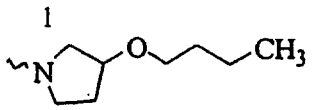
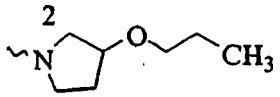
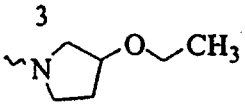
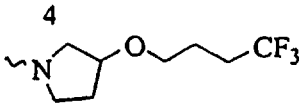
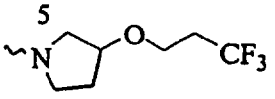
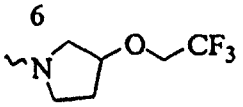
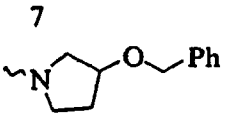
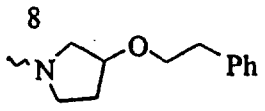
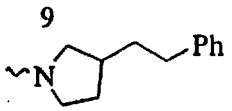
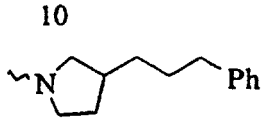
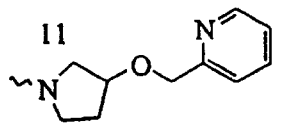
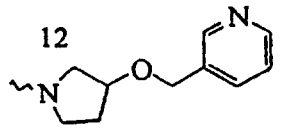
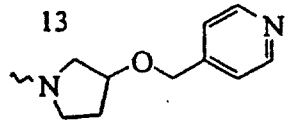
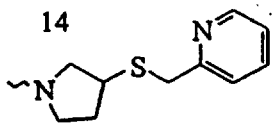
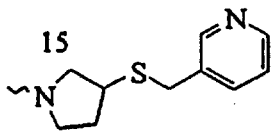
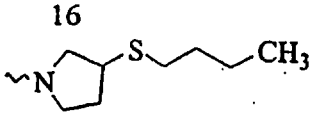
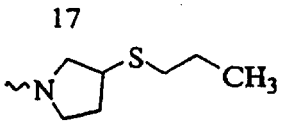
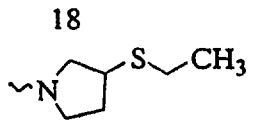
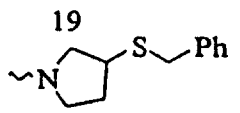
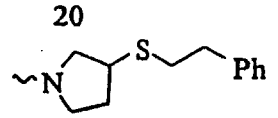
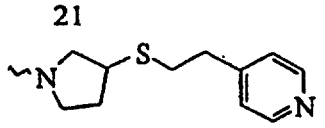
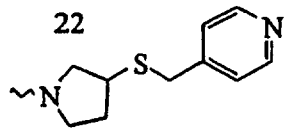
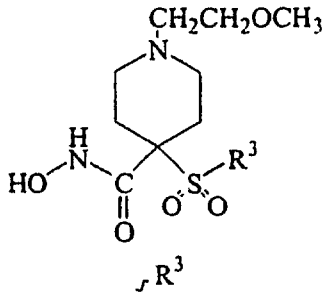
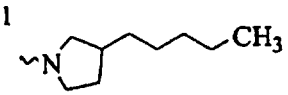
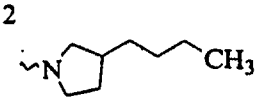
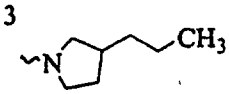
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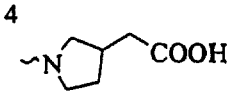
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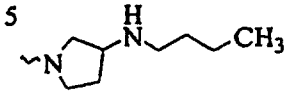


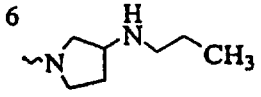
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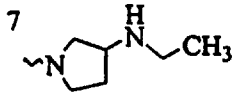
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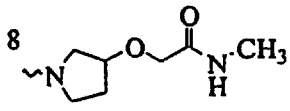
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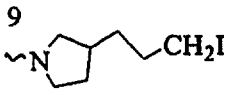
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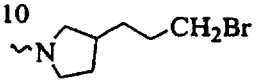
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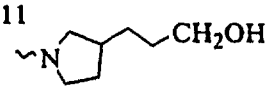
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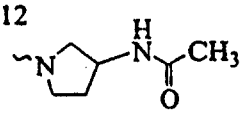
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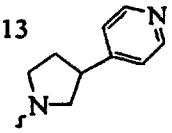
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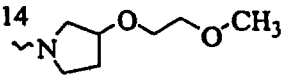
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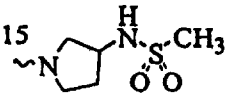
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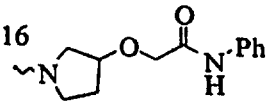
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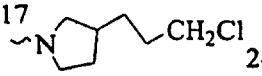
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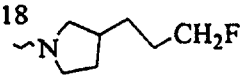
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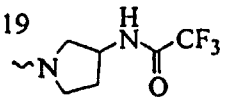
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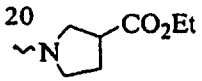
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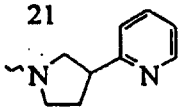
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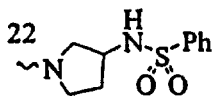
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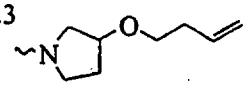
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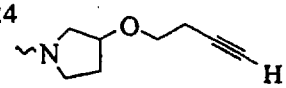
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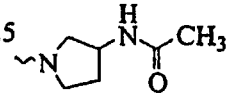
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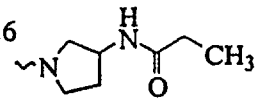
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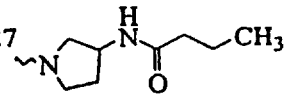
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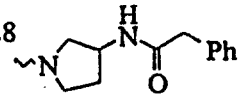
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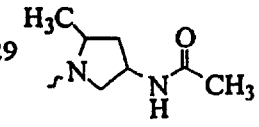
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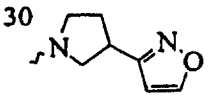
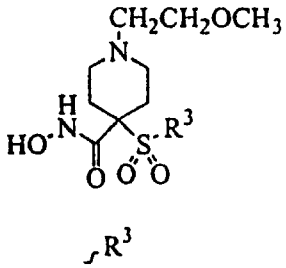
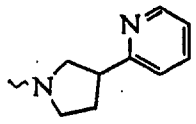
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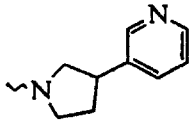
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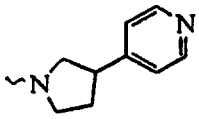


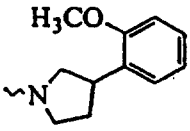
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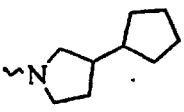
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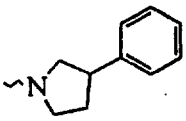
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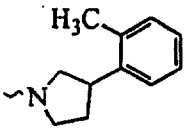
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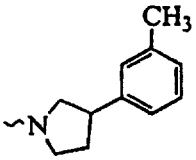
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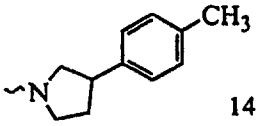
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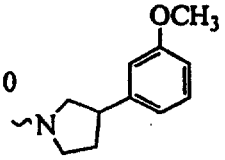
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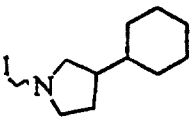
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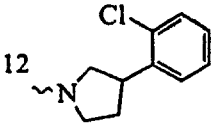
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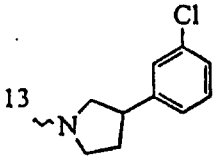
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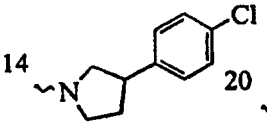
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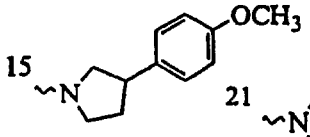
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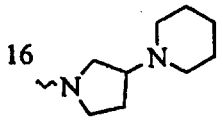
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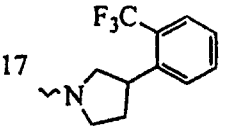
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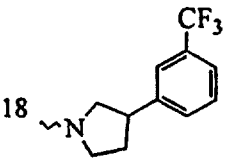
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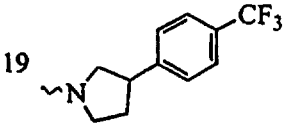
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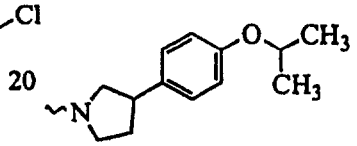
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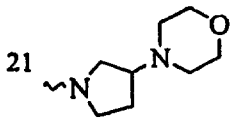
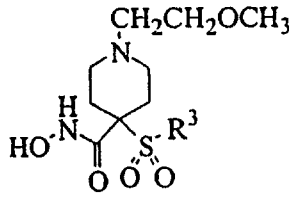
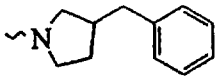
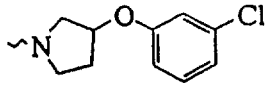
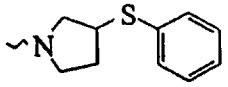
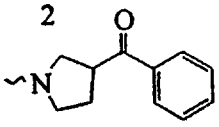
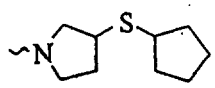
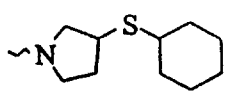
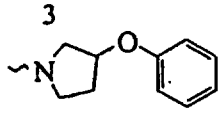
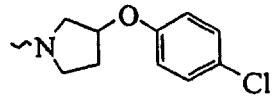
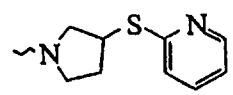
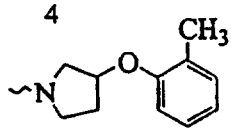
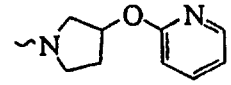
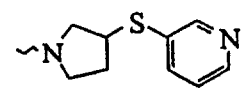
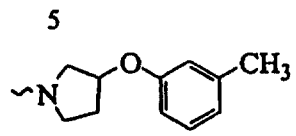
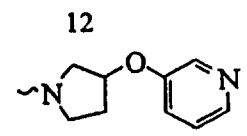
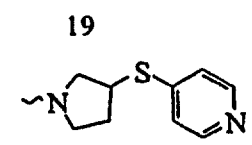
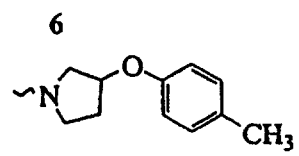
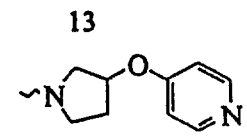
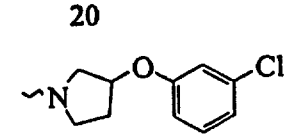
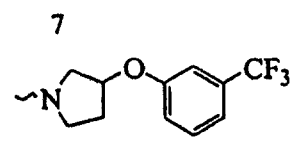
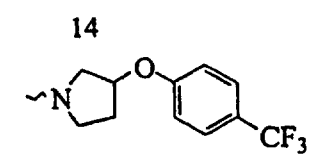
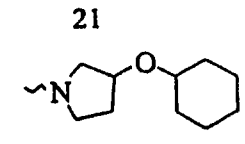
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Table 164

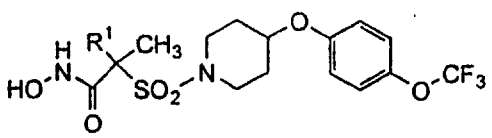


$_{\sim}R^3$

1 	8 	15 
2 	9 	16 
3 	10 	17 
4 	11 	18 
5 	12 	19 
6 	13 	20 
7 	14 	21 

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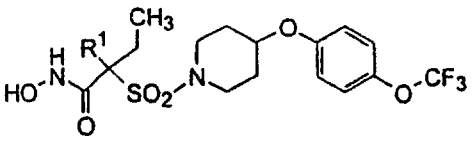
Table 165





1	—CH_3
2	—CH_2CH_3
3	—$CH(CH_3)_2$
4	(-C_6H_5)
5	
6	
7	
8	—CH_2-$N(CH_3)_2$
9	—CH_2-$N(CH_3)CH_2C_6H_5$
10	(-C_6H_{11})
11	
12	
13	
14	—$CH_2CH{=}CHCH_3$
15	
16	
17	
18	—C≡CH
19	—C≡CCH_3
20	
21	OCH_3
22	OC_6H_5
23	
24	
25	
26	
27	
28	OH
29	
30	
30	
31	
32	
33	
34	
35	
36	
37	
38	CN
39	Cl
40	
41	
42	
43	H

Table 166





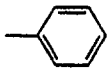
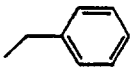
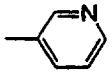
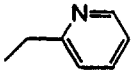
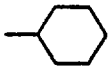
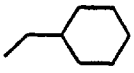
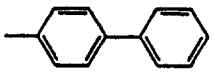
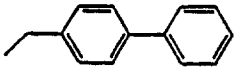
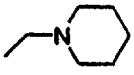
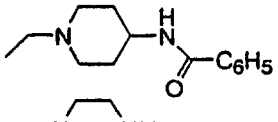
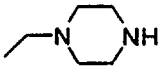
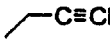
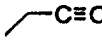
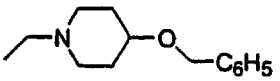
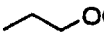
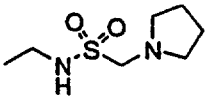
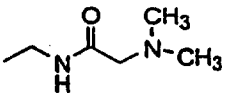
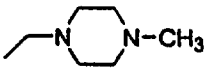
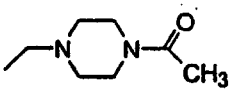
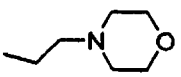
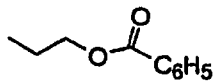
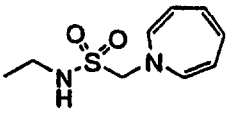
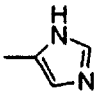
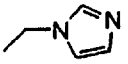
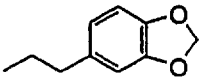
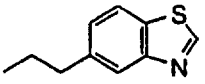
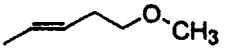
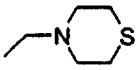
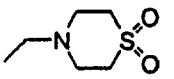
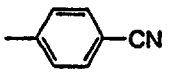
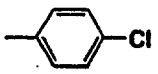
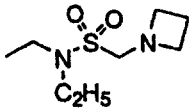
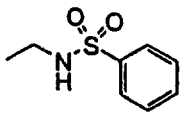
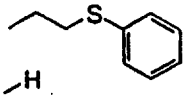
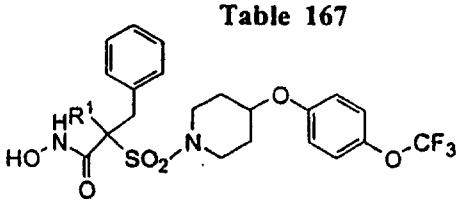
1	$-CH_3$
2	$-CH_2CH_3$
3	$-CH(CH_3)_2$
4	
5	
6	
7	
8	$-CH_2-N(CH_3)_2$
9	$-CH_2-N(CH_3)CH_2C_6H_5$
10	
11	
12	
13	
14	$-CH_2CH=CHCH_3$
15	
16	
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18	
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Table 167





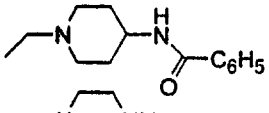
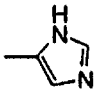
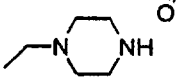
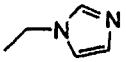
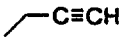
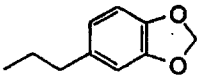
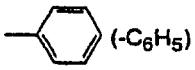
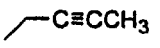
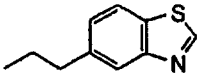
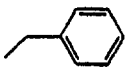
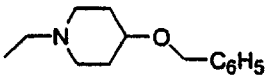
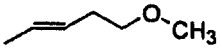
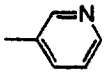
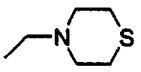
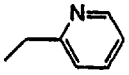
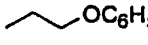
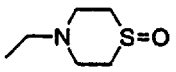
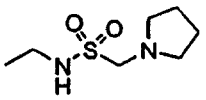
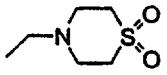
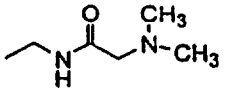
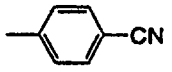
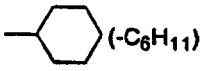
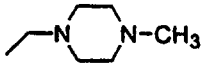
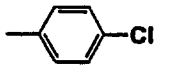
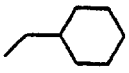
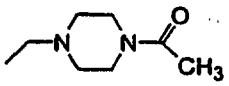
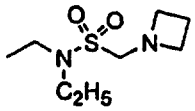
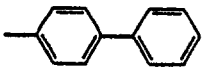
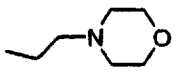
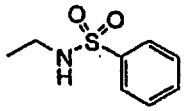
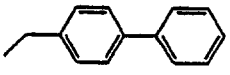
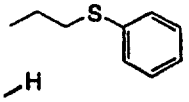
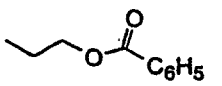
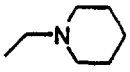
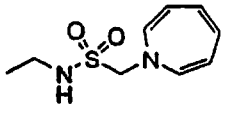
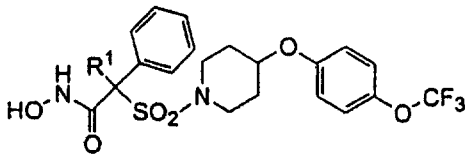
1	$-CH_3$	16		30	
2	$-CH_2CH_3$	17		31	
3	$-CH(CH_3)_2$	18		32	
4		19		33	
5		20		34	
6		21		35	
7		22		36	
8	$-CH_2-N(CH_3)_2$	23		37	
9	$-CH_2-N(CH_3)CH_2C_6H_5$	24		38	
10		25		39	
11		26		40	
12		27		41	
13		28		42	
14	$-CH_2CH=CHCH_3$	29		43	
15		30			

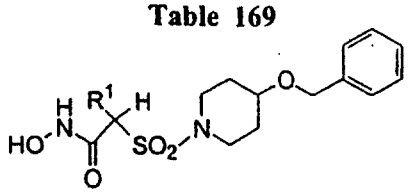
Table 168





1	—CH_3
2	—CH_2CH_3
3	—$CH(CH_3)_2$
4	(-C_6H_5)
5	
6	
7	
8	—CH_2-N(CH_3)$_2$
9	—CH_2-N(CH_3)$CH_2C_6H_5$
10	(-C_6H_{11})
11	
12	
13	
14	—CH_2CH=$CHCH_3$
15	
16	
17	
18	—C≡CH
19	—C≡CCH_3
20	
21	OCH_3
22	OC_6H_5
23	
24	
25	
26	
27	
28	OH
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30	
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32	
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36	
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38	—CN
39	—Cl
40	
41	
42	
43	—H

Table 169





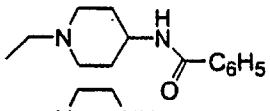
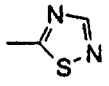
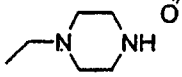
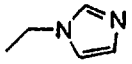
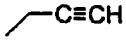
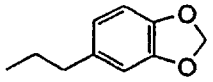
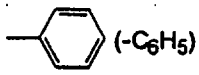
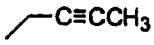
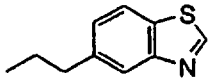
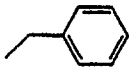
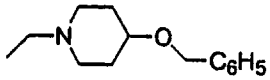
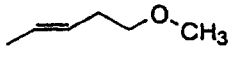
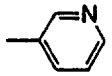
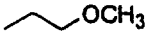
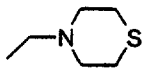
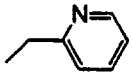
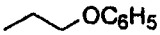
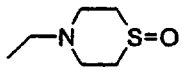
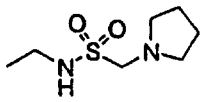
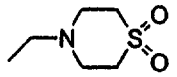
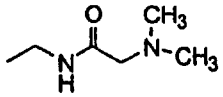
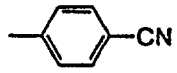
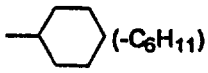
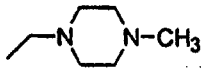
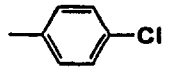
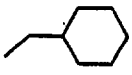
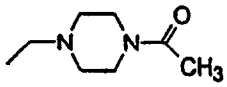
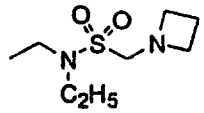
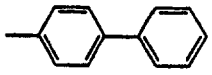
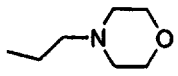
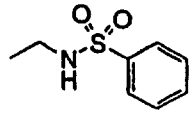
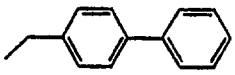
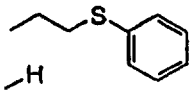
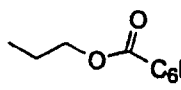
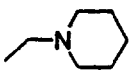
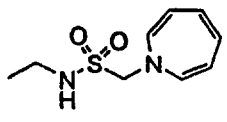
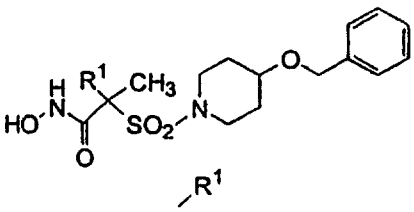
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3	$-CH(CH_3)_2$	18		32	
4		19		33	
5		20		34	
6		21		35	
7		22		36	
8	$-CH_2-N(CH_3)_2$	23		37	
9	$-CH_2-N(CH_3)CH_2C_6H_5$	24		38	
10		25		39	
11		26		40	
12		27		41	
13		28		42	
14	$-CH_2CH=CHCH_3$	29		43	
15		30			

Table 170



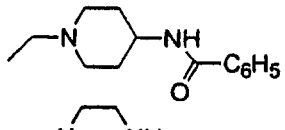
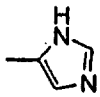
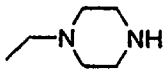
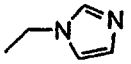
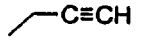
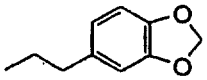
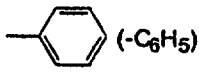
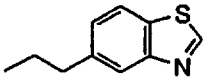
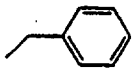
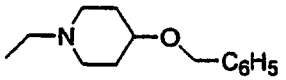
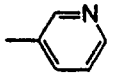
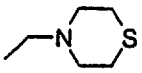
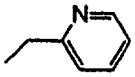
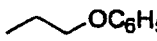
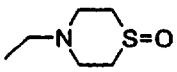
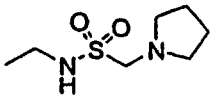
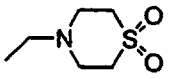
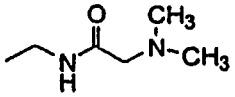
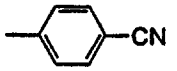
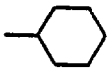
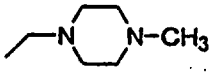
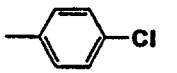
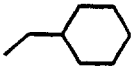
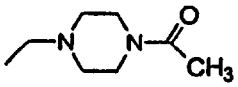
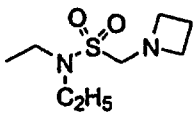
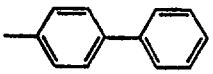
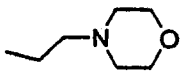
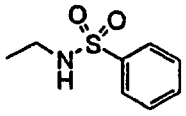
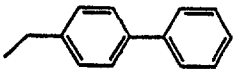
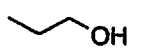
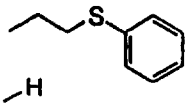
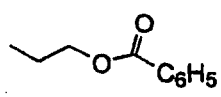
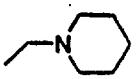
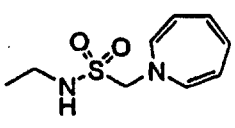
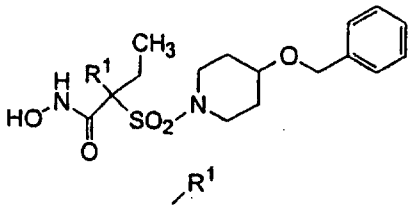
1	—CH_3	16		30	
2	—CH_2CH_3	17		31	
3	—$CH(CH_3)_2$	18		32	
4	 (-C_6H_5)	19		33	
5		20		34	
6		21		35	
7		22		36	
8	—CH_2-$N(CH_3)_2$	23		37	
9	—CH_2-$N(CH_3)CH_2C_6H_5$	24		38	
10	 (-C_6H_{11})	25		39	
11		26		40	
12		27		41	
13		28		42	
14	—CH_2CH=$CHCH_3$	29		43	
15		30			

Table 171



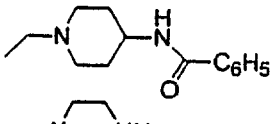
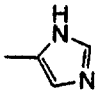
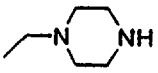
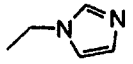
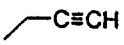
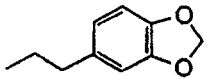
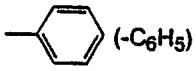
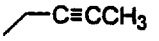
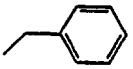
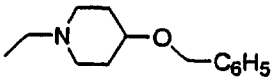
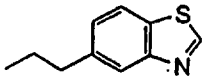
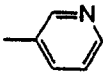
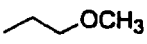
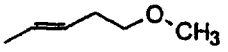
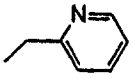
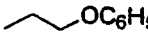
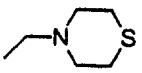
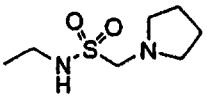
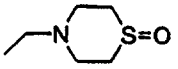
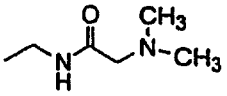
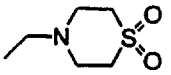
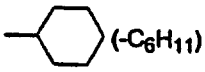
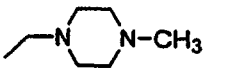
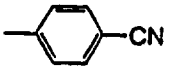
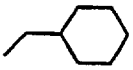
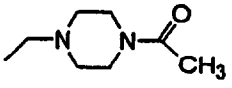
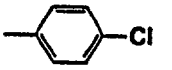
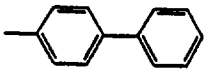
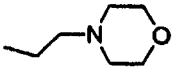
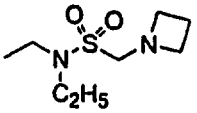
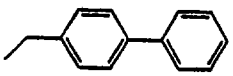
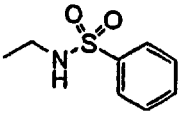
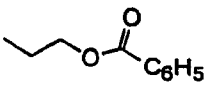
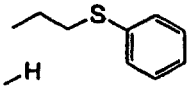
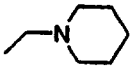
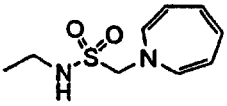
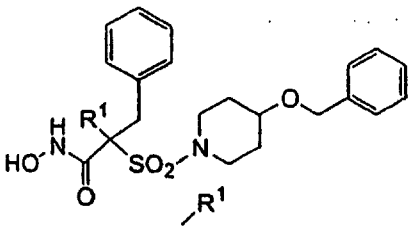
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3	$-CH(CH_3)_2$	18		32	
4		19			
5		20		33	
6		21		34	
7		22		35	
8	$-CH_2\text{-}N(CH_3)_2$	23		36	
9	$-CH_2\text{-}N(CH_3)CH_2C_6H_5$	24		37	
10		25		38	
11		26		39	
12		27		40	
13		28		41	
14	$-CH_2CH{=}CHCH_3$	29		42	
15		30		43	

Table 172



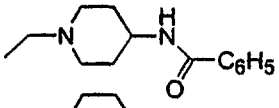
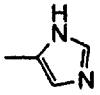
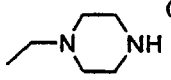
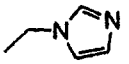
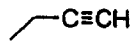
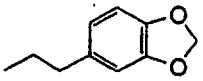
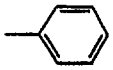
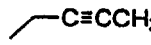
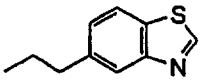
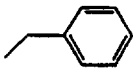
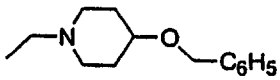
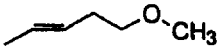
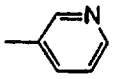
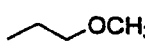
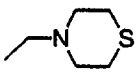
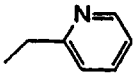
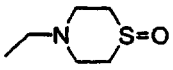
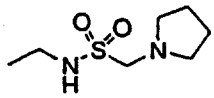
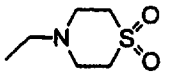
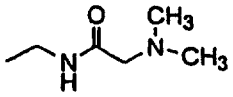
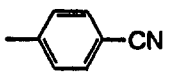
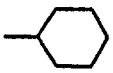
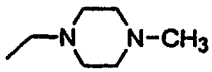
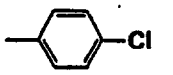
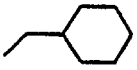
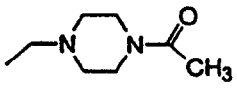
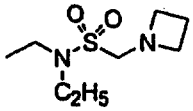
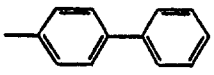
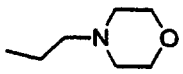
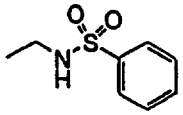
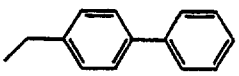
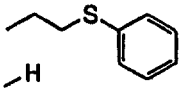
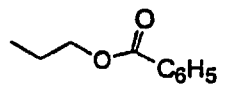
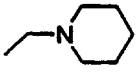
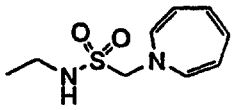
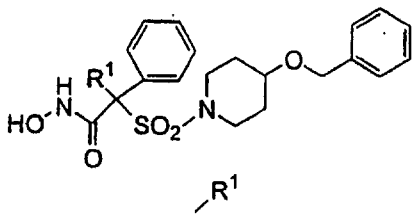
1	—CH_3	16		30	
2	—CH_2CH_3	17		31	
3	—$CH(CH_3)_2$	18		32	
4	 (-C_6H_5)	19		33	
5		20		34	
6		21		35	
7		22		36	
8	—CH_2-N(CH_3)$_2$	23		37	
9	—CH_2-N(CH_3)$CH_2C_6H_5$	24		38	
10	 (-C_6H_{11})	25		39	
11		26		40	
12		27		41	
13		28		42	
14	—CH_2CH=$CHCH_3$	29		43	
15		30			

Table 173



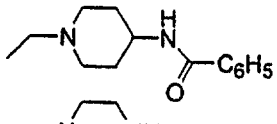
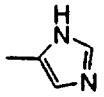
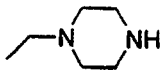
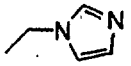
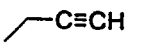
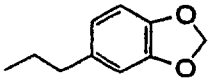
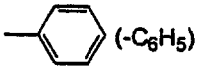
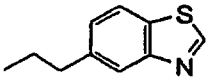
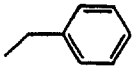
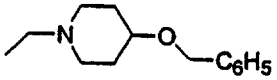
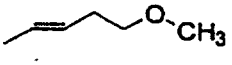
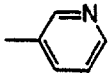
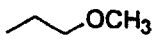
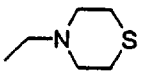
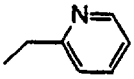
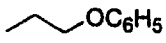
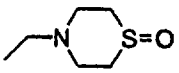
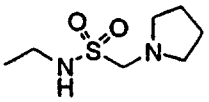
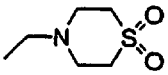
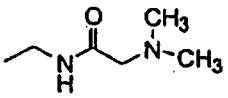
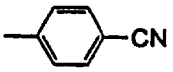
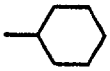
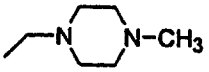
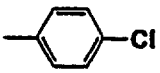
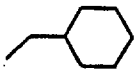
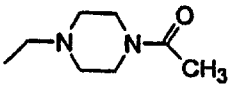
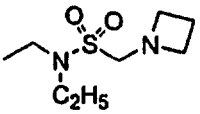
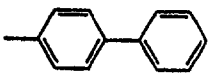
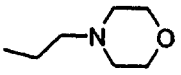
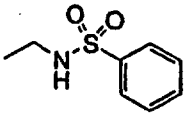
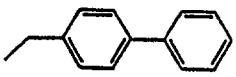
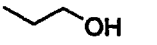
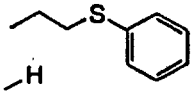
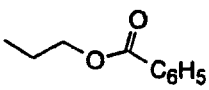
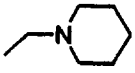
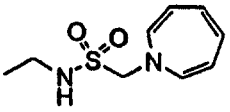
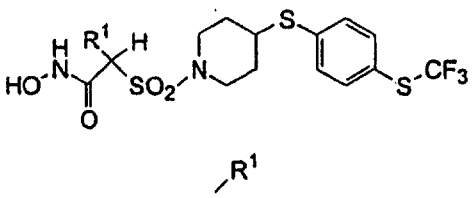
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2	—CH_2CH_3	17		31	
3	—$CH(CH_3)_2$	18		32	
4		19		33	
5		20		34	
6		21		35	
7		22		36	
8	—CH_2-N(CH_3)$_2$	23		37	
9	—CH_2-N(CH_3)$CH_2C_6H_5$	24		38	
10		25		39	
11		26		40	
12		27		41	
13		28		42	
14	—CH_2CH=$CHCH_3$	29		43	
15		30			

Table 174



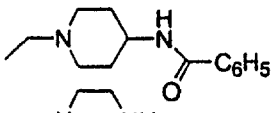
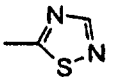
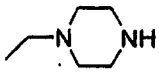
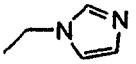
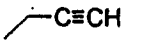
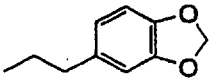
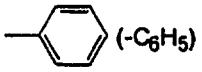
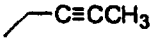
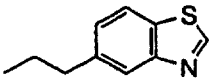
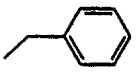
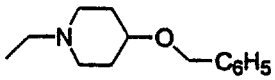
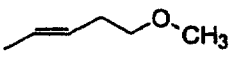
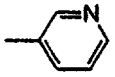
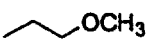
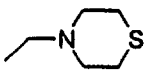
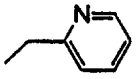
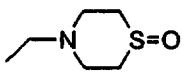
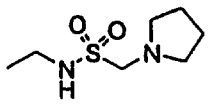
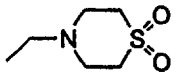
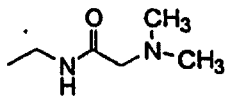
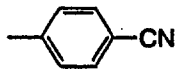
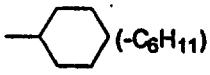
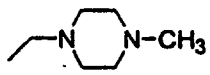
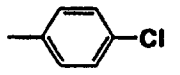
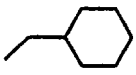
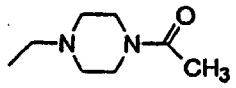
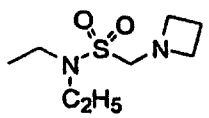
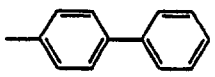
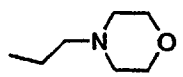
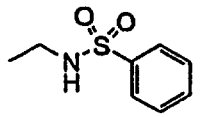
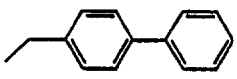
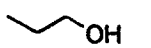
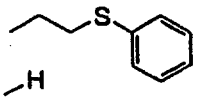
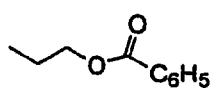
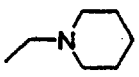
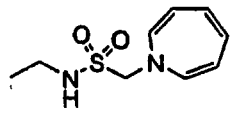
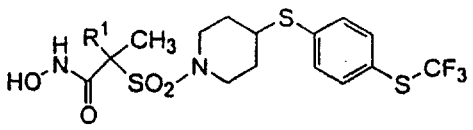
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2	$-CH_2CH_3$	17		31	
3	$-CH(CH_3)_2$	18		32	
4		19		33	
5		20		34	
6		21		35	
7		22		36	
8	$-CH_2-N(CH_3)_2$	23		37	
9	$-CH_2-N(CH_3)CH_2C_6H_5$	24		38	
10		25		39	
11		26		40	
12		27		41	
13		28		42	
14	$-CH_2CH=CHCH_3$	29		43	
15		30			

Table 175





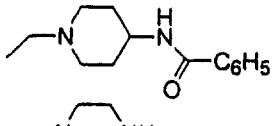
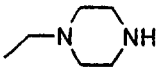
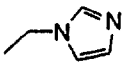
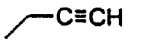
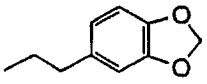
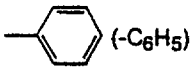
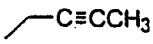
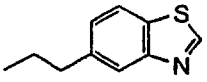
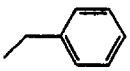
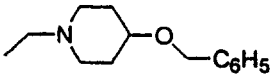
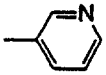
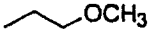
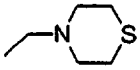
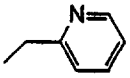
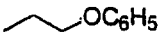
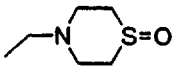
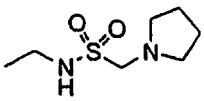
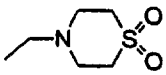
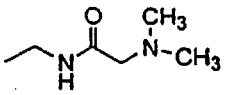
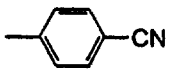
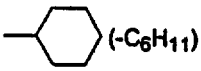
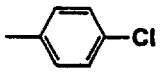
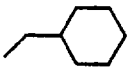
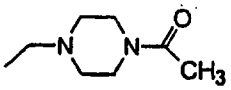
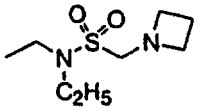
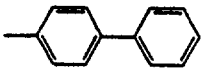
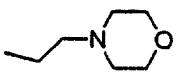
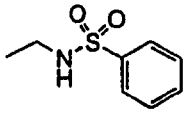
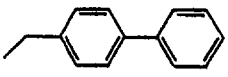
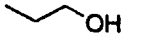
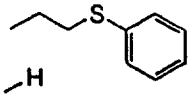
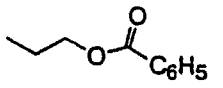
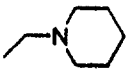
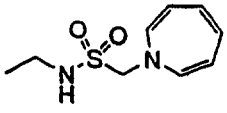
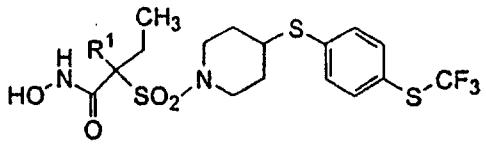
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2	$-CH_2CH_3$	17		31	
3	$-CH(CH_3)_2$	18		32	
4		19		33	
5		20		34	
6		21		35	
7		22		36	
8	$-CH_2-N(CH_3)_2$	23		37	
9	$-CH_2-N(CH_3)CH_2C_6H_5$	24		38	
10		25		39	
11		26		40	
12		27		41	
13		28		42	
14	$-CH_2CH=CHCH_3$	29		43	
15		30			

Table 176





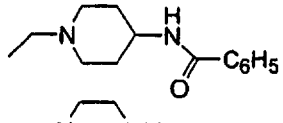
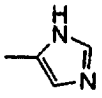
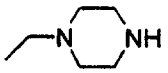
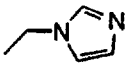
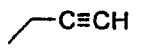
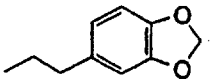
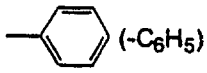
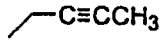
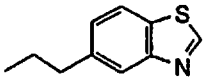
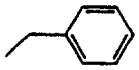
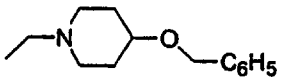
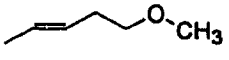
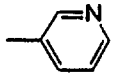
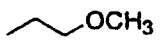
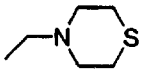
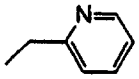
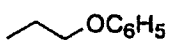
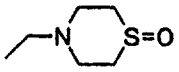
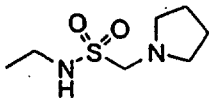
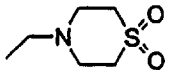
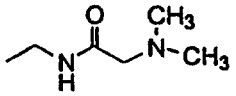
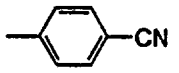
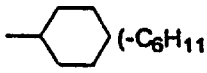
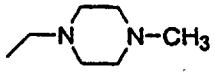
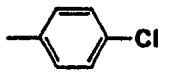
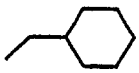
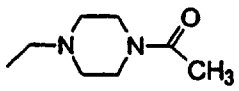
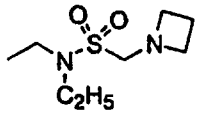
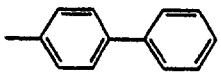
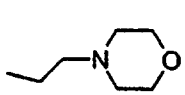
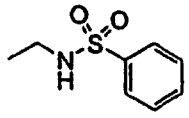
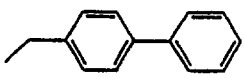
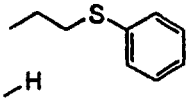
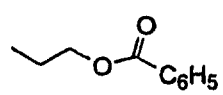
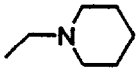
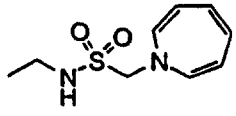
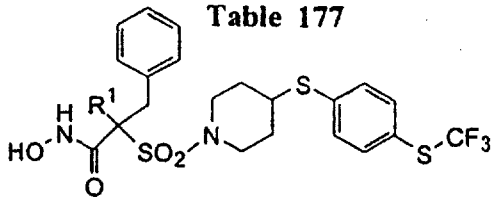
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2	—CH_2CH_3	17		31	
3	—$CH(CH_3)_2$	18		32	
4	 (-C_6H_5)	19		33	
5		20		34	
6		21		35	
7		22		36	
8	—CH_2-$N(CH_3)_2$	23		37	
9	—CH_2-$N(CH_3)CH_2C_6H_5$	24		38	
10	 (-C_6H_{11})	25		39	
11		26		40	
12		27		41	
13		28		42	
14	—CH_2CH=$CHCH_3$	29		43	
15		30			

Table 177





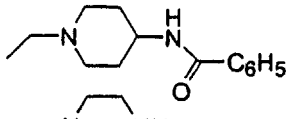
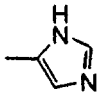
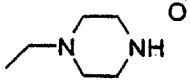
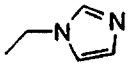
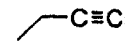
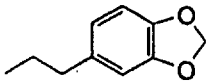
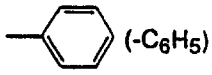
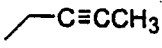
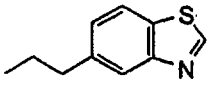
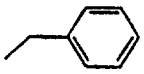
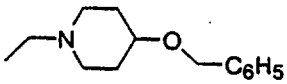
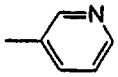
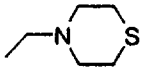
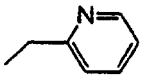
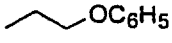
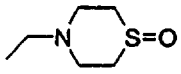
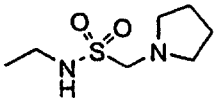
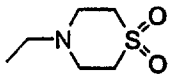
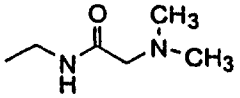
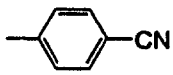
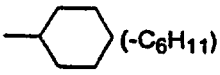
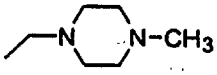
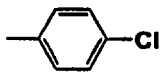
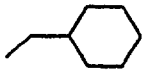
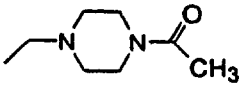
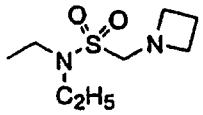
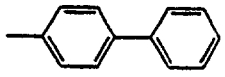
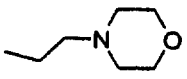
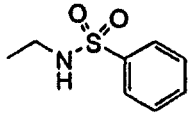
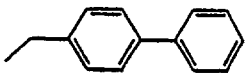
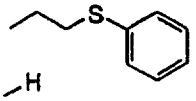
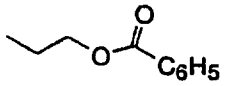
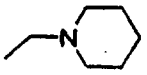
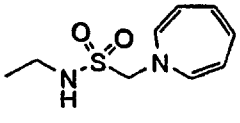
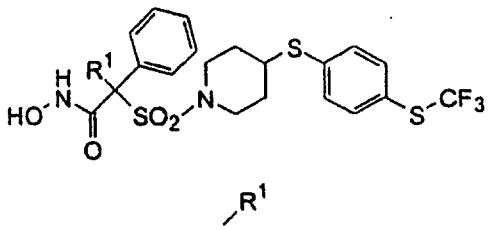
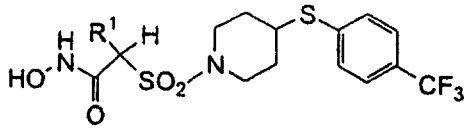
1	$-CH_3$	16		30	
2	$-CH_2CH_3$	17		31	
3	$-CH(CH_3)_2$	18		32	
4		19		33	
5		20		34	
6		21		35	
7		22		36	
8	$-CH_2-N(CH_3)_2$	23		37	
9	$-CH_2-N(CH_3)CH_2C_6H_5$	24		38	
10		25		39	
11		26		40	
12		27		41	
13		28		42	
14	$-CH_2CH=CHCH_3$	29		43	
15		30			

Table 178



	R^1
1	$-CH_3$
2	$-CH_2CH_3$
3	$-CH(CH_3)_2$
4	$(-C_6H_5)$
5	
6	
7	
8	$-CH_2-N(CH_3)_2$
9	$-CH_2-N(CH_3)CH_2C_6H_5$
10	$(-C_6H_{11})$
11	
12	
13	
14	$-CH_2CH=CHCH_3$
15	
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Table 179





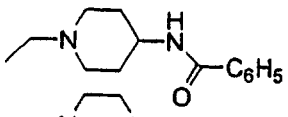
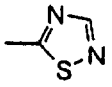
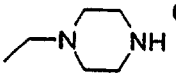
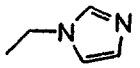
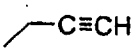
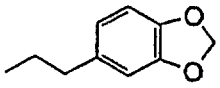
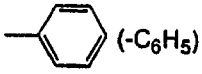
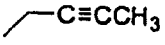
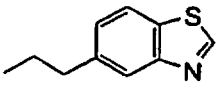
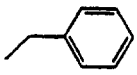
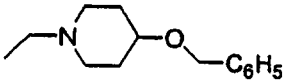
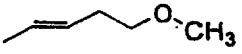
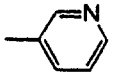
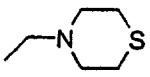
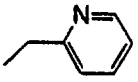
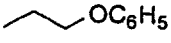
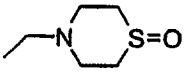
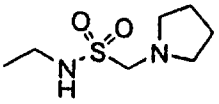
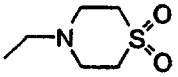
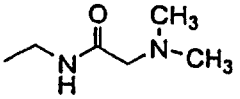
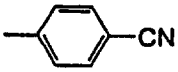
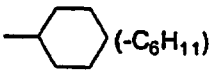
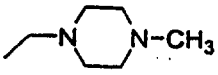
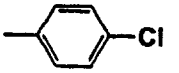
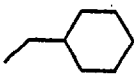
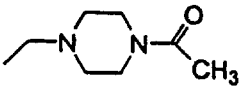
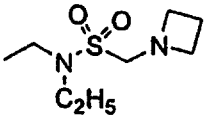
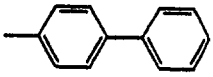
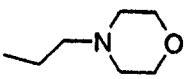
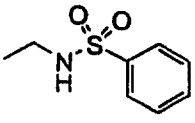
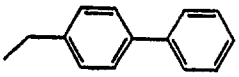
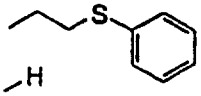
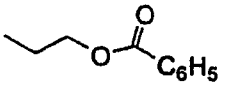
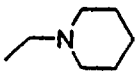
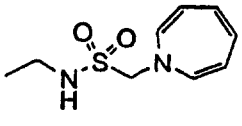
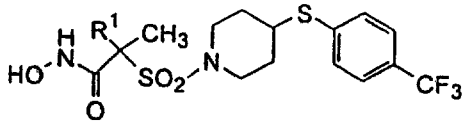
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2	$-CH_2CH_3$	17		31	
3	$-CH(CH_3)_2$	18		32	
4		19		33	
5		20		34	
6		21		35	
7		22		36	
8	$-CH_2-N(CH_3)_2$	23		37	
9	$-CH_2-N(CH_3)CH_2C_6H_5$	24		38	
10		25		39	
11		26		40	
12		27		41	
13		28		42	
14	$-CH_2CH=CHCH_3$	29		43	
15		30			

Table 180



R^1

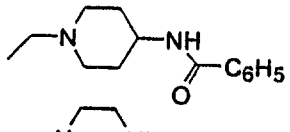
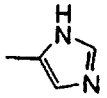
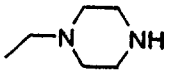
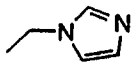
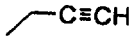
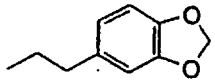
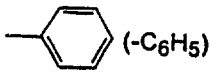
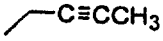
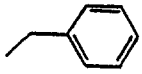
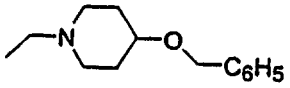
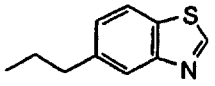
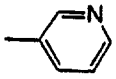
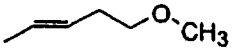
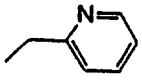
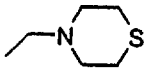
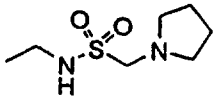
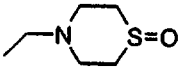
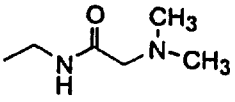
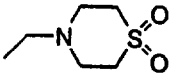
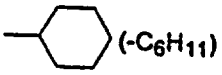
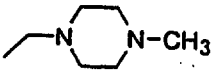
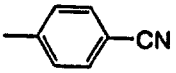
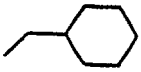
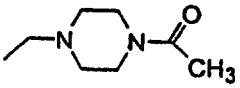
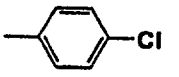
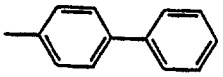
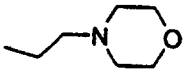
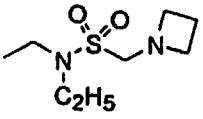
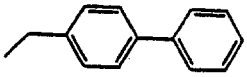
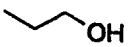
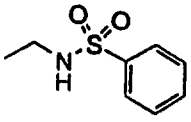
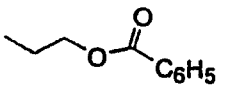
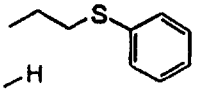
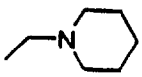
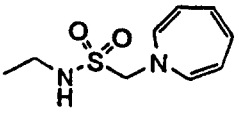
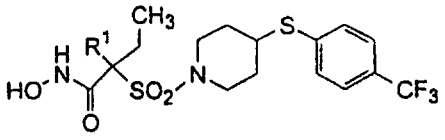
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2	$-CH_2CH_3$	17		31	
3	$-CH(CH_3)_2$	18		32	
4		19			
5		20		33	
6		21		34	
7		22		35	
8	$-CH_2-N(CH_3)_2$	23		36	
9	$-CH_2-N(CH_3)CH_2C_6H_5$	24		37	
10		25		38	
11		26		39	
12		27		40	
13		28		41	
14	$-CH_2CH=CHCH_3$	29		42	
15		30		43	

Table 181



R^1

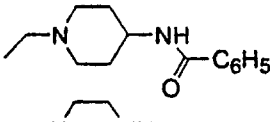
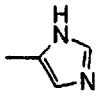
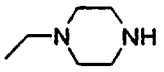
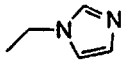
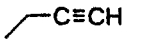
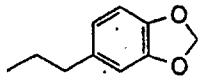
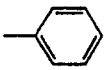
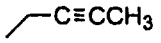
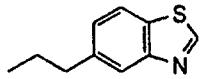
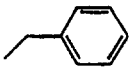
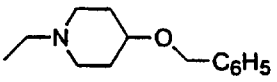
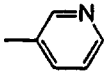
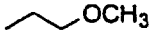
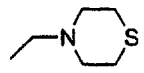
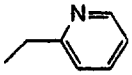
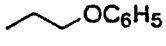
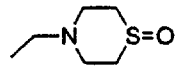
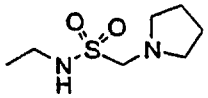
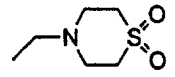
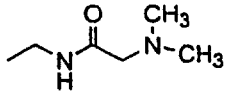
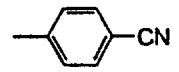
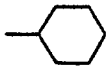
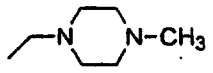
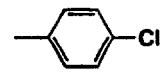
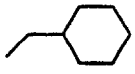
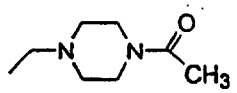
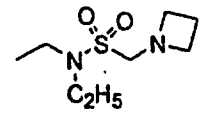
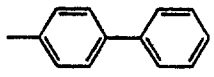
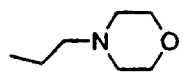
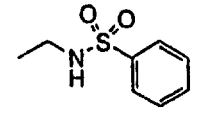
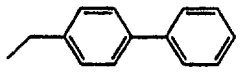
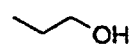
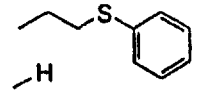
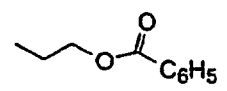
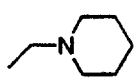
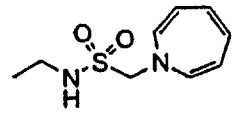
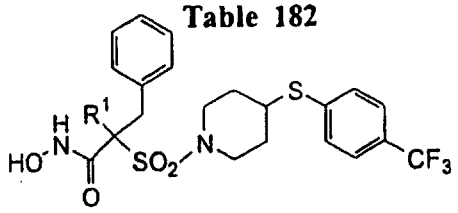
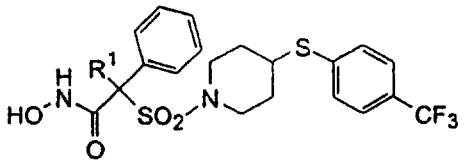
	R^1		R^1		R^1
1	$-CH_3$	16		30	
2	$-CH_2CH_3$	17		31	
3	$-CH(CH_3)_2$	18		32	
4	 ($-C_6H_5$)	19		33	
5		20		34	
6		21		35	
7		22		36	
8	$-CH_2-N(CH_3)_2$	23		37	
9	$-CH_2-N(CH_3)CH_2C_6H_5$	24		38	
10	 ($-C_6H_{11}$)	25		39	
11		26		40	
12		27		41	
13		28		42	
14	$-CH_2CH=CHCH_3$	29		43	
15		30			

Table 182



	R^1
1	$-CH_3$
2	$-CH_2CH_3$
3	$-CH(CH_3)_2$
4	$(-C_6H_5)$
5	
6	
7	
8	$-CH_2\text{-}N(CH_3)_2$
9	$-CH_2\text{-}N(CH_3)CH_2C_6H_5$
10	$(-C_6H_{11})$
11	
12	
13	
14	$-CH_2CH{=}CHCH_3$
15	
16	
17	
18	$-C{\equiv}CH$
19	$-C{\equiv}CCH_3$
20	
21	OCH_3
22	OC_6H_5
23	
24	
25	
26	
27	
28	OH
29	
30	
30	
31	
32	
33	
34	
35	
36	
37	
38	CN
39	Cl
40	
41	
42	
43	H

Table 183





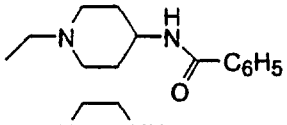
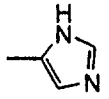
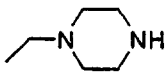
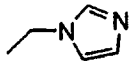
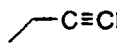
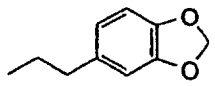
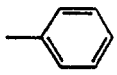
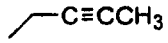
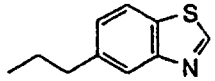
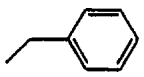
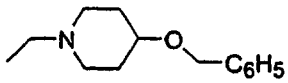
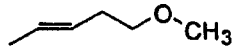
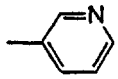
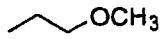
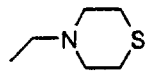
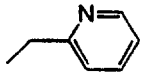
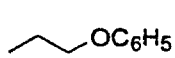
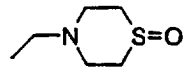
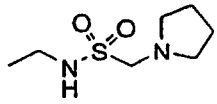
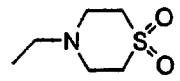
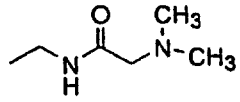
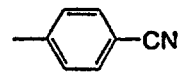
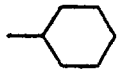
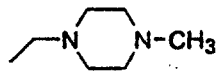
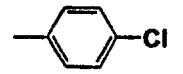
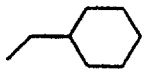
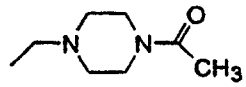
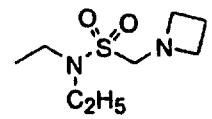
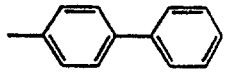
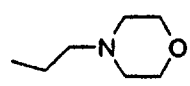
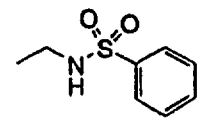
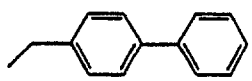
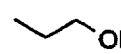
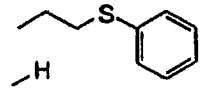
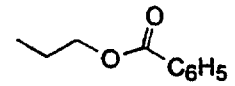
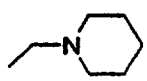
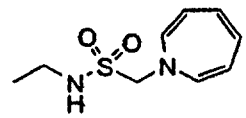
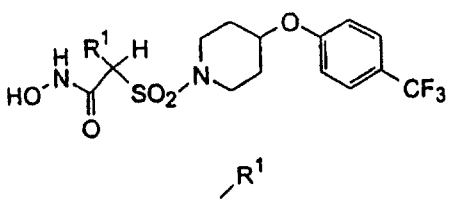
1	—CH_3	16		30	
2	—CH_2CH_3	17		31	
3	—$CH(CH_3)_2$	18		32	
4	 (-C_6H_5)	19		33	
5		20		34	
6		21		35	
7		22		36	
8	—CH_2-$N(CH_3)_2$	23		37	
9	—CH_2-$N(CH_3)CH_2C_6H_5$	24		38	
10	 (-C_6H_{11})	25		39	
11		26		40	
12		27		41	
13		28		42	
14	—CH_2CH=$CHCH_3$	29		43	
15		30			

Table 184



R^1

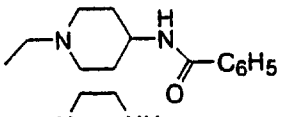
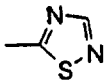
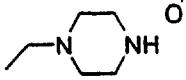
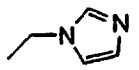
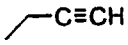
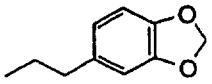
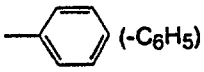
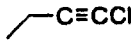
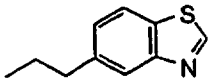
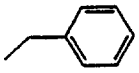
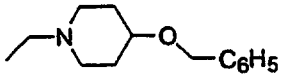
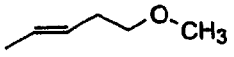
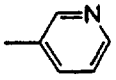
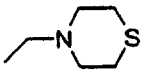
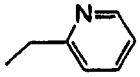
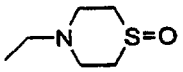
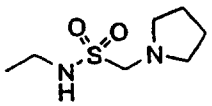
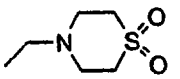
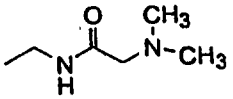
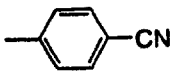
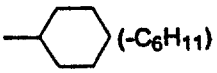
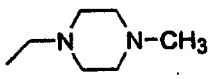
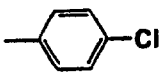
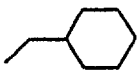
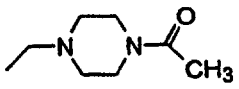
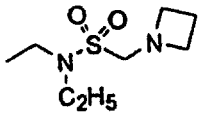
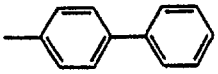
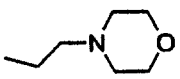
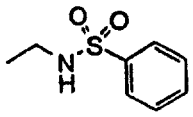
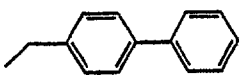
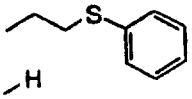
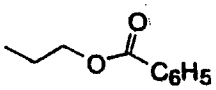
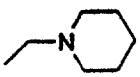
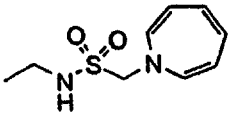
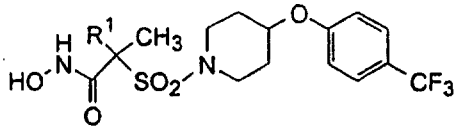
	R^1		R^1		R^1
1	$-CH_3$	16		30	
2	$-CH_2CH_3$	17		31	
3	$-CH(CH_3)_2$	18		32	
4		19		33	
5		20		34	
6		21		35	
7		22		36	
8	$-CH_2-N(CH_3)_2$	23		37	
9	$-CH_2-N(CH_3)CH_2C_6H_5$	24		38	
10		25		39	
11		26		40	
12		27		41	
13		28		42	
14	$-CH_2CH=CHCH_3$	29		43	
15		30			

Table 185





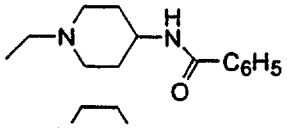
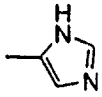
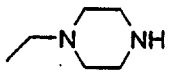
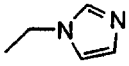
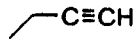
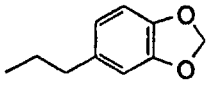
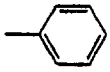
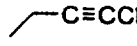
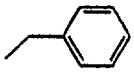
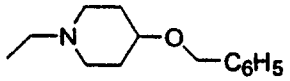
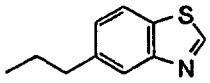
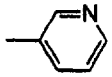
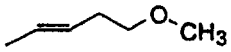
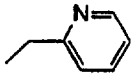
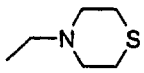
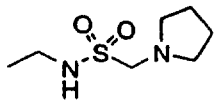
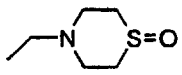
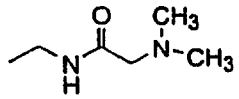
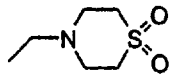
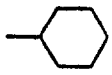
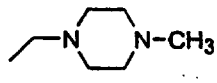
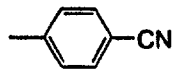
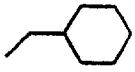
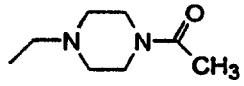
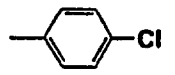
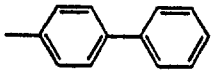
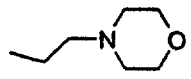
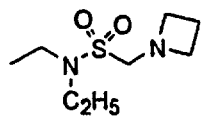
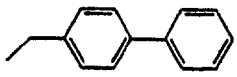
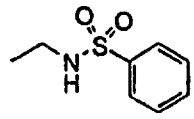
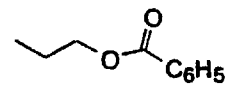
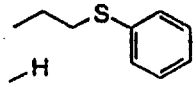
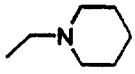
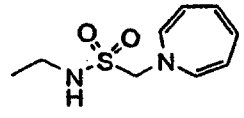
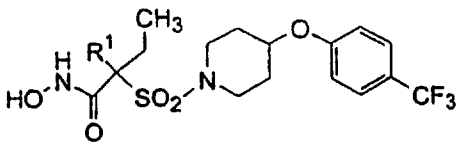
1	$-CH_3$	16		30	
2	$-CH_2CH_3$	17		31	
3	$-CH(CH_3)_2$	18		32	
4	 ($-C_6H_5$)	19			
5		20		33	
6		21		34	
7		22		35	
8	$-CH_2-N(CH_3)_2$	23		36	
9	$-CH_2-N(CH_3)CH_2C_6H_5$	24		37	
10	 ($-C_6H_{11}$)	25		38	
11		26		39	
12		27		40	
13		28		41	
14	$-CH_2CH=CHCH_3$	29		42	
15		30		43	

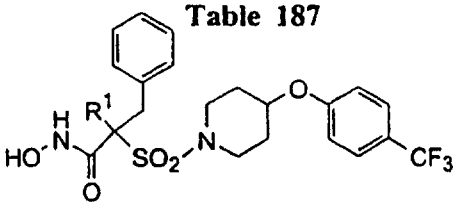
Table 186





1	—CH_3
2	—CH_2CH_3
3	—$CH(CH_3)_2$
4	(-C_6H_5)
5	
6	
7	
8	—CH_2-N(CH_3)$_2$
9	—CH_2-N(CH_3)$CH_2C_6H_5$
10	(-C_6H_{11})
11	
12	
13	
14	—CH_2CH=$CHCH_3$
15	
16	
17	
18	—C≡CH
19	—C≡CCH_3
20	
21	—OCH_3
22	—OC_6H_5
23	
24	
25	
26	
27	
28	—OH
29	
30	
30	
31	
32	
33	
34	
35	
36	
37	
38	—CN
39	—Cl
40	
41	
42	
43	—H

Table 187



R^1

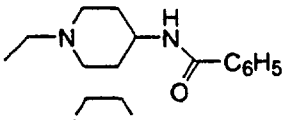
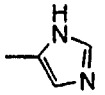
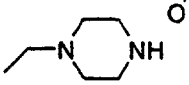
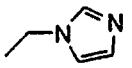
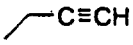
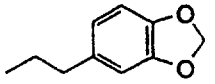
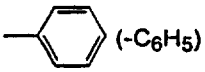
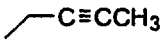
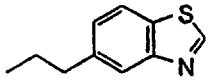
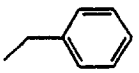
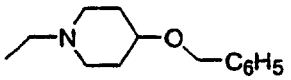
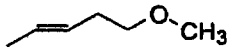
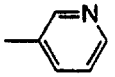
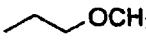
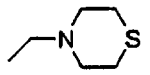
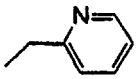
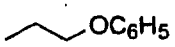
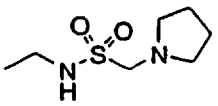
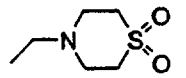
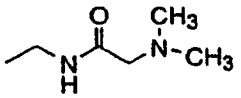
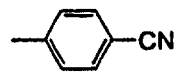
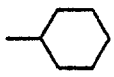
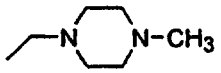
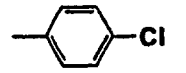
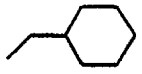
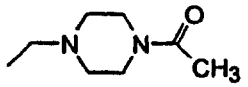
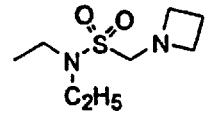
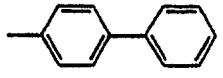
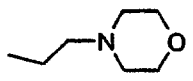
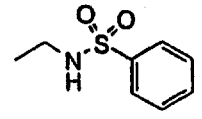
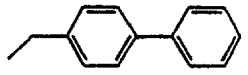
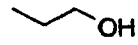
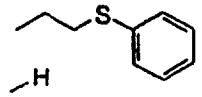
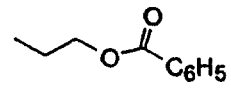
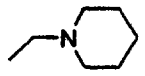
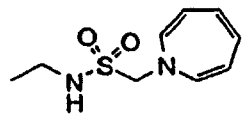
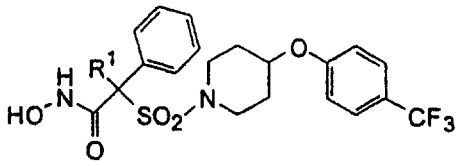
	R^1		R^1		R^1
1	$-CH_3$	16		30	
2	$-CH_2CH_3$	17		31	
3	$-CH(CH_3)_2$	18		32	
4		19		33	
5		20		34	
6		21		35	
7		22		36	
8	$-CH_2-N(CH_3)_2$	23		37	
9	$-CH_2-N(CH_3)CH_2C_6H_5$	24		38	
10		25		39	
11		26		40	
12		27		41	
13		28		42	
14	$-CH_2CH=CHCH_3$	29		43	
15		30			

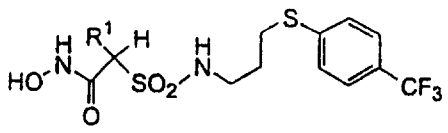
Table 188





1	—CH_3
2	—CH_2CH_3
3	—$CH(CH_3)_2$
4	(-C_6H_5)
5	
6	
7	
8	—CH_2-N(CH_3)$_2$
9	—CH_2-N(CH_3)$CH_2C_6H_5$
10	(-C_6H_{11})
11	
12	
13	
14	—CH_2CH=$CHCH_3$
15	
16	
17	
18	—C≡CH
19	—C≡CCH_3
20	
21	—OCH_3
22	—OC_6H_5
23	
24	
25	
26	
27	
28	—OH
29	
30	
30	
31	
32	
33	
34	
35	
36	
37	
38	—CN
39	—Cl
40	
41	
42	
43	—H

Table 189





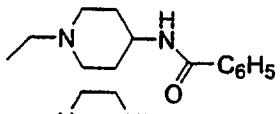
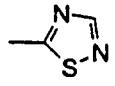
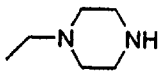
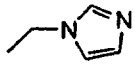
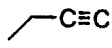
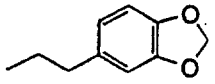
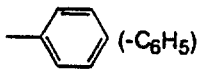
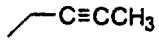
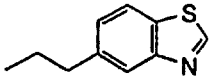
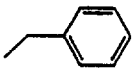
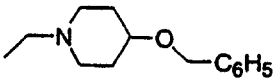
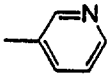
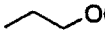
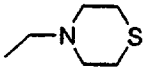
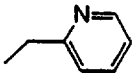
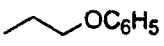
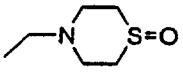
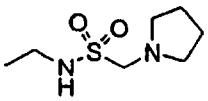
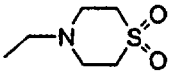
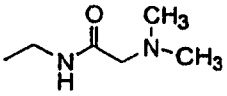
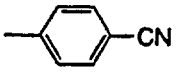
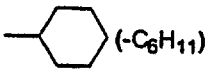
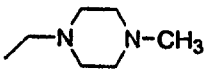
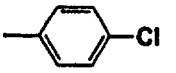
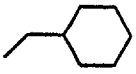
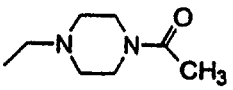
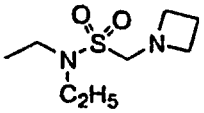
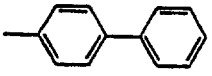
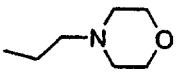
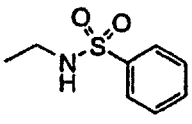
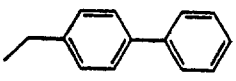
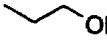
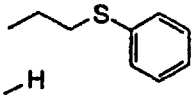
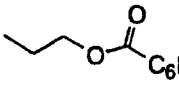
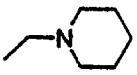
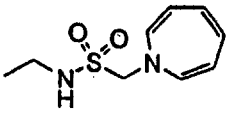
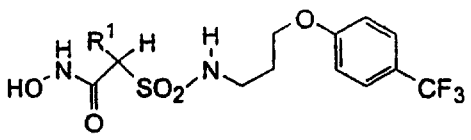
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2	$-CH_2CH_3$	17		31	
3	$-CH(CH_3)_2$	18		32	
4		19		33	
5		20		34	
6		21		35	
7		22		36	
8	$-CH_2-N(CH_3)_2$	23		37	
9	$-CH_2-N(CH_3)CH_2C_6H_5$	24		38	
10		25		39	
11		26		40	
12		27		41	
13		28		42	
14	$-CH_2CH=CHCH_3$	29		43	
15		30			

Table 190





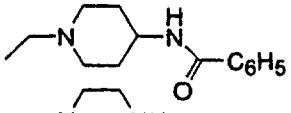
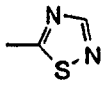
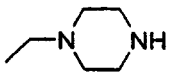
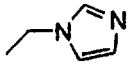
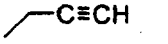
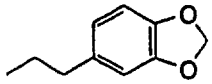
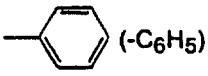
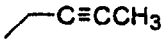
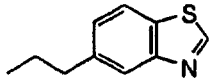
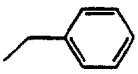
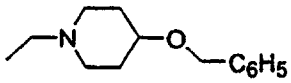
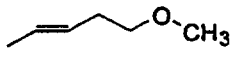
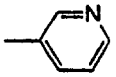
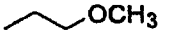
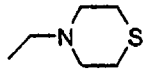
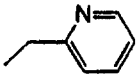
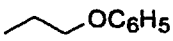
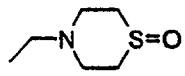
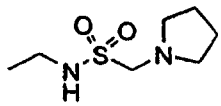
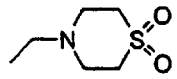
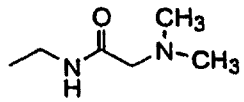
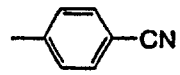
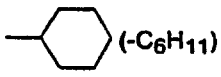
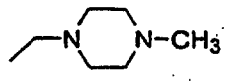
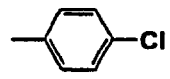
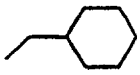
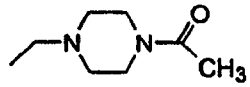
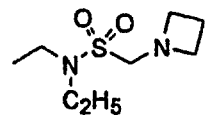
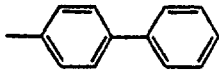
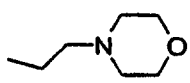
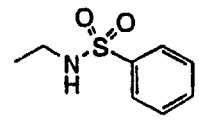
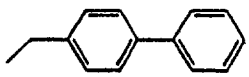
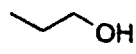
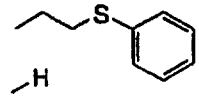
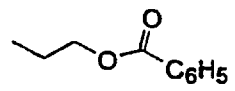
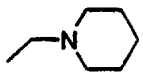
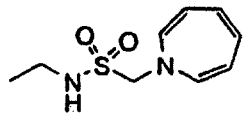
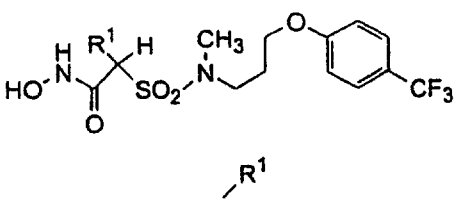
1	—CH_3	16		30	
2	—CH_2CH_3	17		31	
3	—$CH(CH_3)_2$	18		32	
4	 (-C_6H_5)	19		33	
5		20		34	
6		21		35	
7		22		36	
8	—CH_2-$N(CH_3)_2$	23		37	
9	—CH_2-$N(CH_3)CH_2C_6H_5$	24		38	
10	 (-C_6H_{11})	25		39	
11		26		40	
12		27		41	
13		28		42	
14	—$CH_2CH=CHCH_3$	29		43	
15		30			

Table191



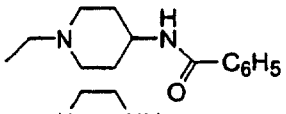
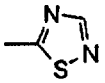
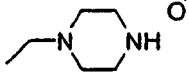
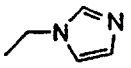
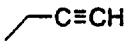
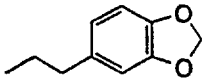
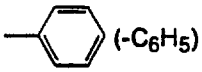
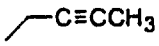
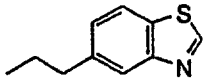
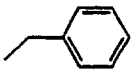
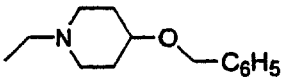
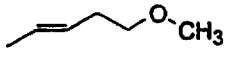
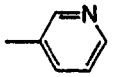
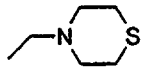
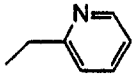
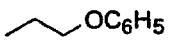
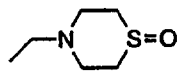
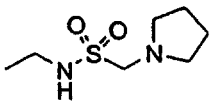
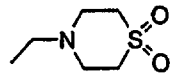
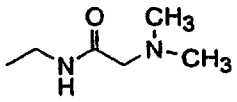
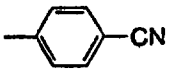
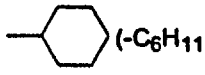
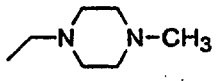
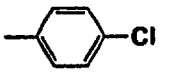
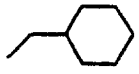
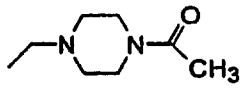
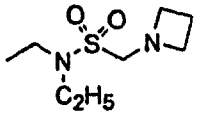
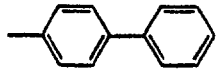
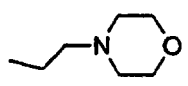
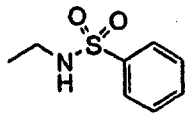
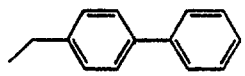
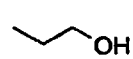
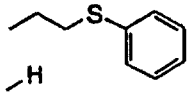
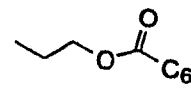
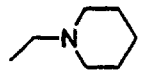
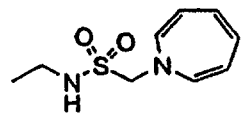
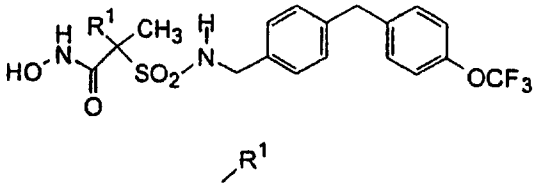
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2	$-CH_2CH_3$	17		31	
3	$-CH(CH_3)_2$	18		32	
4		19		33	
5		20		34	
6		21		35	
7		22		36	
8	$-CH_2-N(CH_3)_2$	23		37	
9	$-CH_2-N(CH_3)CH_2C_6H_5$	24		38	
10		25		39	
11		26		40	
12		27		41	
13		28		42	
14	$-CH_2CH=CHCH_3$	29		43	
15		30			

Table 192



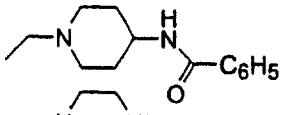
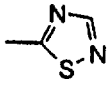
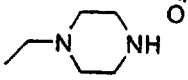
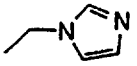
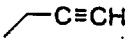
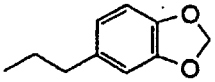
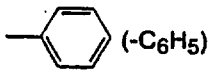
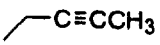
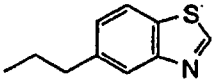
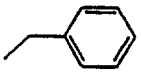
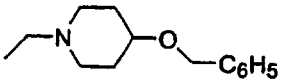
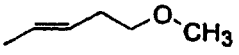
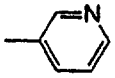
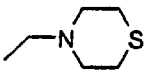
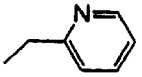
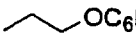
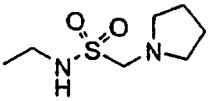
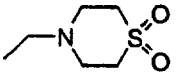
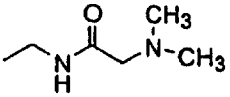
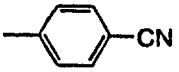
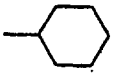
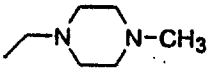
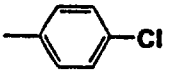
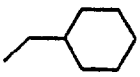
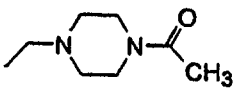
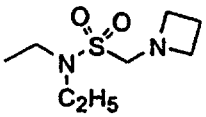
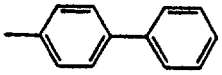
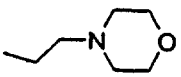
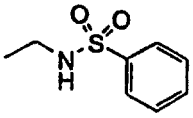
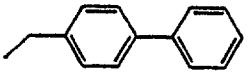
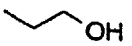
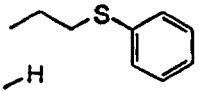
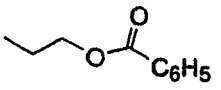
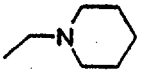
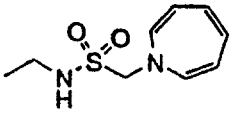
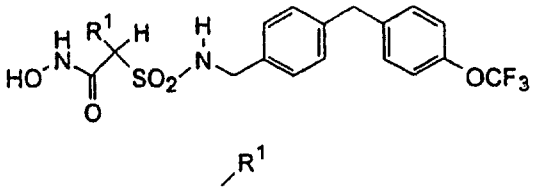
	R^1		R^1		R^1
1	$-CH_3$	16		30	
2	$-CH_2CH_3$	17		31	
3	$-CH(CH_3)_2$	18		32	
4	 ($-C_6H_5$)	19		33	
5		20		34	
6		21		35	
7		22		36	
8	$-CH_2-N(CH_3)_2$	23		37	
9	$-CH_2-N(CH_3)CH_2C_6H_5$	24		38	
10	 ($-C_6H_{11}$)	25		39	
11		26		40	
12		27		41	
13		28		42	
14	$-CH_2CH=CHCH_3$	29		43	
15		30			

Table 193



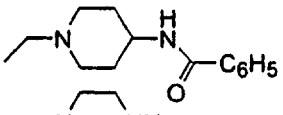
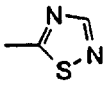
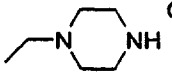
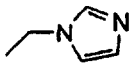
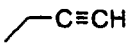
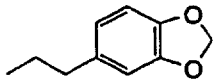
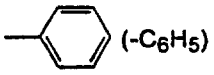
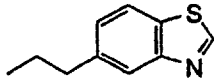
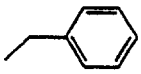
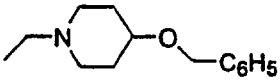
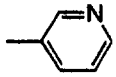
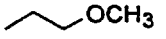
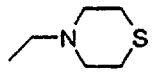
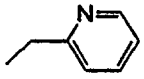
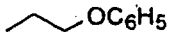
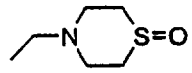
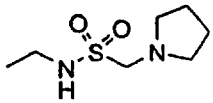
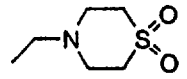
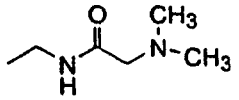
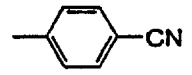
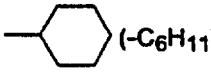
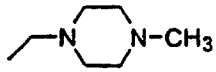
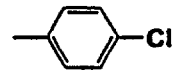
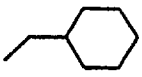
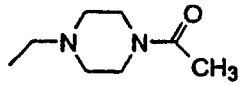
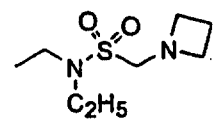
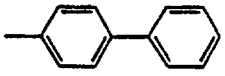
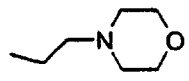
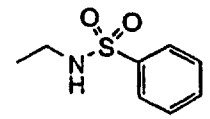
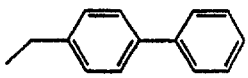
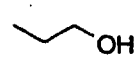
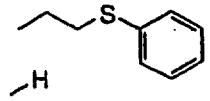
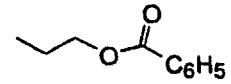
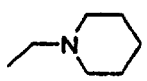
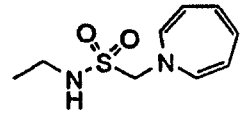
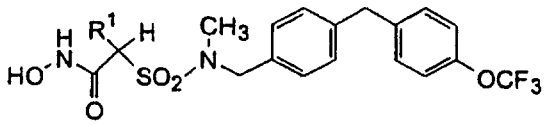
1	$-CH_3$	16		30	
2	$-CH_2CH_3$	17		31	
3	$-CH(CH_3)_2$	18		32	
4		19		33	
5		20		34	
6		21		35	
7		22		36	
8	$-CH_2-N(CH_3)_2$	23		37	
9	$-CH_2-N(CH_3)CH_2C_6H_5$	24		38	
10		25		39	
11		26		40	
12		27		41	
13		28		42	
14	$-CH_2CH=CHCH_3$	29		43	
15		30			

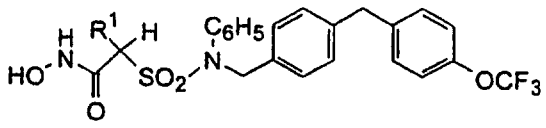
Table 194





1	$-CH_3$
2	$-CH_2CH_3$
3	$-CH(CH_3)_2$
4	$(-C_6H_5)$
5	
6	
7	
8	$-CH_2-N(CH_3)_2$
9	$-CH_2-N(CH_3)CH_2C_6H_5$
10	$(-C_6H_{11})$
11	
12	
13	
14	$-CH_2CH=CHCH_3$
15	
16	
17	
18	$-C\equiv CH$
19	$-C\equiv CCH_3$
20	
21	OCH_3
22	OC_6H_5
23	
24	
25	
26	
27	
28	OH
29	
30	
30	
31	
32	
33	
34	
35	
36	
37	
38	CN
39	Cl
40	
41	
42	
43	

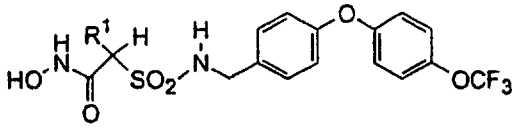
Table 195





1	—CH_3
2	—CH_2CH_3
3	—$CH(CH_3)_2$
4	(-C_6H_5)
5	
6	
7	
8	—CH_2-$N(CH_3)_2$
9	—CH_2-$N(CH_3)CH_2C_6H_5$
10	(-C_6H_{11})
11	
12	
13	
14	—$CH_2CH{=}CHCH_3$
15	
16	
17	
18	—C≡CH
19	—C≡CCH_3
20	
21	—OCH_3
22	—OC_6H_5
23	
24	
25	
26	
27	
28	—OH
29	
30	
30	
31	
32	
33	
34	
35	
36	
37	
38	—CN
39	—Cl
40	
41	
42	
43	—H

Table 196





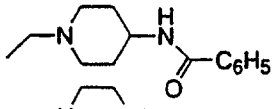
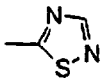
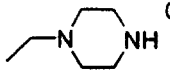
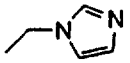
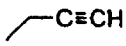
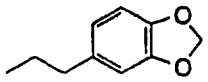
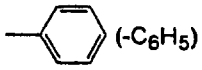
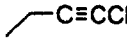
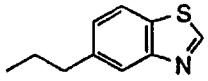
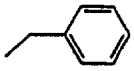
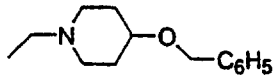
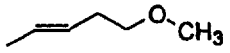
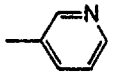
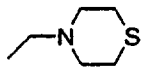
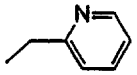
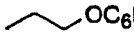
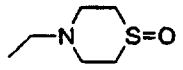
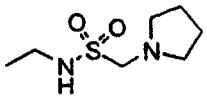
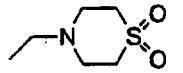
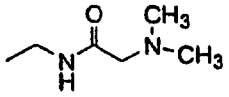
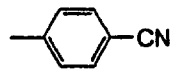
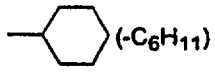
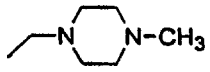
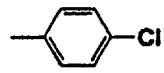
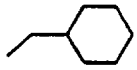
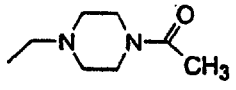
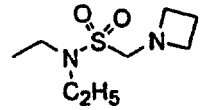
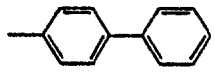
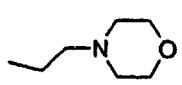
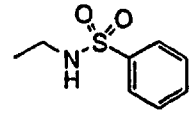
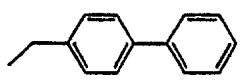
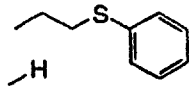
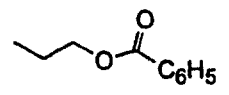
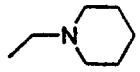
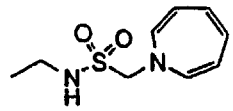
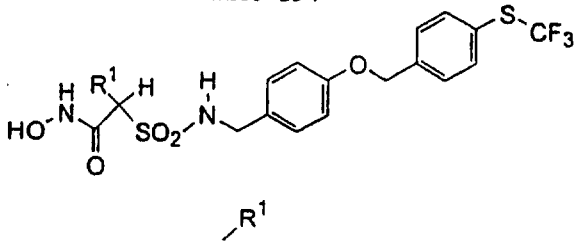
1	$-CH_3$	16		30	
2	$-CH_2CH_3$	17		31	
3	$-CH(CH_3)_2$	18		32	
4		19		33	
5		20		34	
6		21		35	
7		22		36	
8	$-CH_2-N(CH_3)_2$	23		37	
9	$-CH_2-N(CH_3)CH_2C_6H_5$	24		38	
10		25		39	
11		26		40	
12		27		41	
13		28		42	
14	$-CH_2CH=CHCH_3$	29		43	
15		30			

Table 197



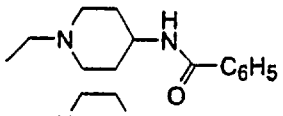
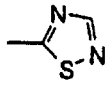
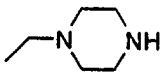
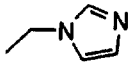
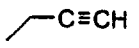
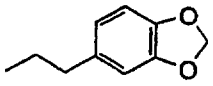
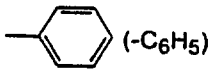
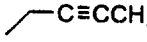
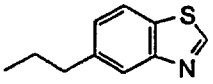
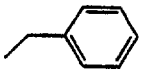
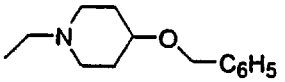
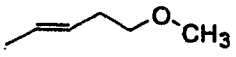
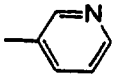
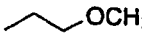
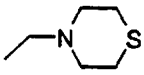
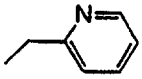
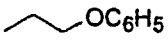
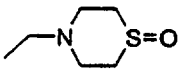
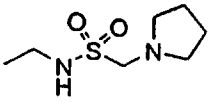
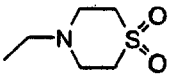
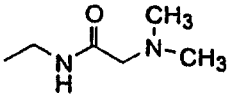
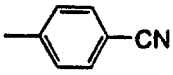
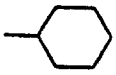
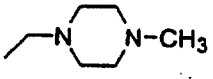
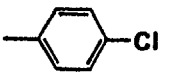
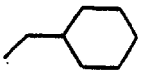
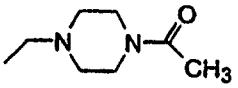
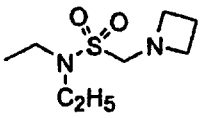
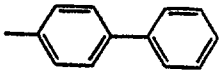
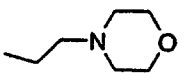
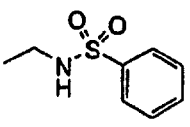
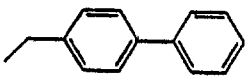
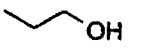
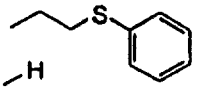
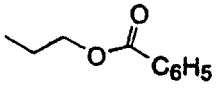
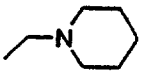
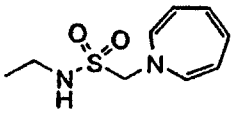
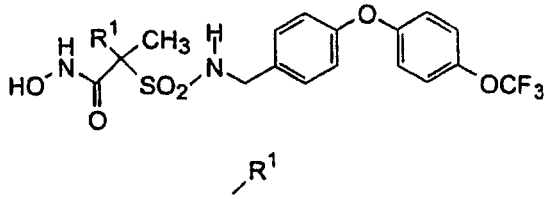
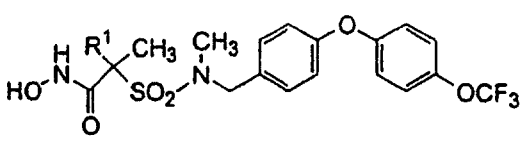
1	$-CH_3$	16		30	
2	$-CH_2CH_3$	17		31	
3	$-CH(CH_3)_2$	18		32	
4		19		33	
5		20		34	
6		21		35	
7		22		36	
8	$-CH_2-N(CH_3)_2$	23		37	
9	$-CH_2-N(CH_3)CH_2C_6H_5$	24		38	
10		25		39	
11		26		40	
12		27		41	
13		28		42	
14	$-CH_2CH=CHCH_3$	29		43	
15		30			

Table 198



	R^1
1	$-CH_3$
2	$-CH_2CH_3$
3	$-CH(CH_3)_2$
4	$(-C_6H_5)$
5	
6	
7	
8	$-CH_2-N(CH_3)_2$
9	$-CH_2-N(CH_3)CH_2C_6H_5$
10	$(-C_6H_{11})$
11	
12	
13	
14	$-CH_2CH=CHCH_3$
15	
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Table 199



R^1

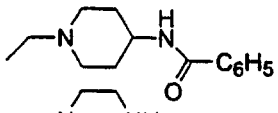
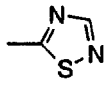
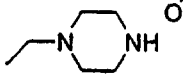
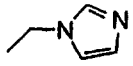
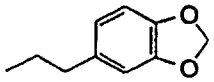
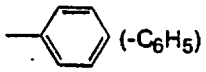
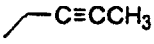
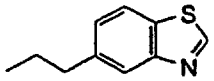
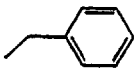
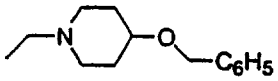
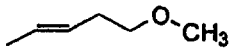
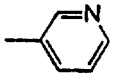
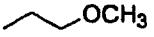
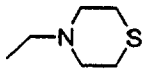
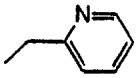
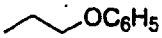
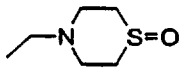
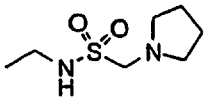
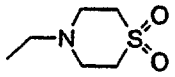
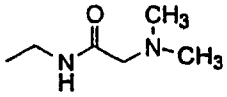
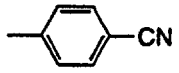
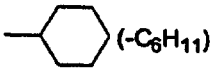
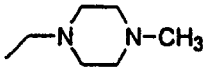
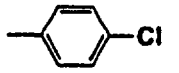
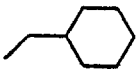
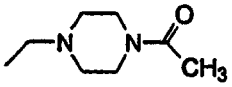
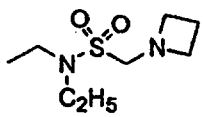
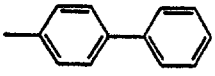
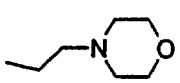
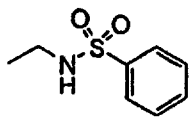
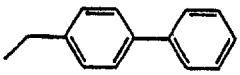
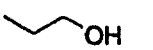
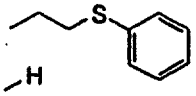
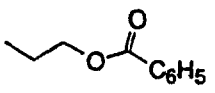
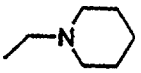
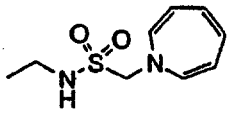
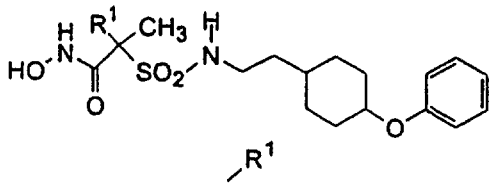
	R^1		R^1		R^1
1	$-CH_3$	16		30	
2	$-CH_2CH_3$	17		31	
3	$-CH(CH_3)_2$	18		32	
4		19		33	
5		20		34	
6		21		35	
7		22		36	
8	$-CH_2-N(CH_3)_2$	23		37	
9	$-CH_2-N(CH_3)CH_2C_6H_5$	24		38	
10		25		39	
11		26		40	
12		27		41	
13		28		42	
14	$-CH_2CH=CHCH_3$	29		43	
15		30			

Table 200



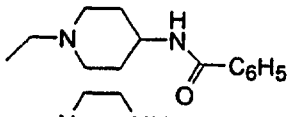
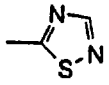
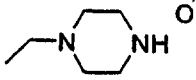
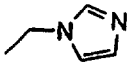
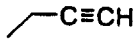
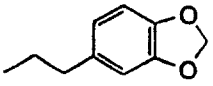
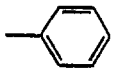
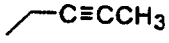
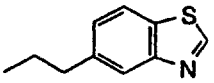
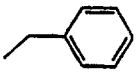
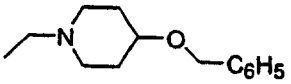
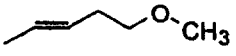
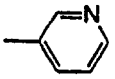
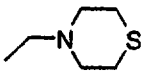
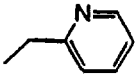
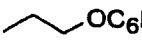
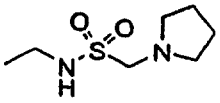
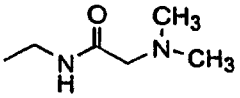
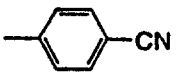
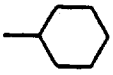
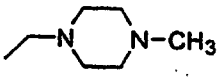
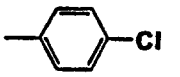
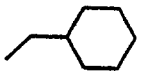
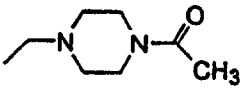
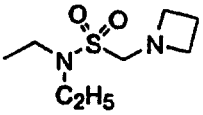
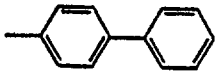
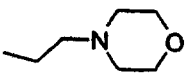
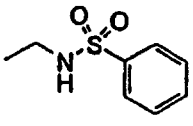
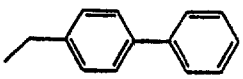
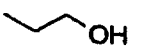
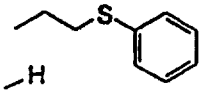
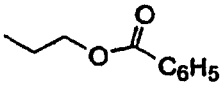
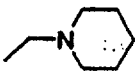
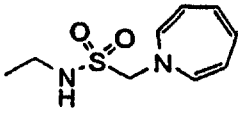
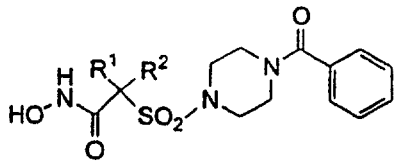
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4	 $(-C_6H_5)$	19		33	
5		20		34	
6		21		35	
7		22		36	
8	$-CH_2\text{-}N(CH_3)_2$	23		37	
9	$-CH_2\text{-}N(CH_3)CH_2C_6H_5$	24		38	
10	 $(-C_6H_{11})$	25		39	
11		26		40	
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13		28		42	
14	$-CH_2CH{=}CHCH_3$	29		43	
15		30			

Table 201





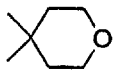
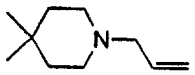
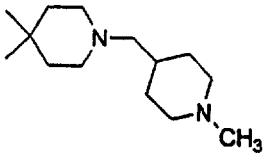
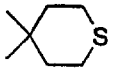
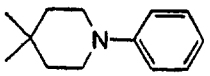
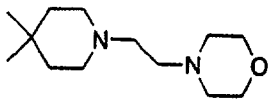
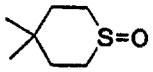
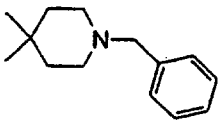
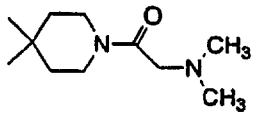
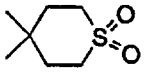
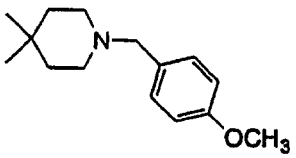
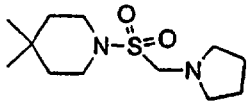
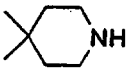
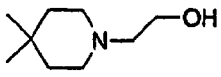
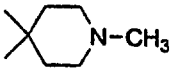
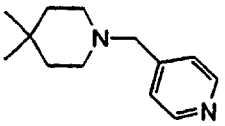
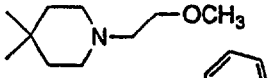
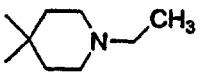
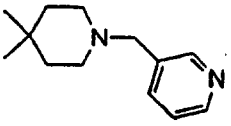
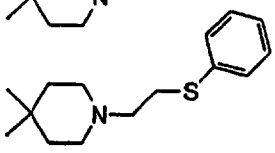
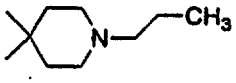
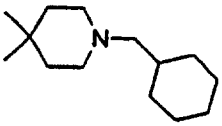
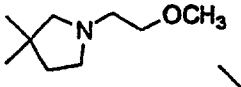
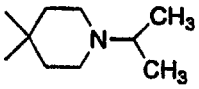
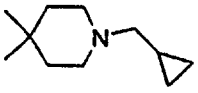
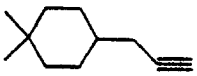
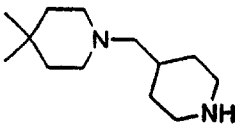
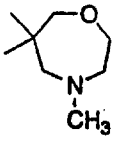
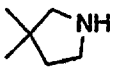
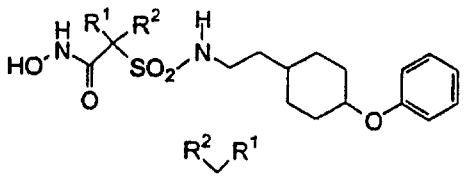
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Table 202



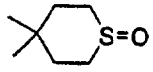
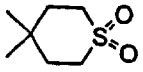
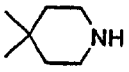
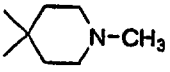
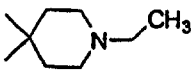
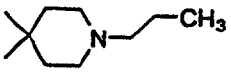
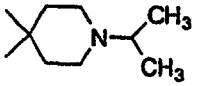
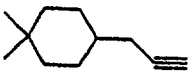
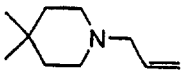
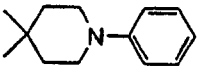
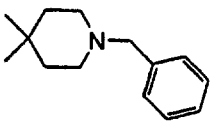
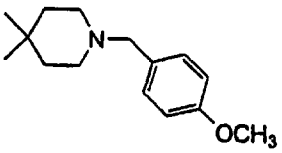
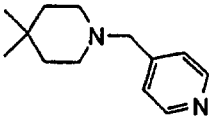
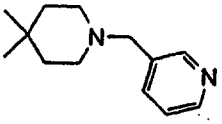
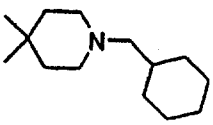
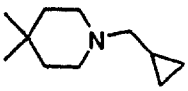
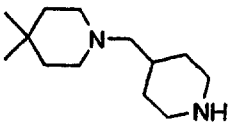
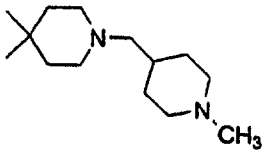
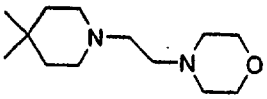
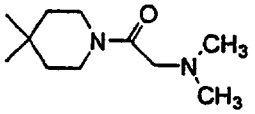
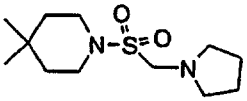
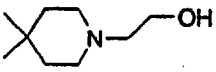
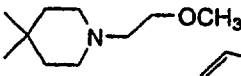
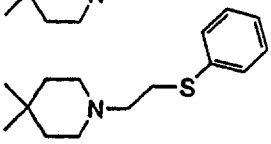
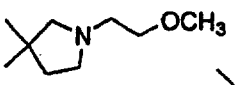
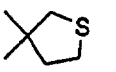
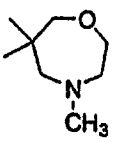
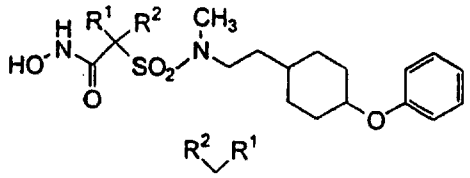
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Table 203



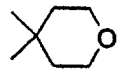
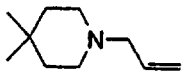
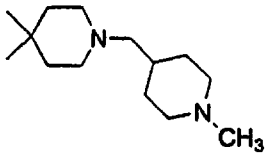
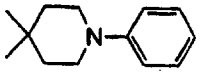
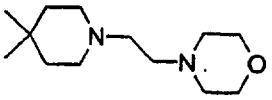
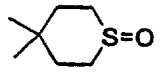
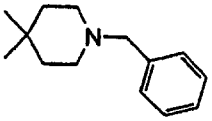
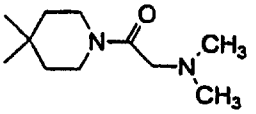
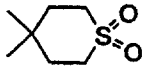
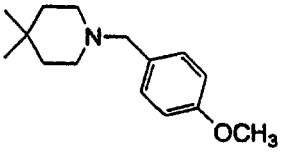
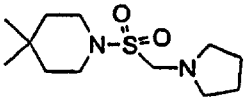
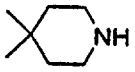
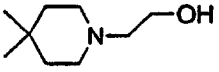
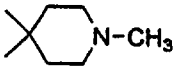
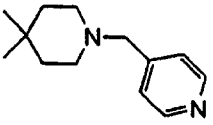
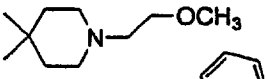
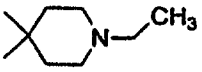
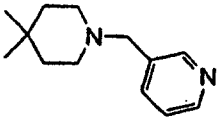
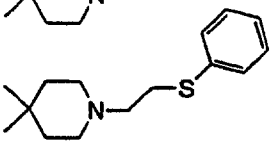
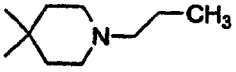
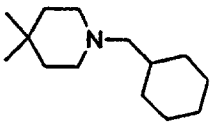
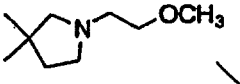
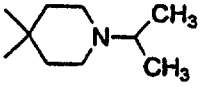
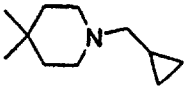
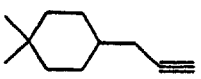
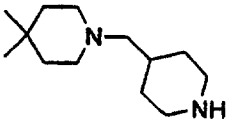
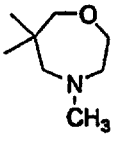
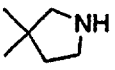
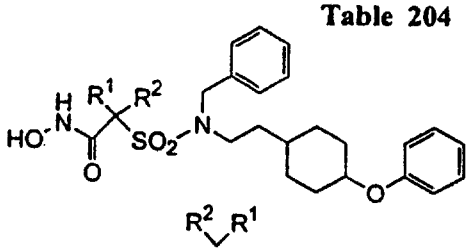
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Table 204



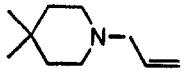
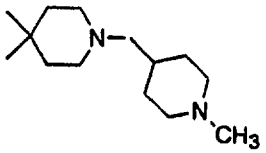
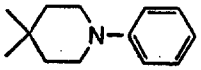
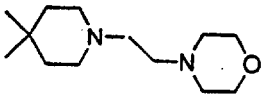
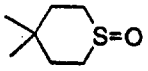
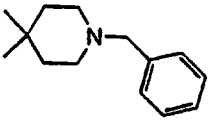
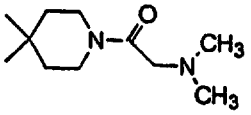
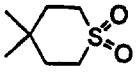
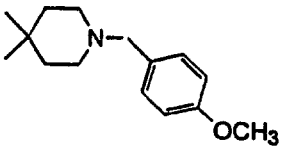
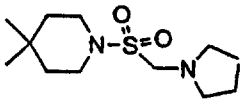
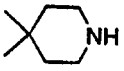
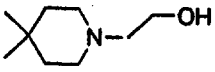
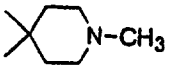
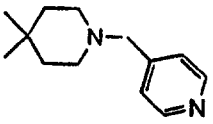
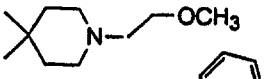
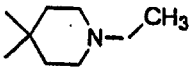
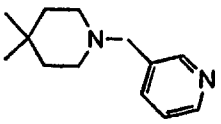
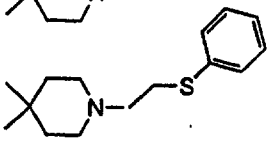
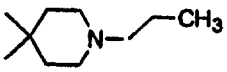
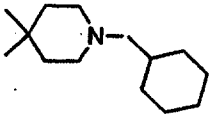
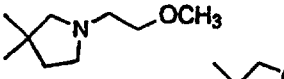
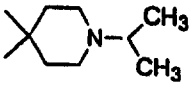
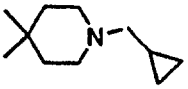
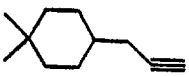
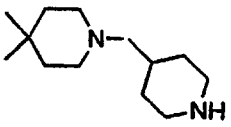
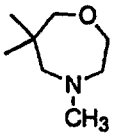
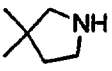
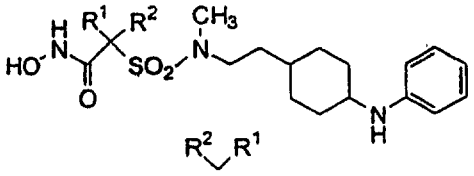
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Table 205



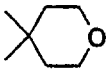
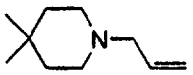
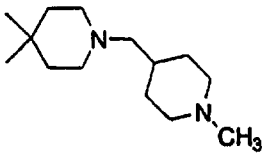
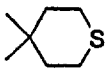
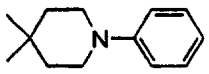
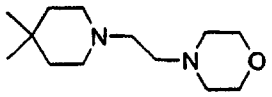
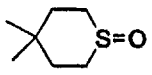
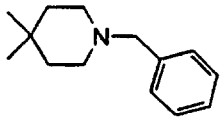
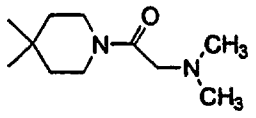
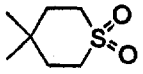
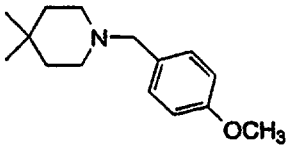
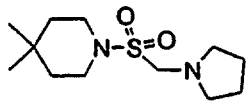
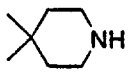
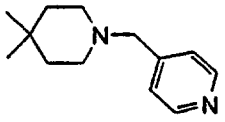
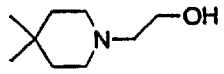
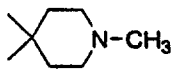
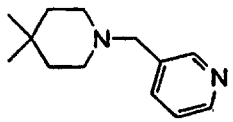
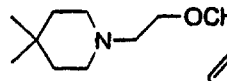
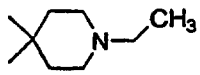
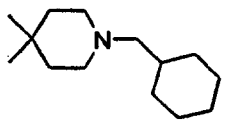
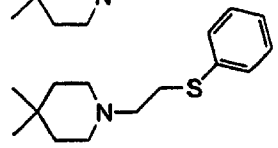
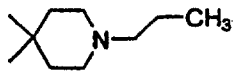
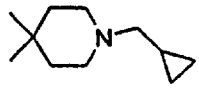
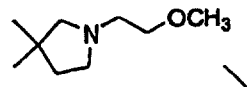
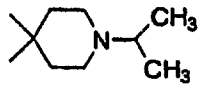
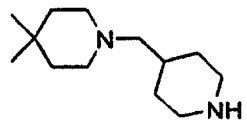
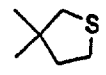
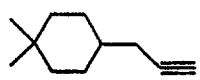
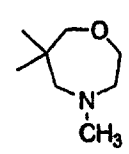
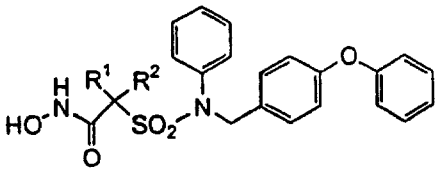
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Table 206





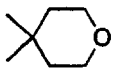
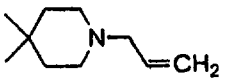
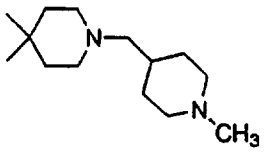
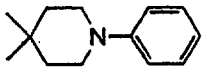
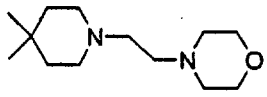
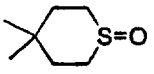
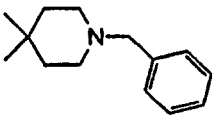
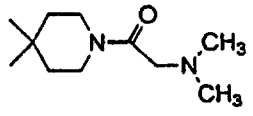
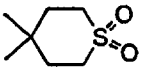
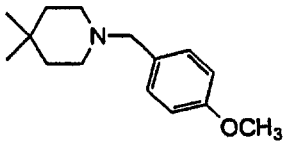
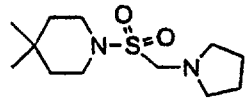
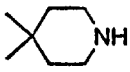
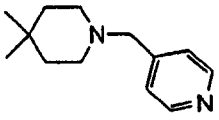
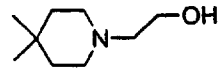
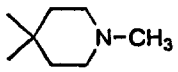
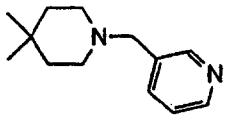
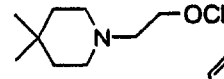
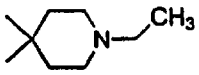
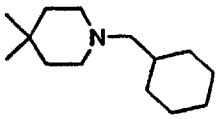
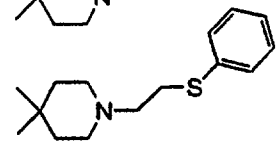
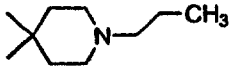
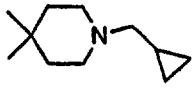
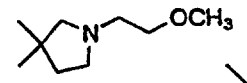
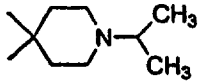
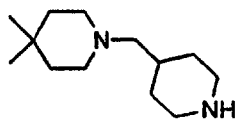
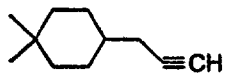
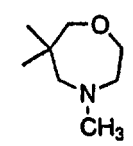
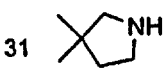
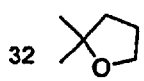
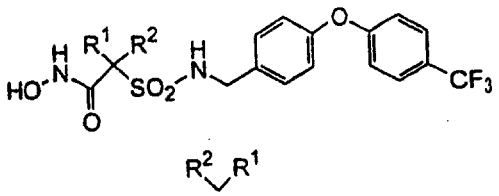
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Table 207



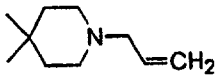
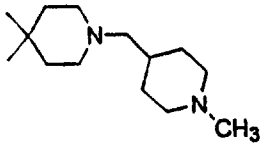
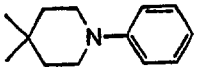
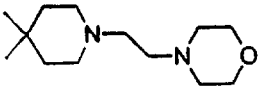
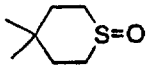
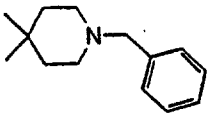
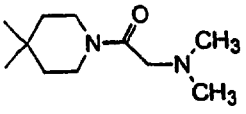
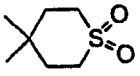
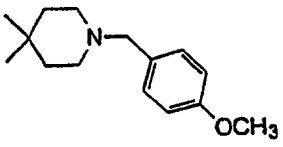
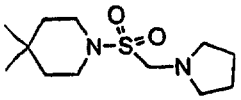
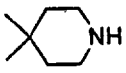
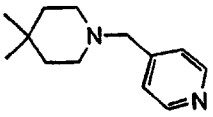
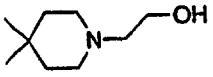
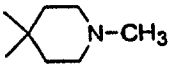
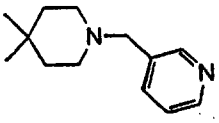
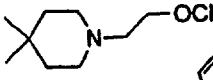
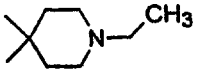
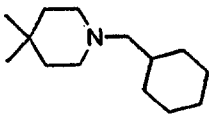
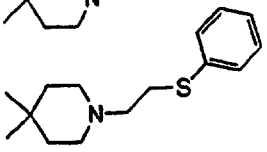
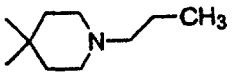
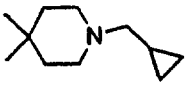
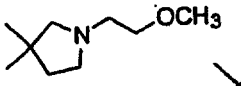
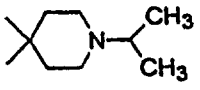
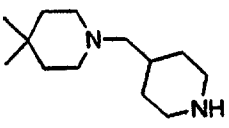
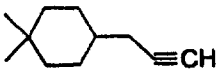
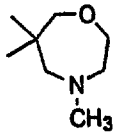
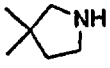
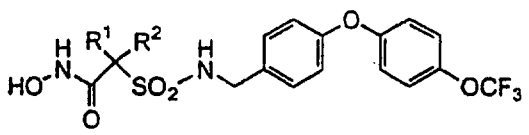
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Table 208





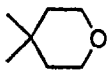
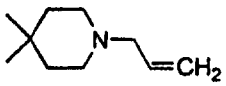
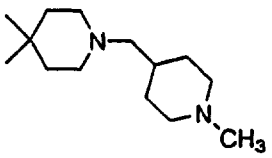
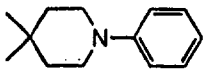
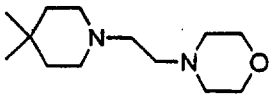
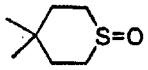
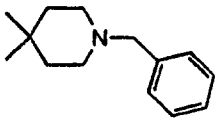
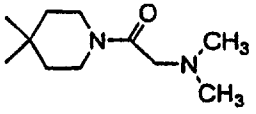
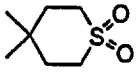
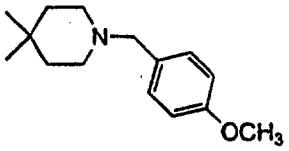
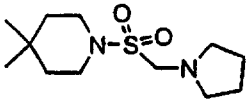
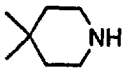
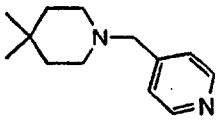
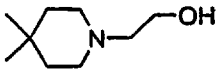
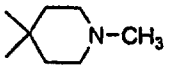
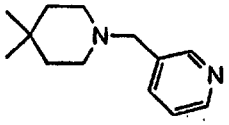
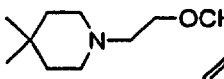
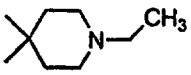
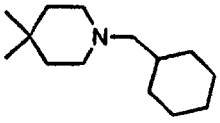
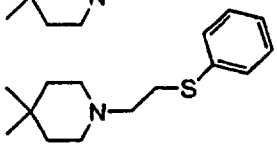
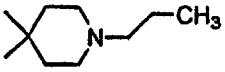
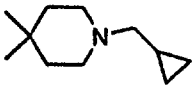
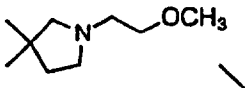
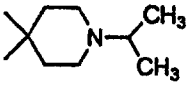
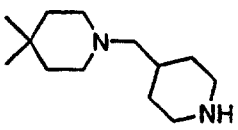
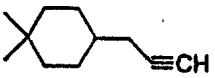
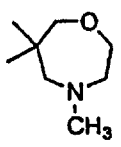
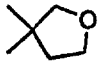
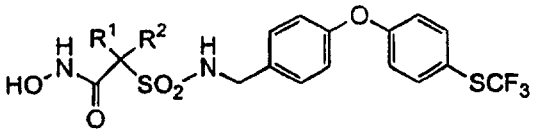
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Table 209





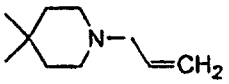
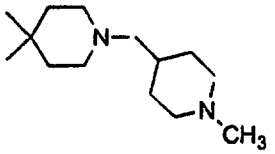
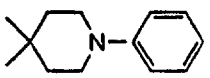
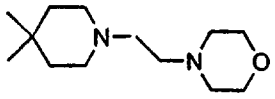
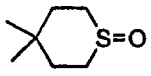
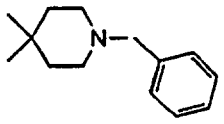
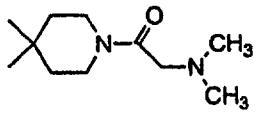
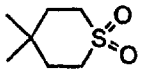
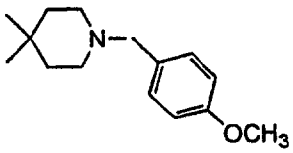
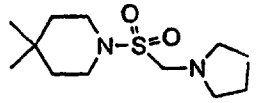
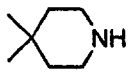
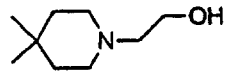
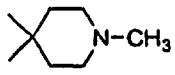
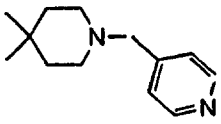
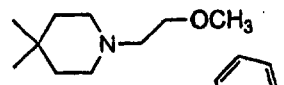
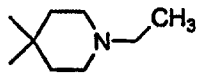
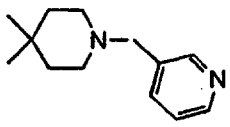
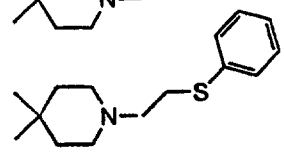
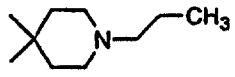
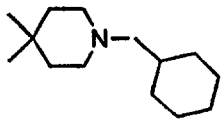
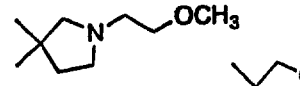
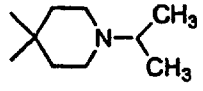
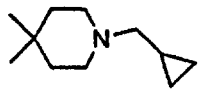
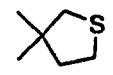
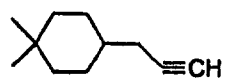
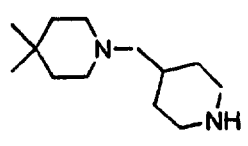
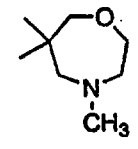
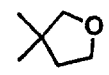
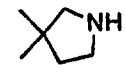
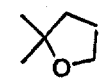
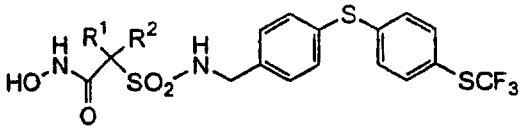
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Table 210





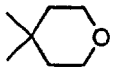
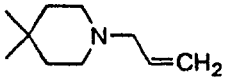
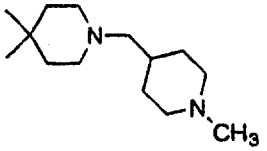
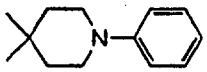
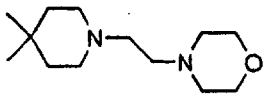
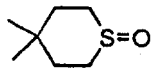
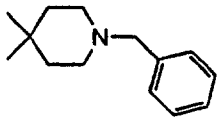
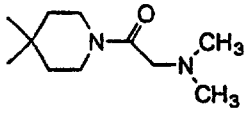
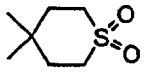
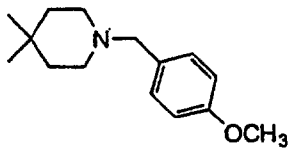
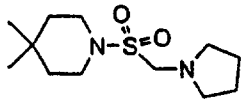
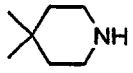
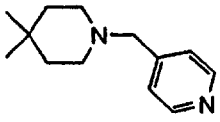
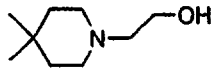
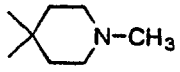
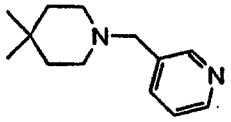
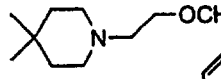
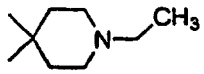
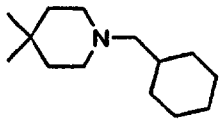
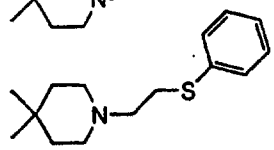
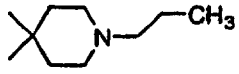
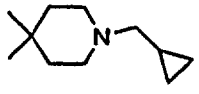
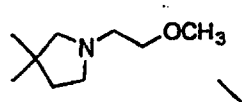
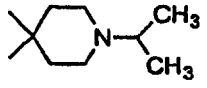
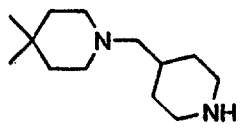
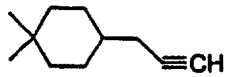
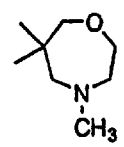
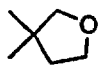
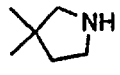
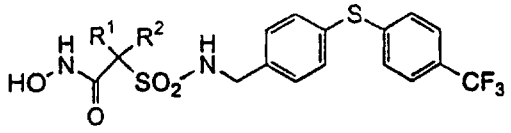
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Table 211





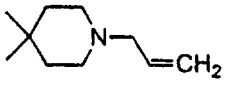
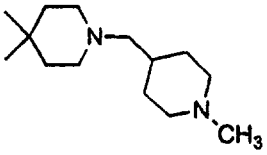
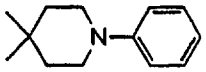
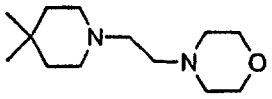
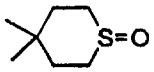
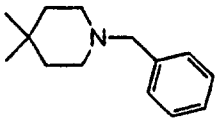
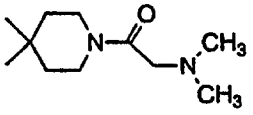
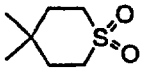
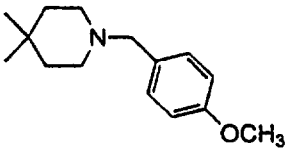
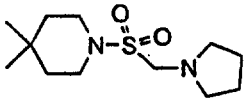
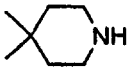
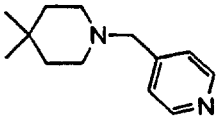
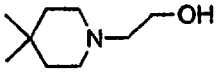
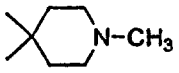
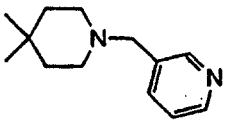
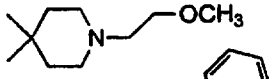
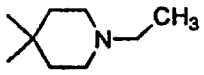
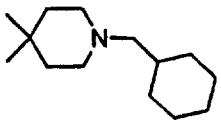
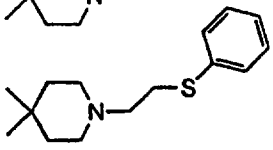
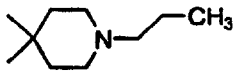
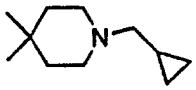
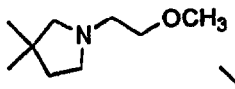
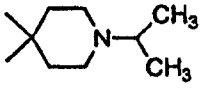
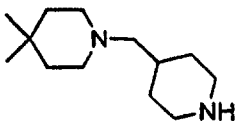
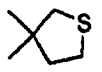
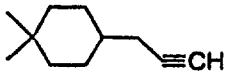
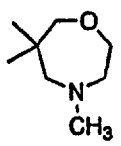
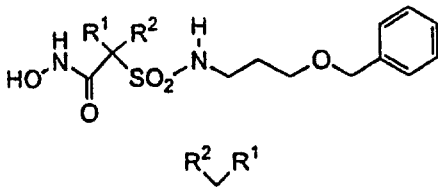
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Table 212



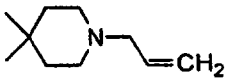
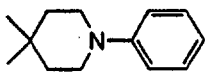
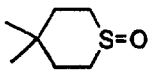
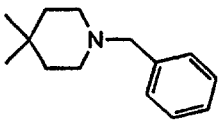
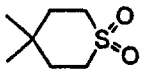
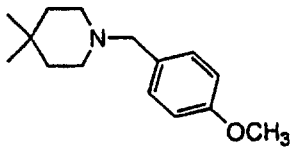
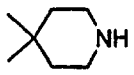
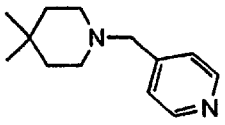
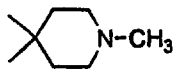
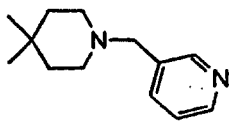
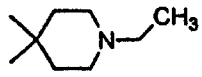
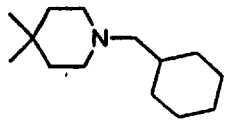
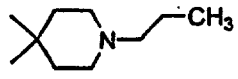
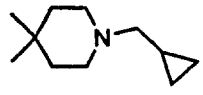
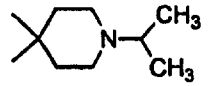
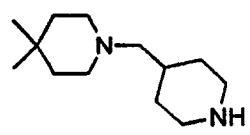
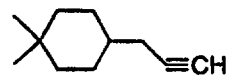
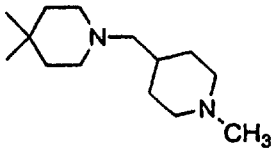
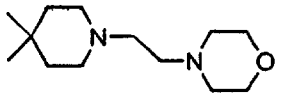
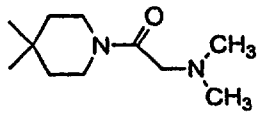
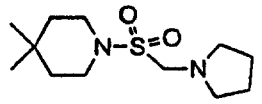
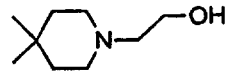
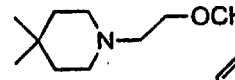
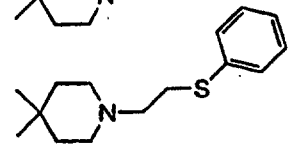
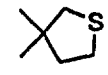
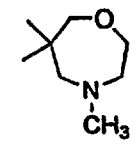
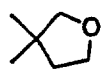
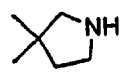
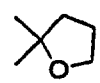
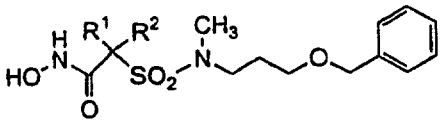
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Table 213



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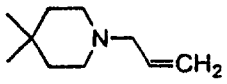
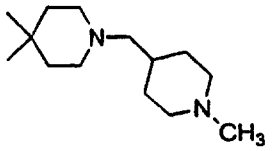
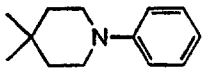
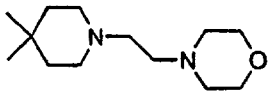
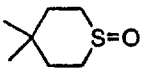
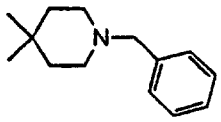
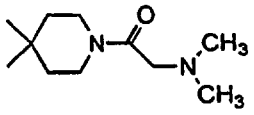
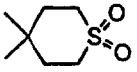
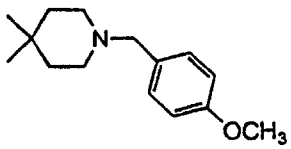
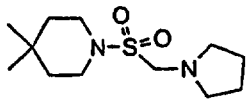
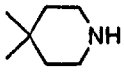
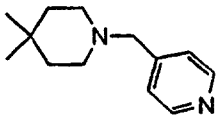
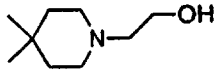
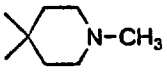
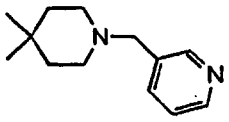
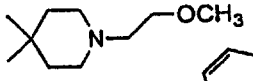
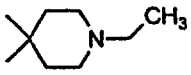
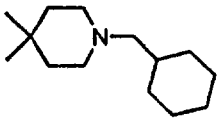
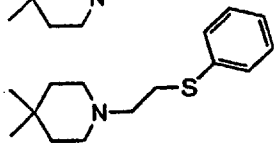
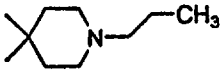
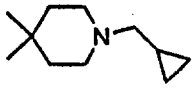
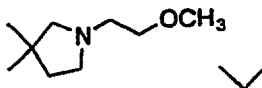
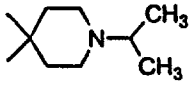
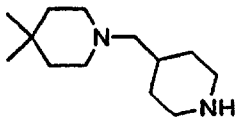
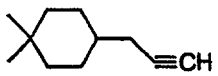
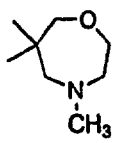
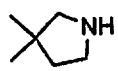
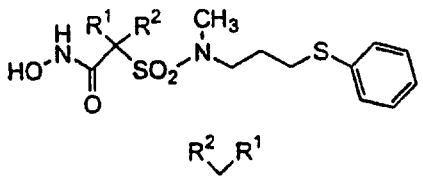
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Table 214



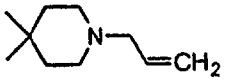
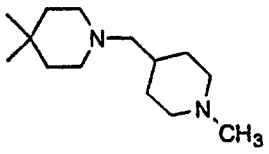
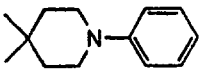
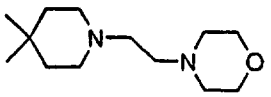
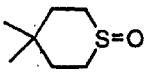
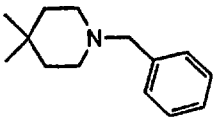
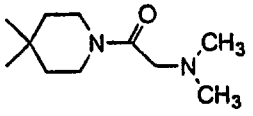
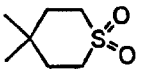
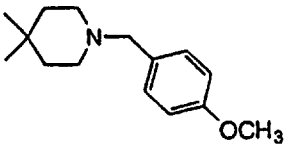
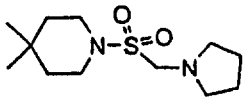
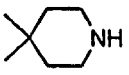
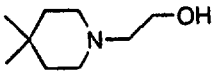
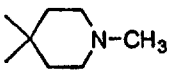
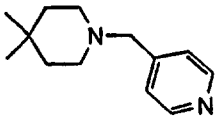
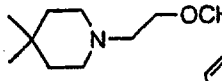
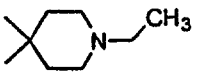
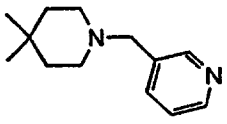
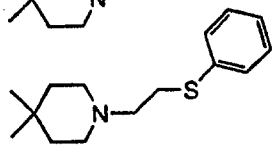
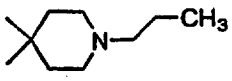
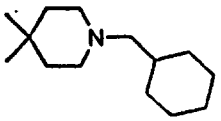
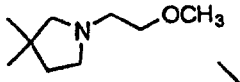
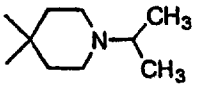
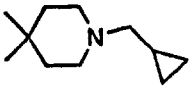
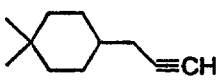
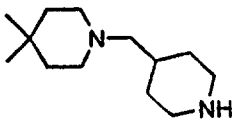
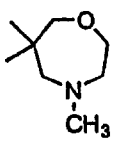
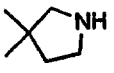
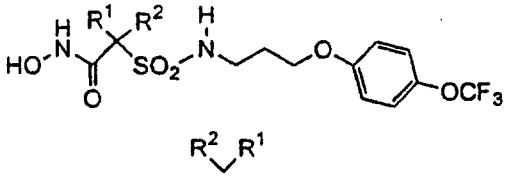
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Table 215



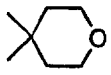
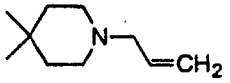
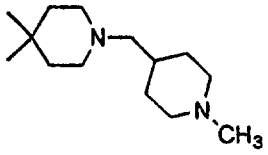
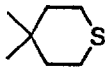
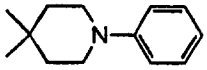
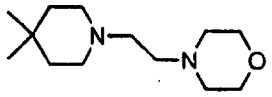
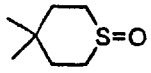
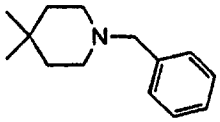
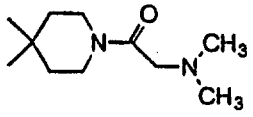
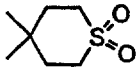
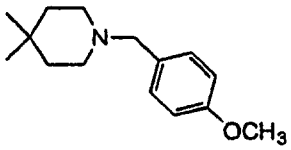
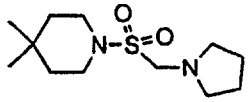
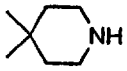
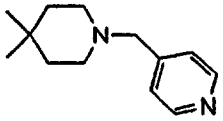
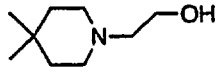
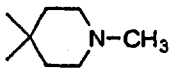
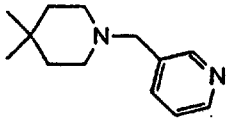
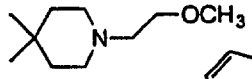
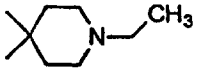
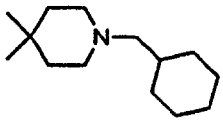
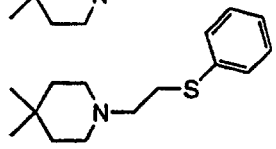
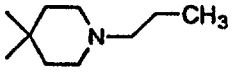
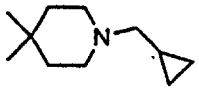
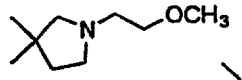
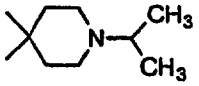
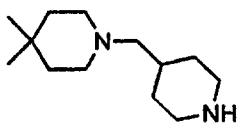
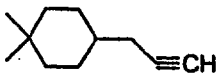
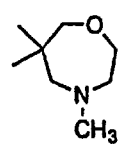
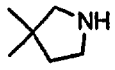
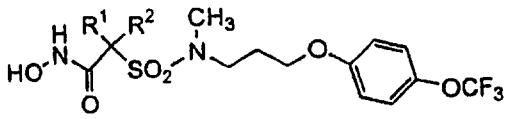
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Table 216





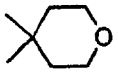
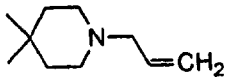
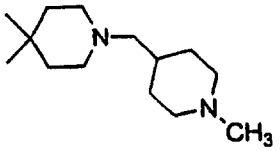
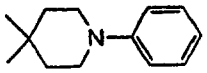
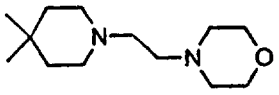
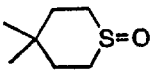
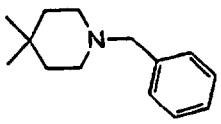
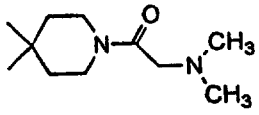
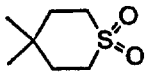
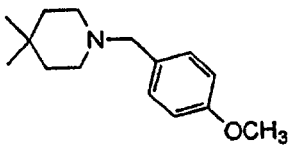
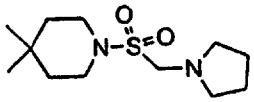
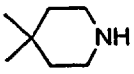
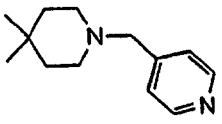
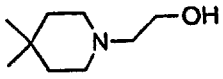
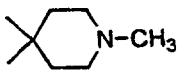
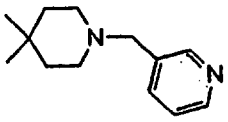
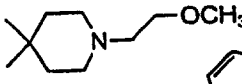
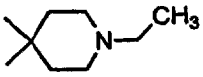
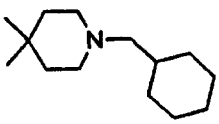
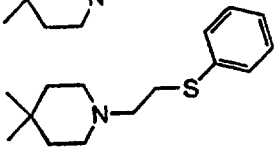
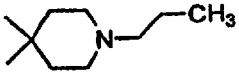
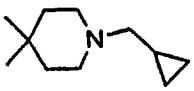
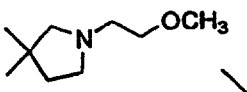
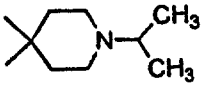
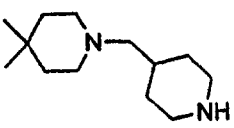
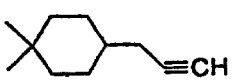
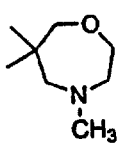
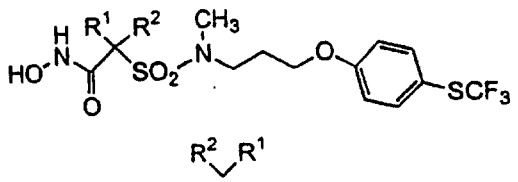
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Table 217



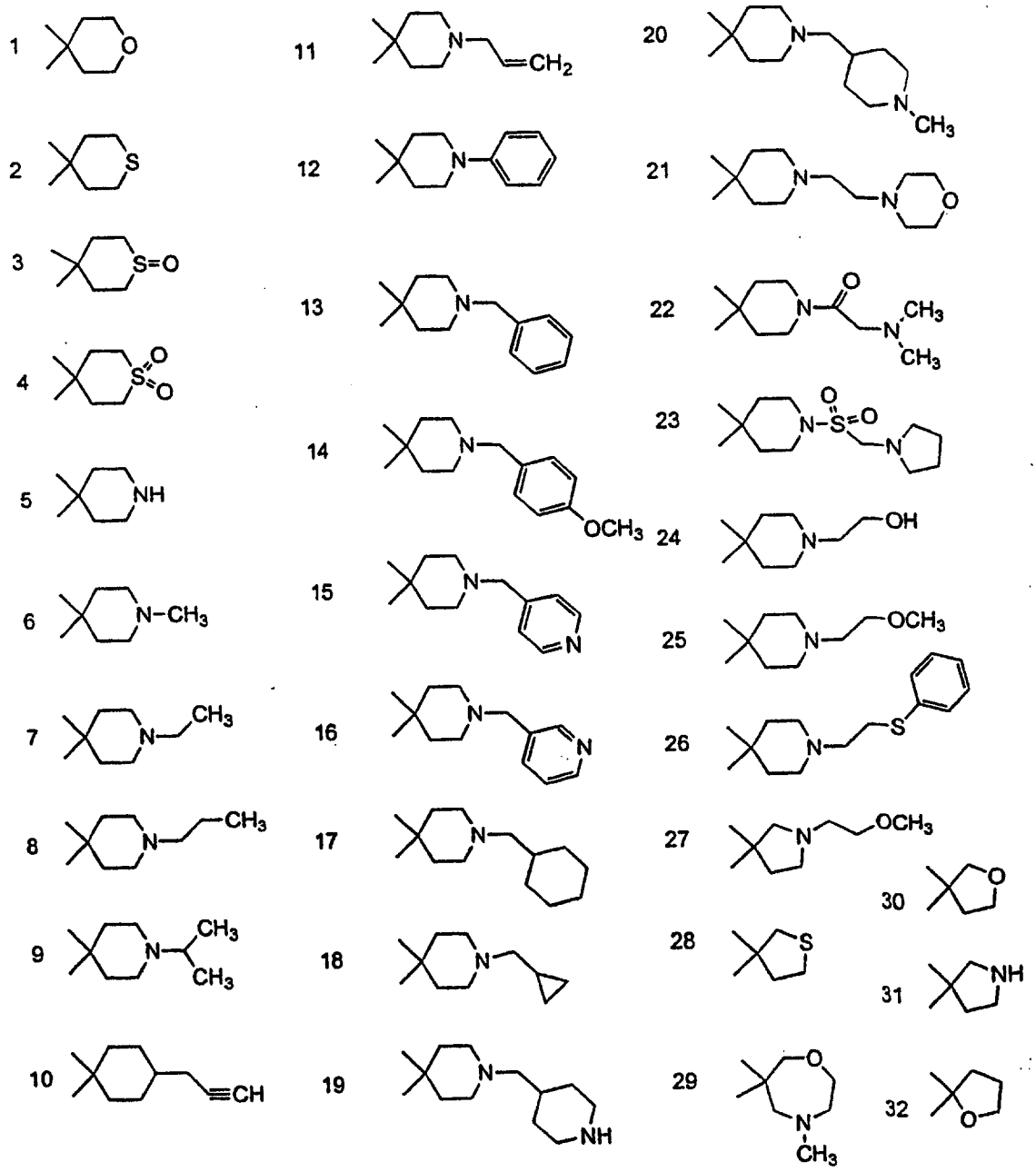
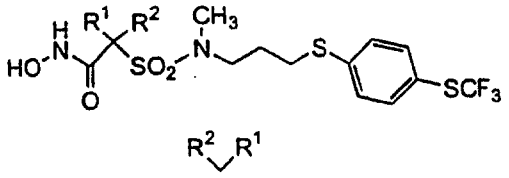


Table 218



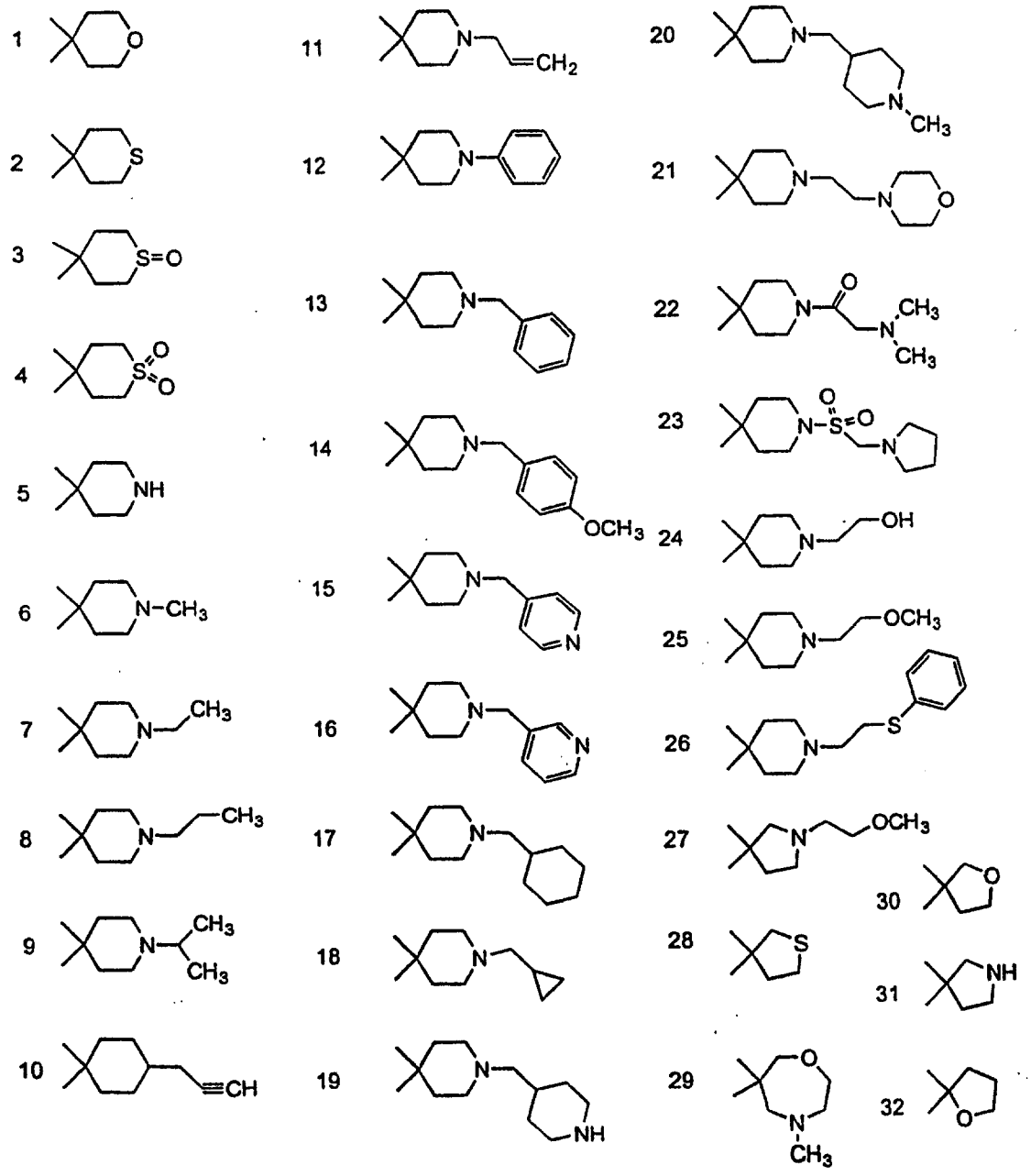
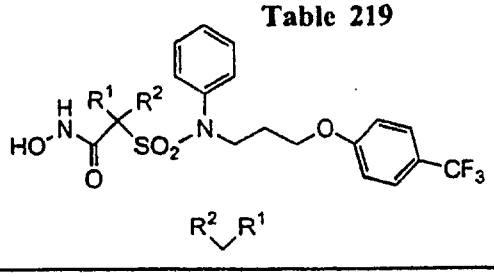


Table 219



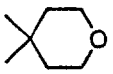
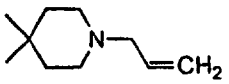
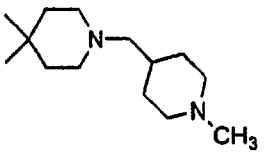
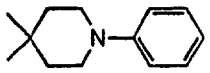
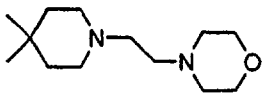
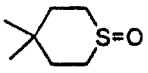
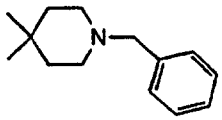
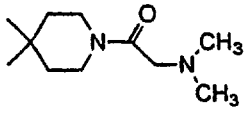
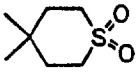
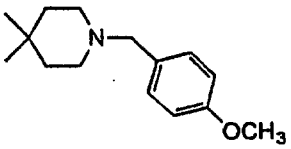
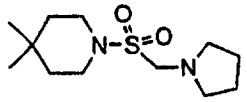
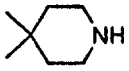
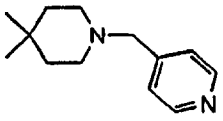
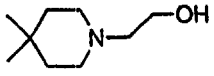
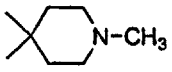
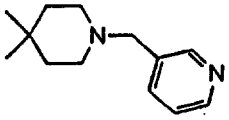
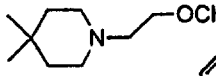
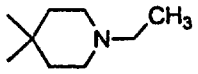
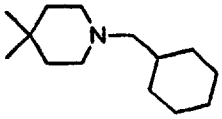
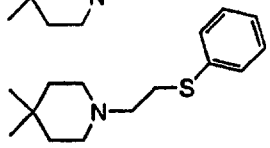
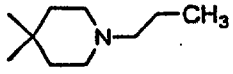
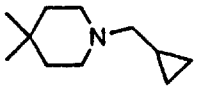
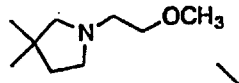
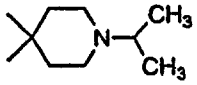
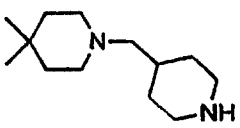
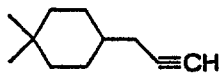
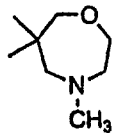
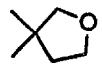
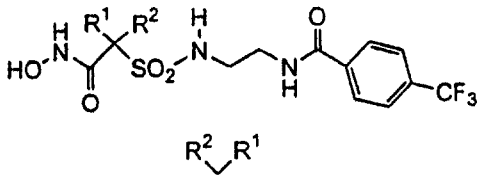
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Table 220



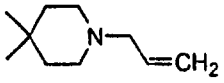
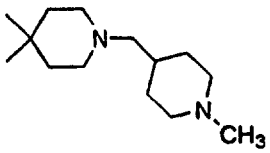
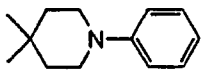
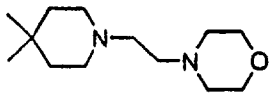
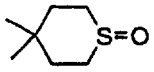
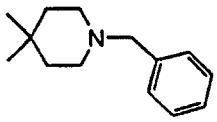
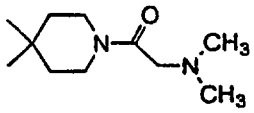
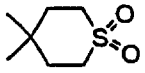
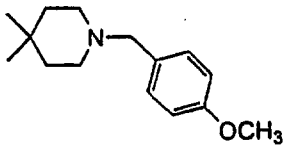
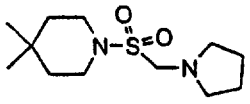
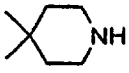
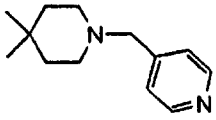
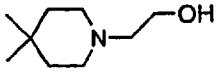
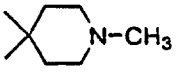
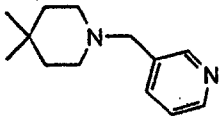
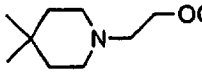
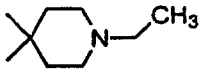
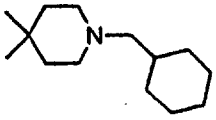
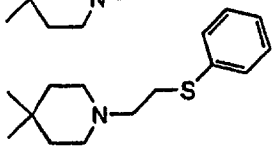
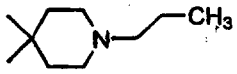
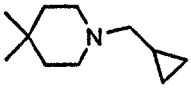
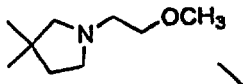
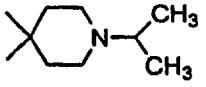
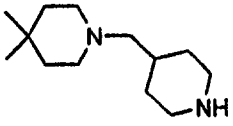
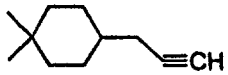
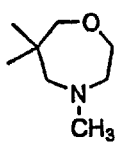
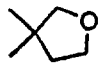
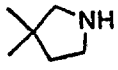
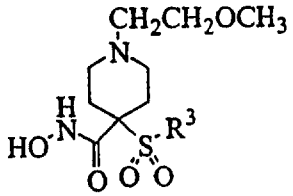
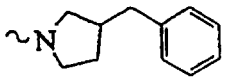
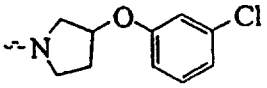
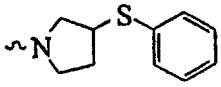
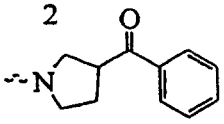
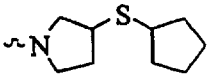
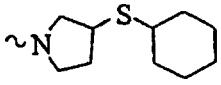
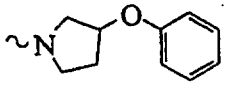
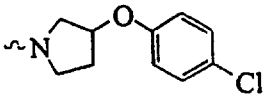
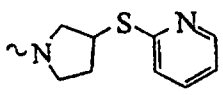
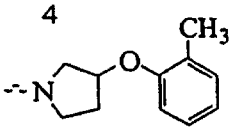
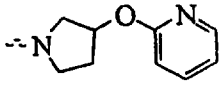
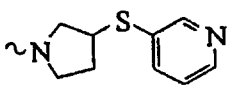
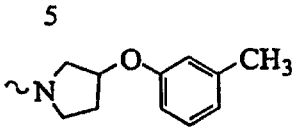
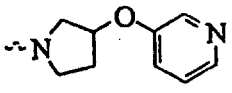
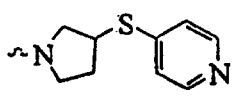
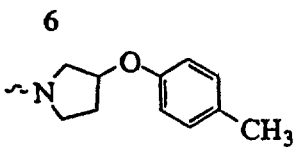
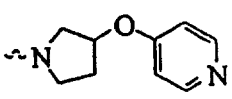
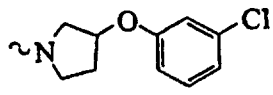
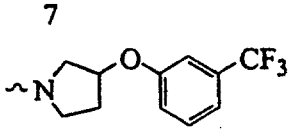
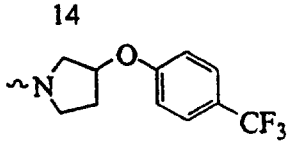
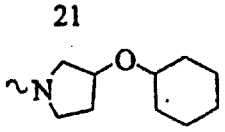
1		11		20	
2		12		21	
3		13		22	
4		14		23	
5		15		24	
6		16		25	
7		17		26	
8		18		27	
9		19		28	
10				29	
				30	
				31	
				32	

Table 221



$\sim R^3$

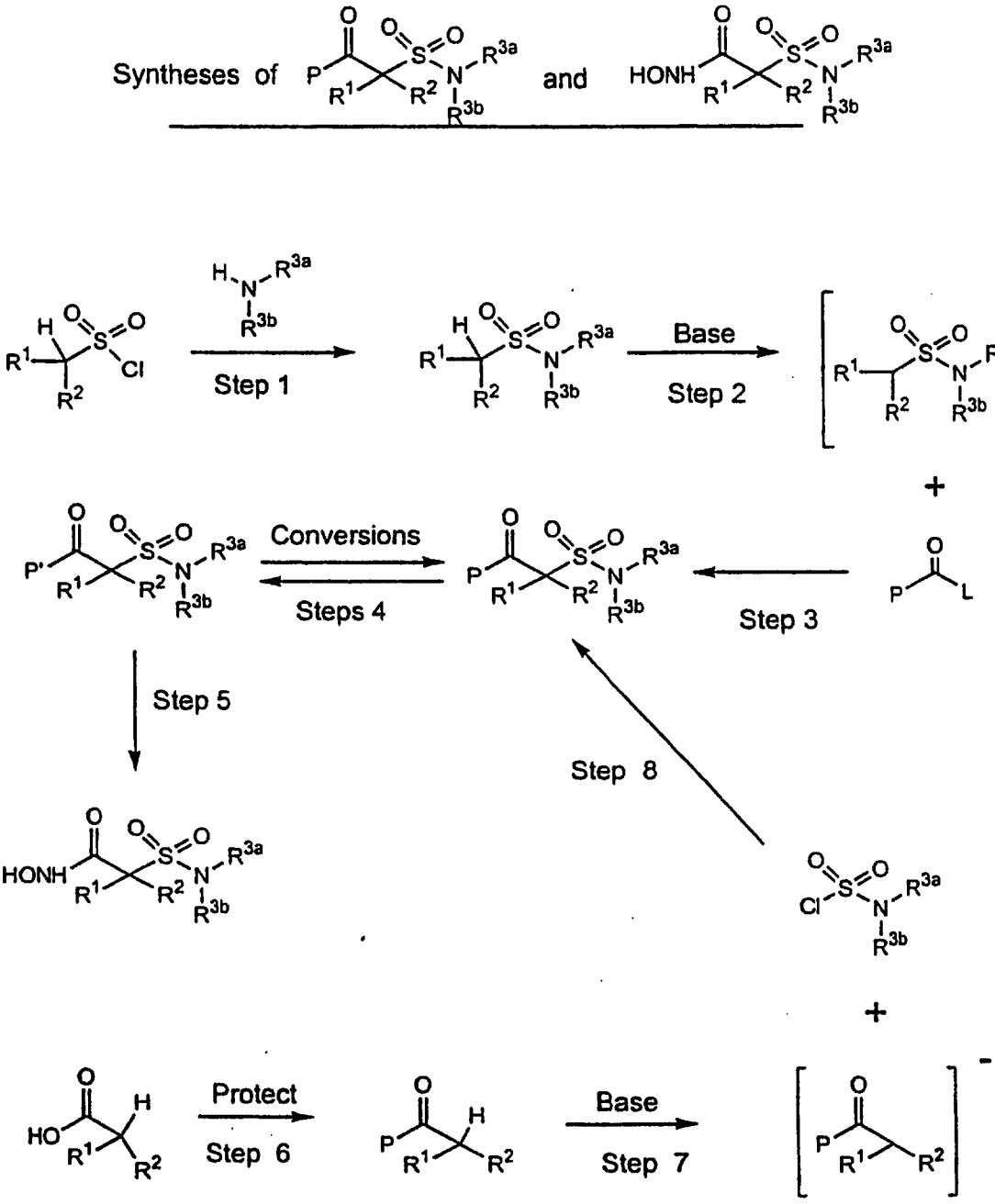
1 	8 	15 
2 	9 	16 
3 	10 	17 
4 	11 	18 
5 	12 	19 
6 	13 	20 
7 	14 	21 

5

Preparation Process

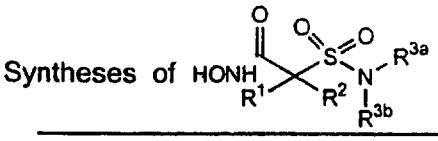
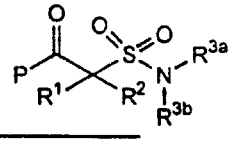
Also according to the present invention, there are provided processes for preparing the compounds of the present invention. Synthesis schemes, generic Schemes 1-4 and specific Schemes A-D, illustrating such processes are illustrated below.

Scheme 1

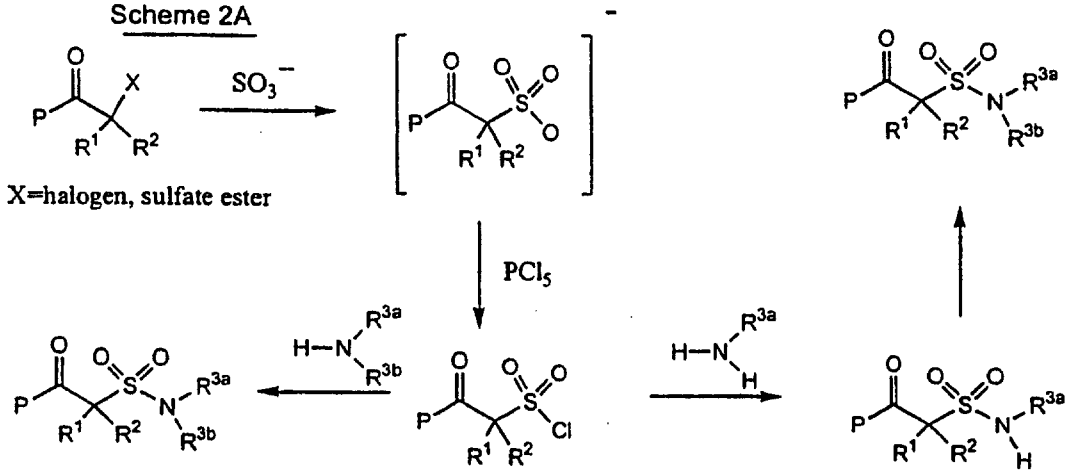


P is a protecting group
P' is a protecting group
L is a leaving group
R^1, R^2, R^{3a}, R^{3b} are as defined herein

Schemes 2A and 2B

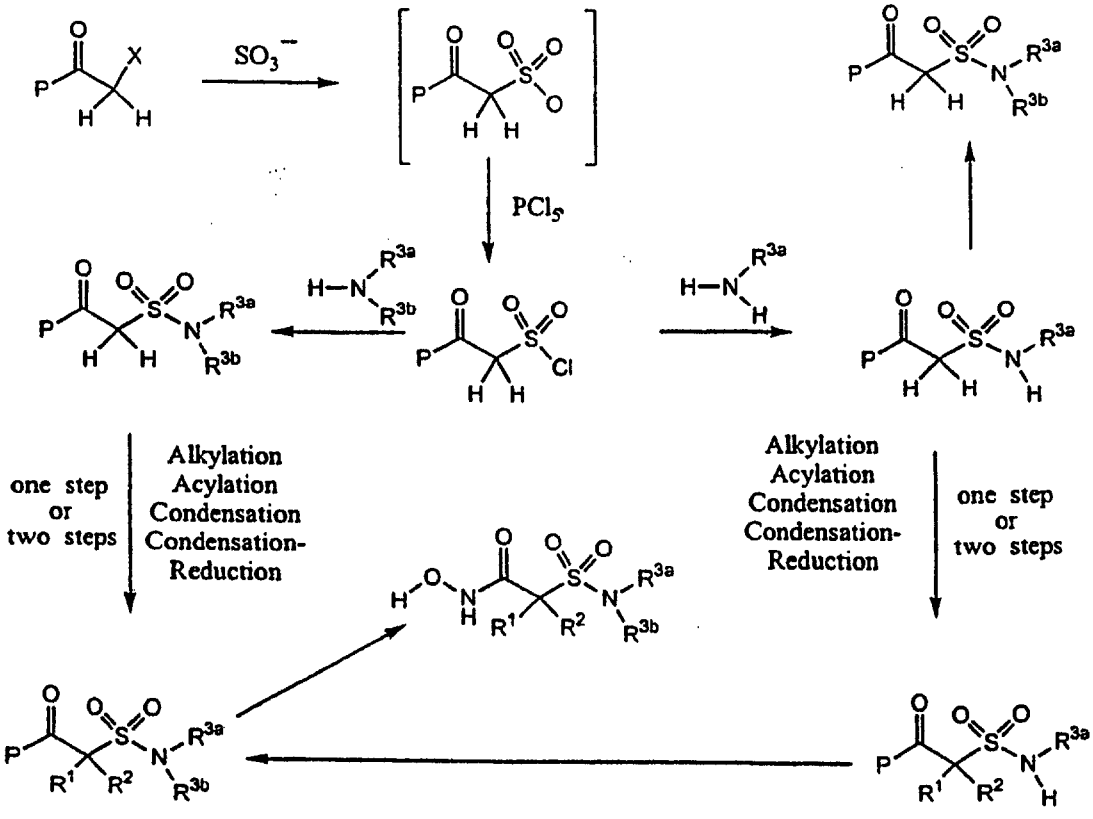
Syntheses of  and 

Scheme 2A

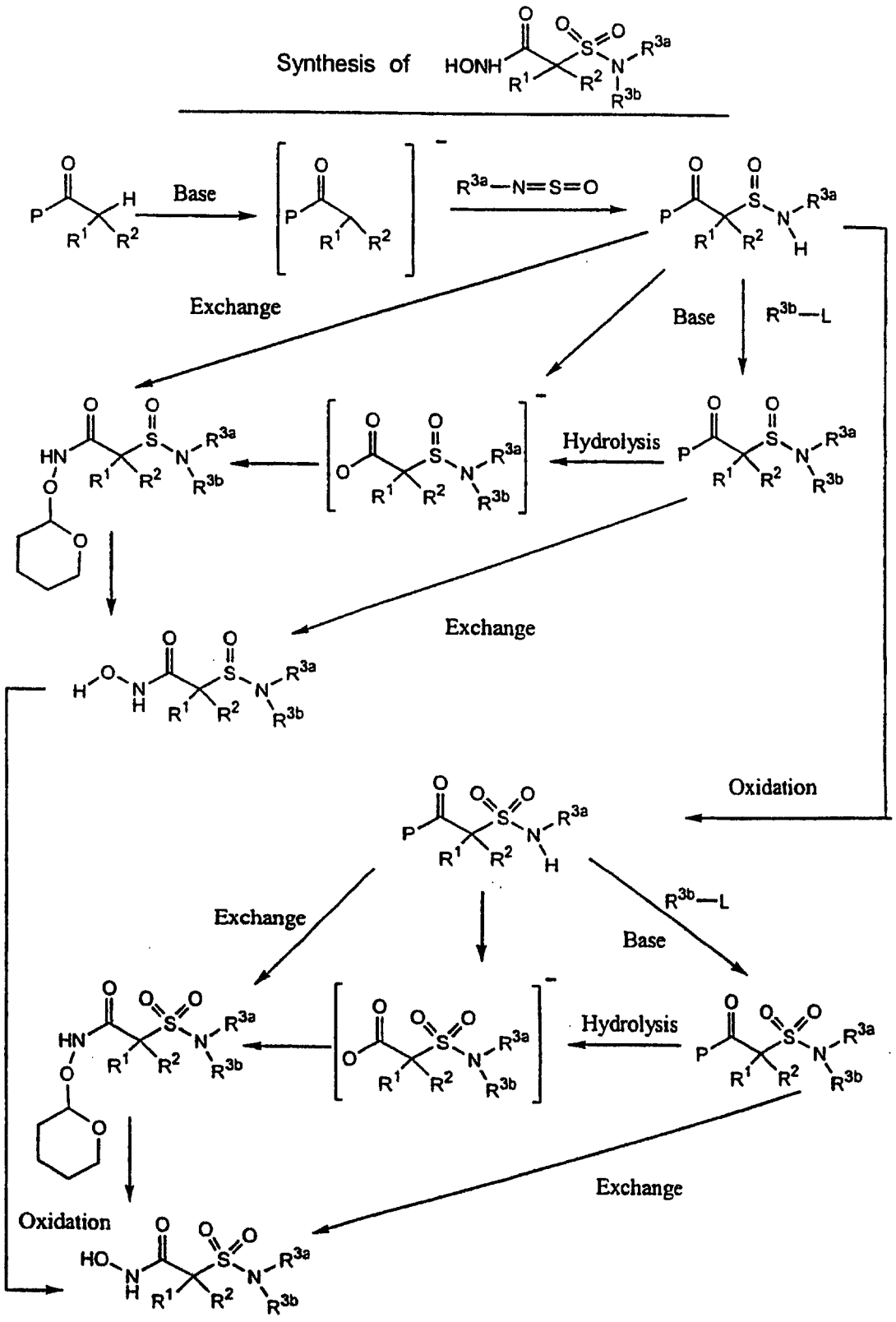


X=halogen, sulfate ester

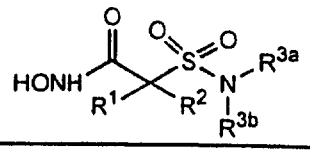
Scheme 2B



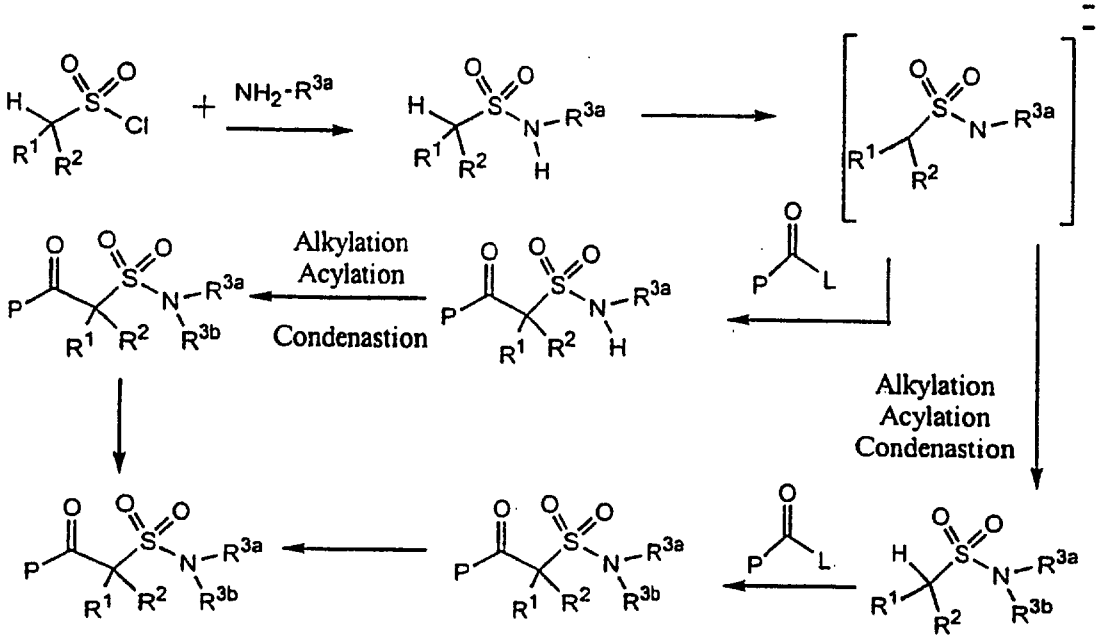
Scheme 3


Synthesis of
HONH
Base
Exchange
Base
Hydrolysis
Exchange
Oxidation
Exchange
Base
Hydrolysis
Exchange
Oxidation

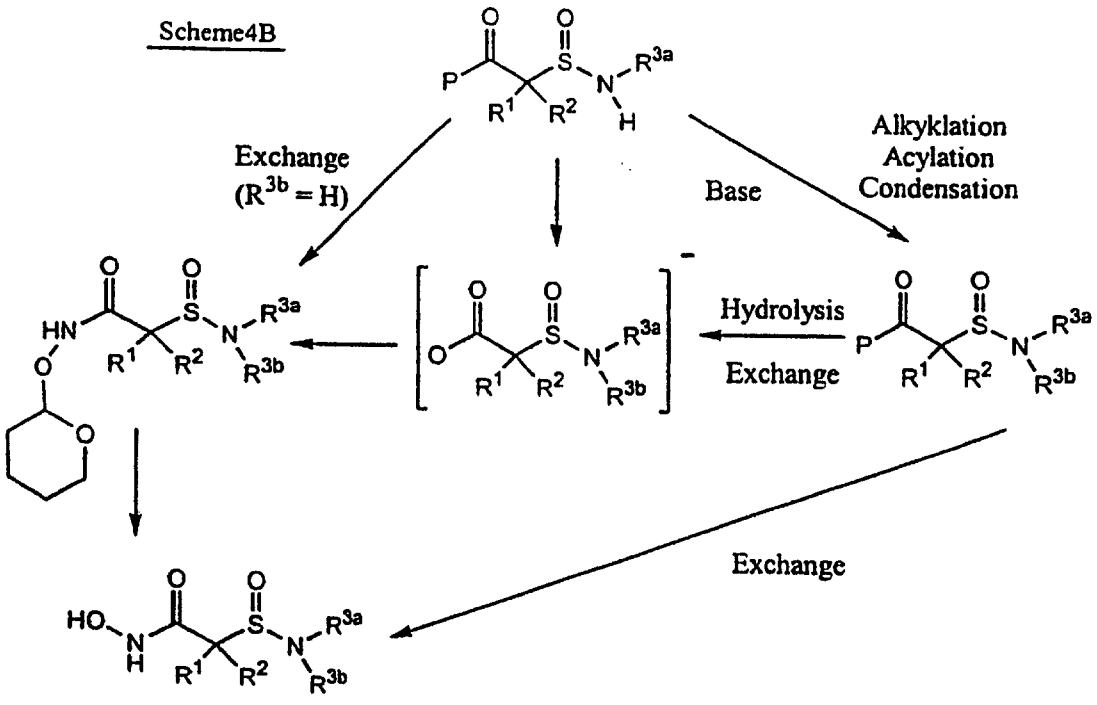
Schemes 4A and 4B

Syntheses of 

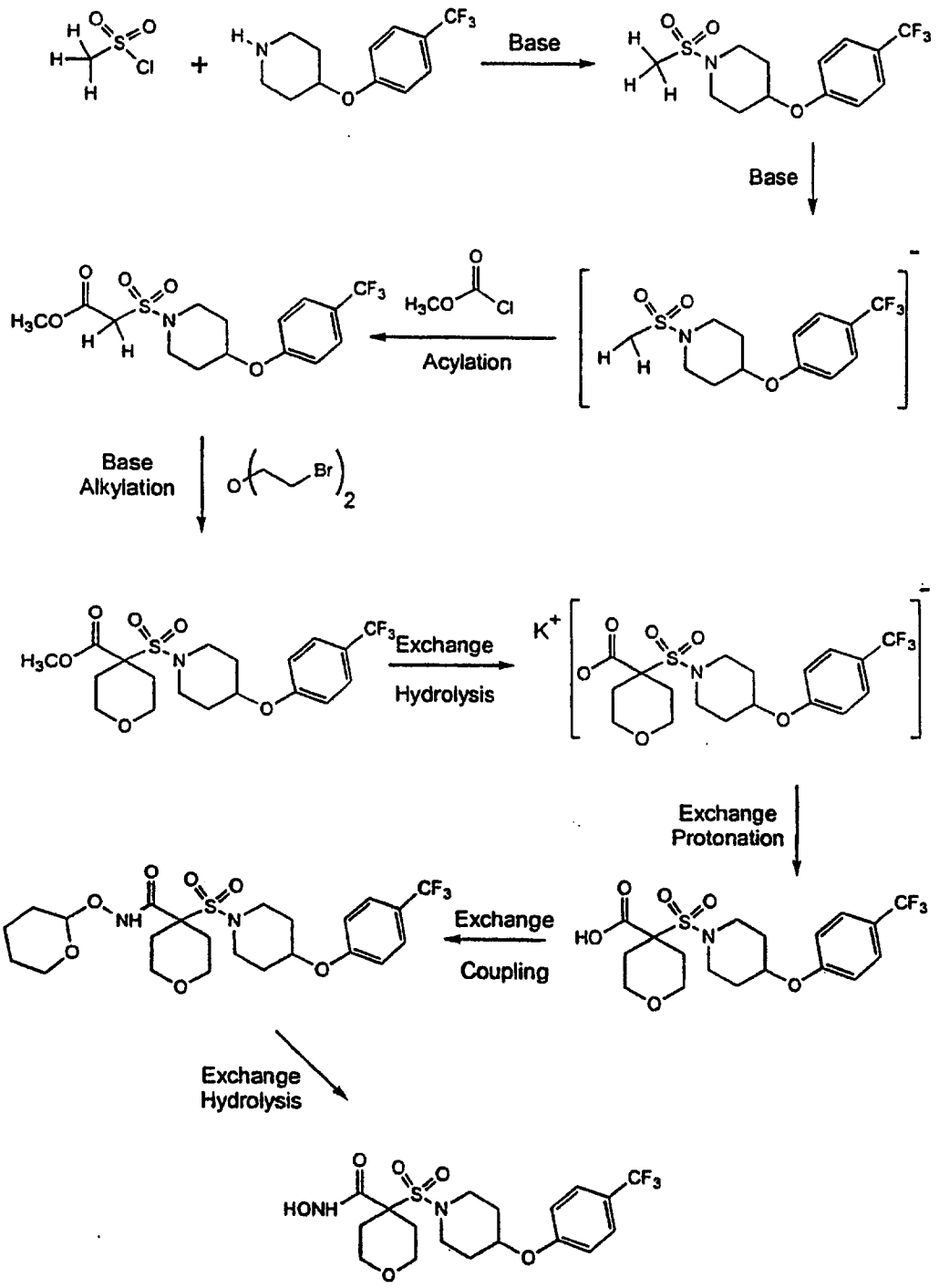
Scheme 4A



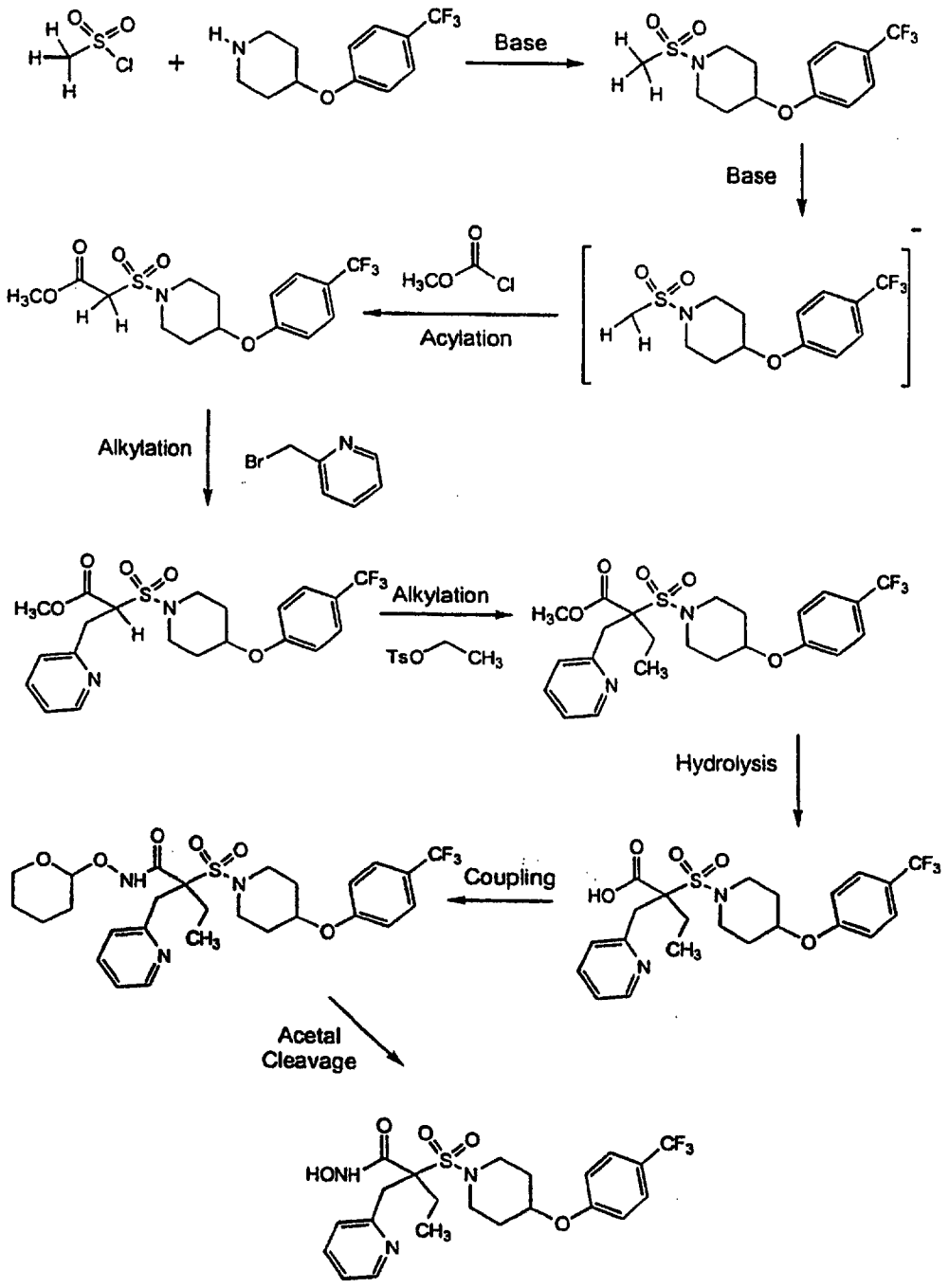
Scheme4B



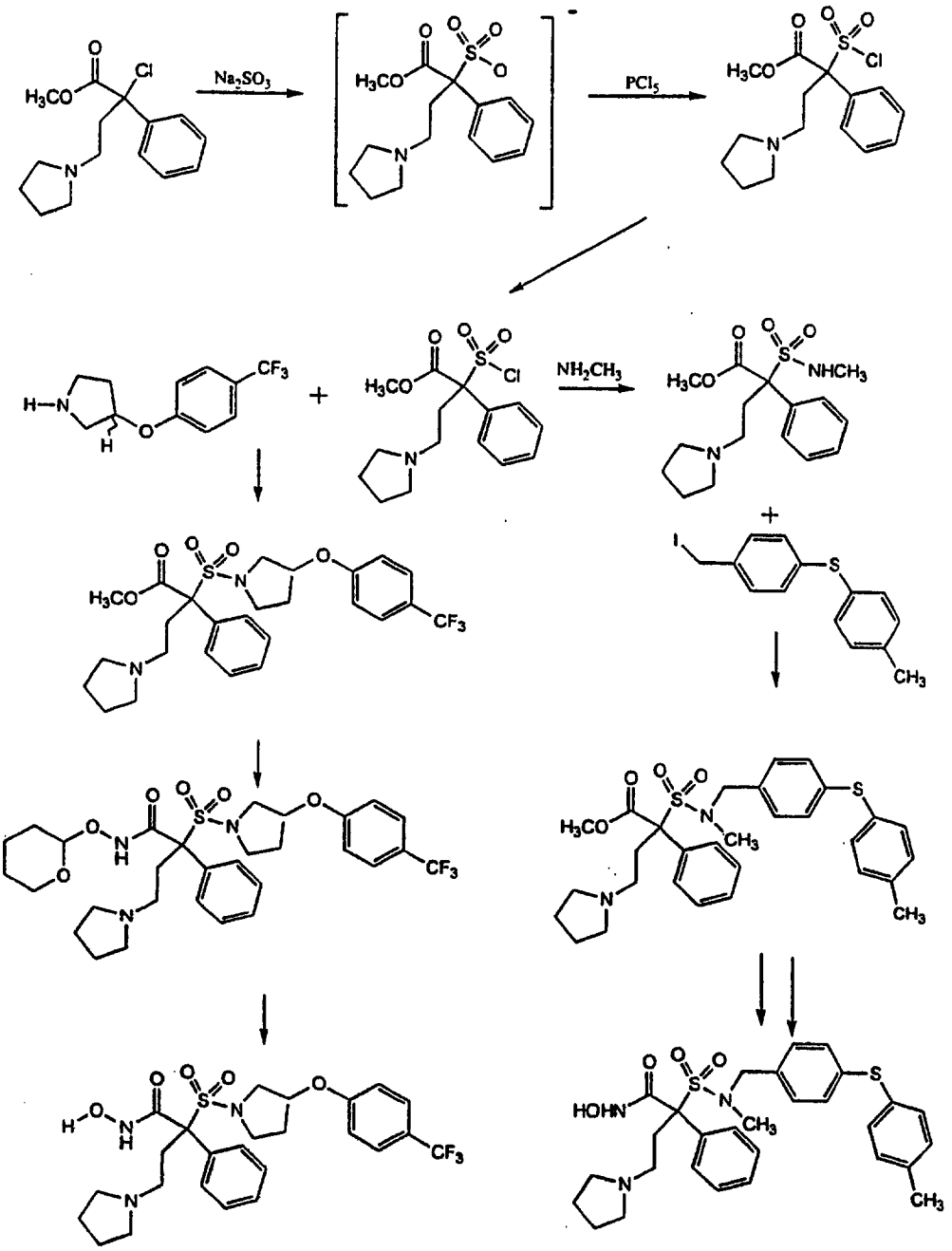
Scheme A


Base
Base
Acylation
Base
Alkylation
Exchange
Hydrolysis
Exchange
Protonation
Exchange
Coupling
Exchange
Hydrolysis

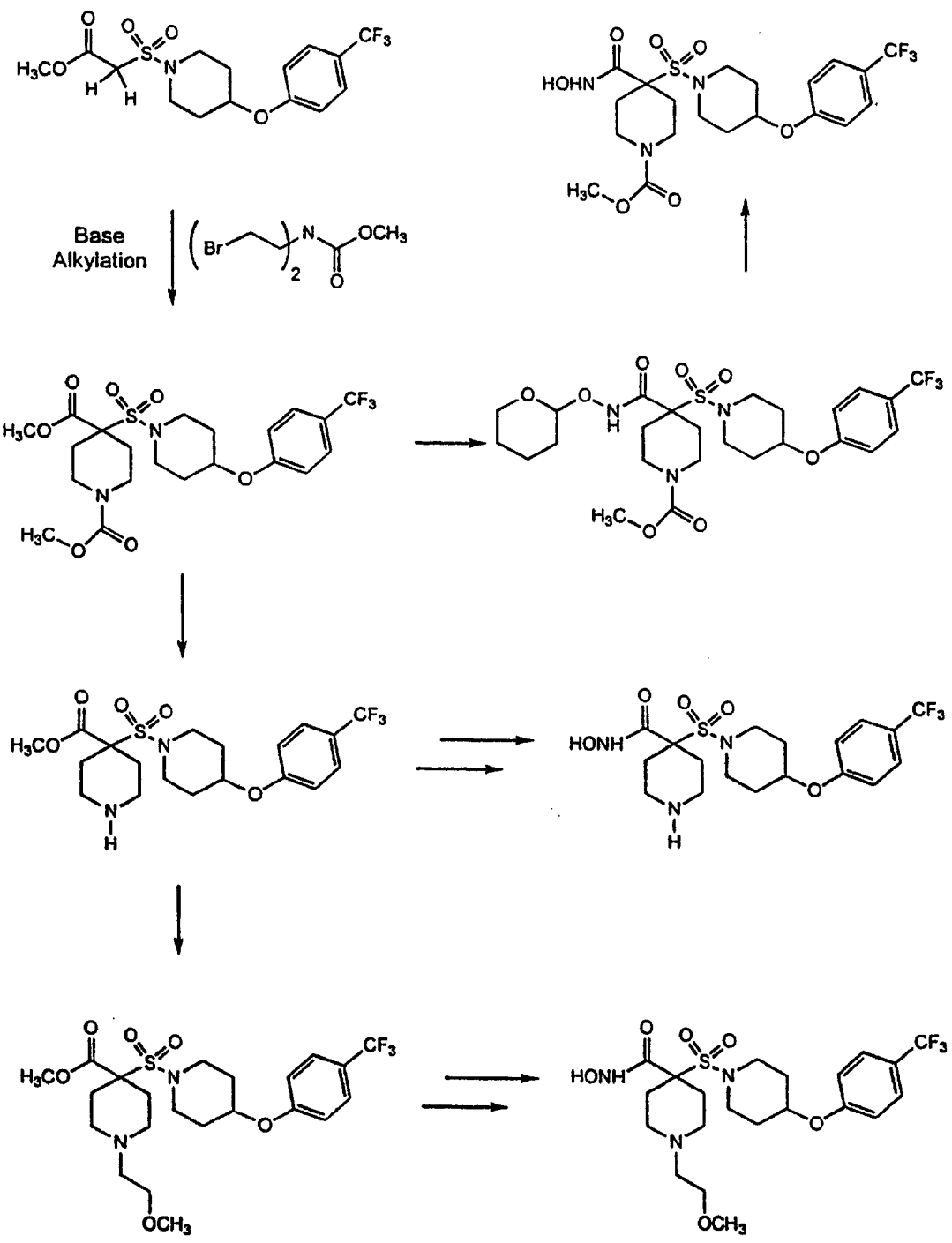
Scheme B


Base
Base
Acylation
Alkylation
Alkylation
Hydrolysis
Coupling
Acetal
Cleavage

Scheme C

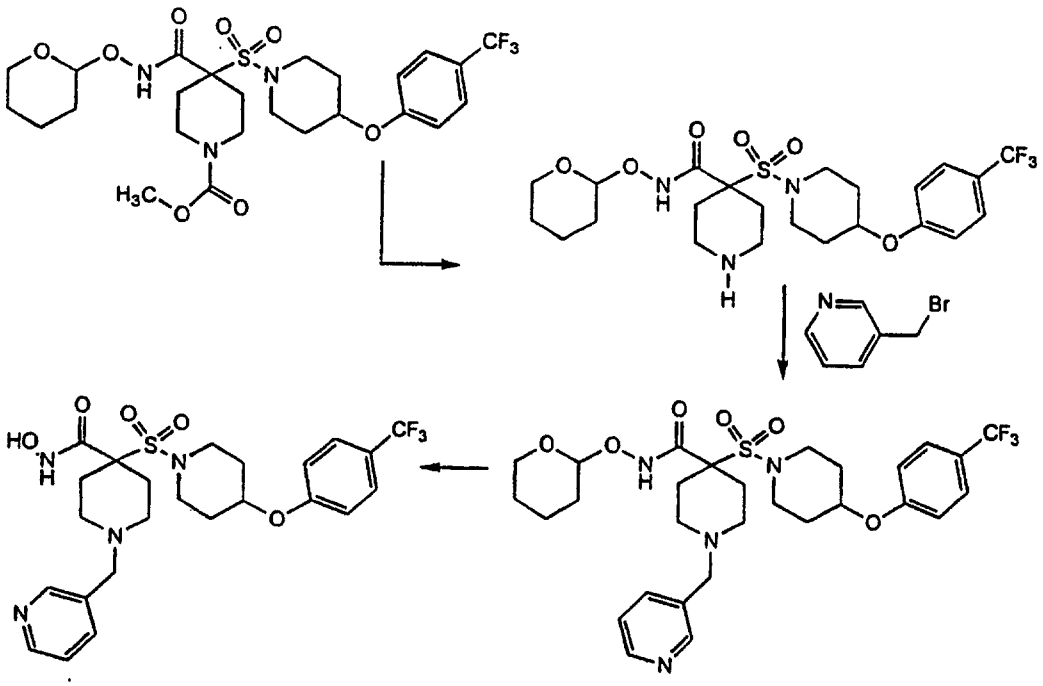


Scheme D

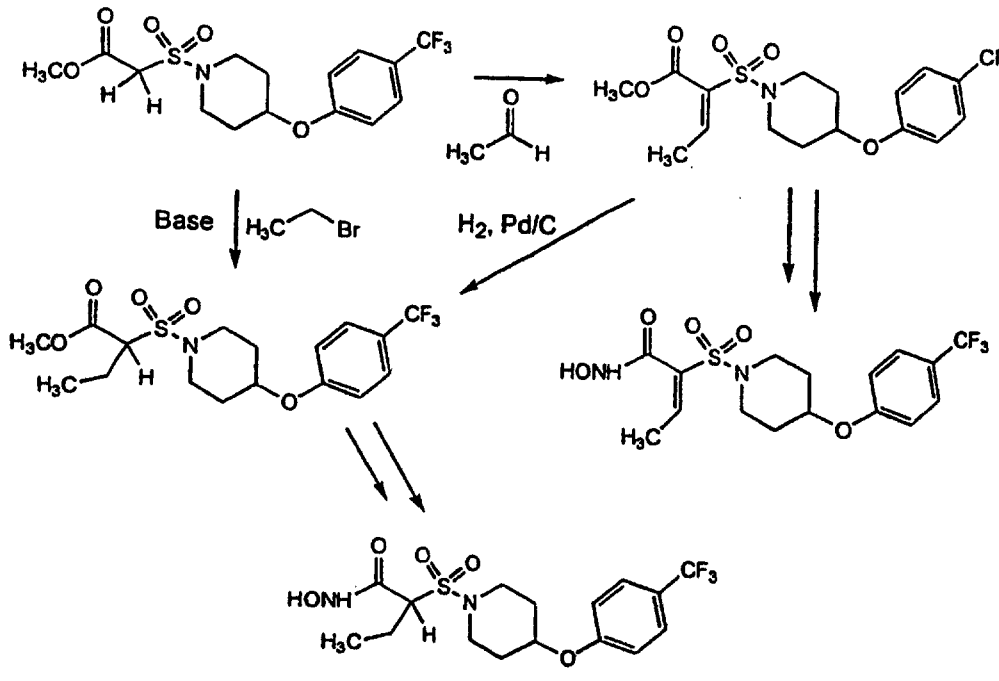


5

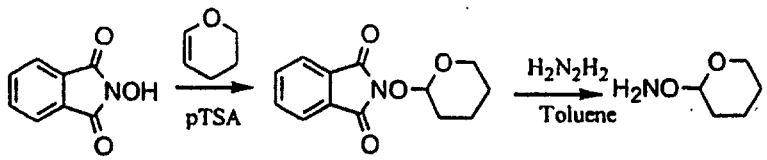
Scheme E-1

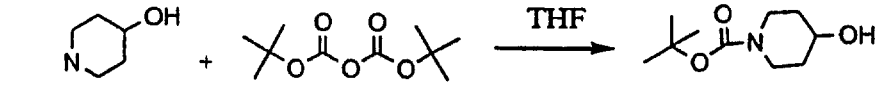


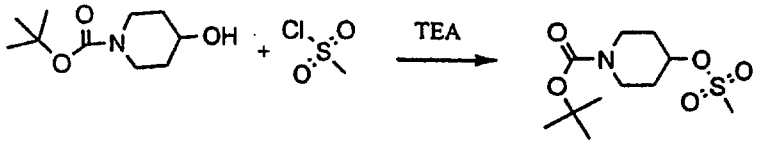
Scheme E-2

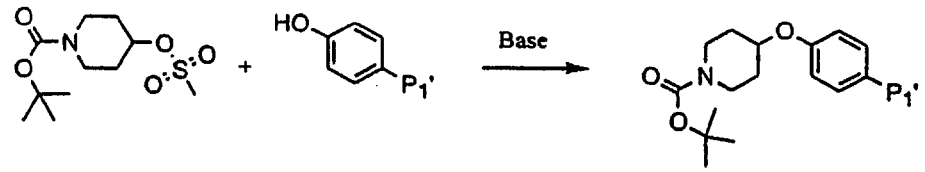


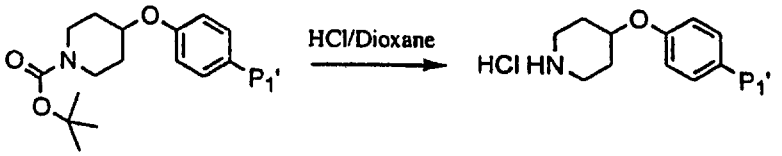
Scheme 5

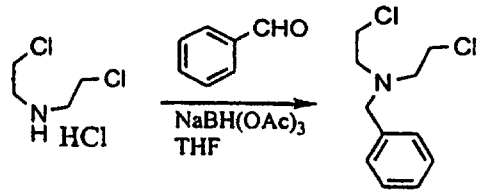


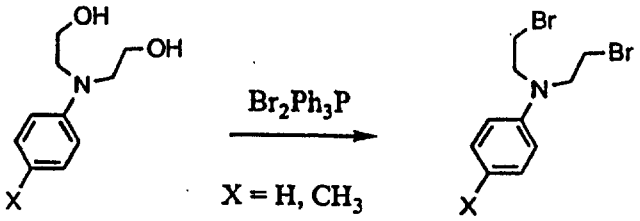


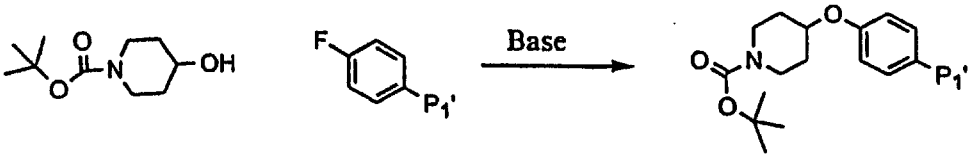








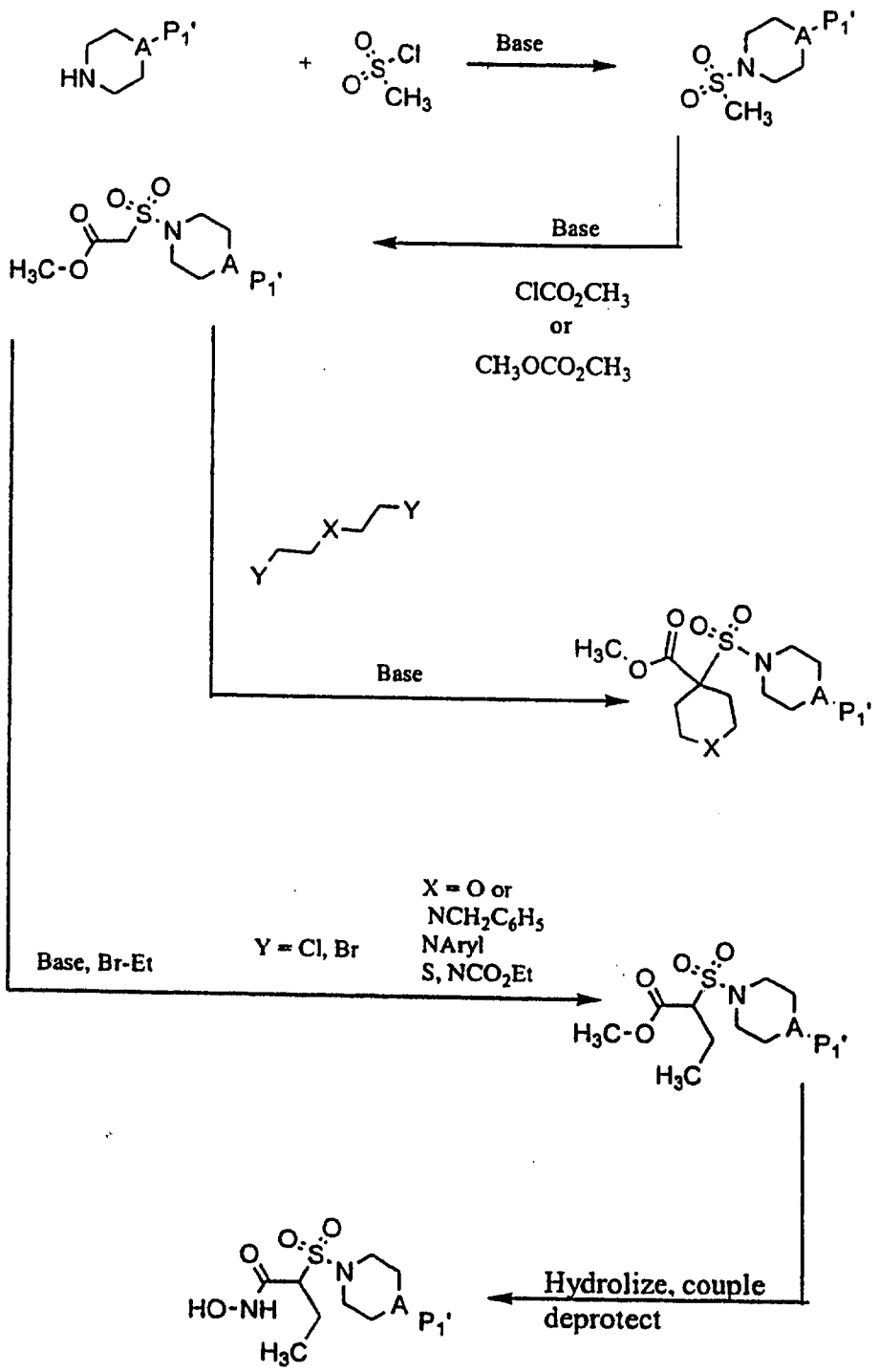




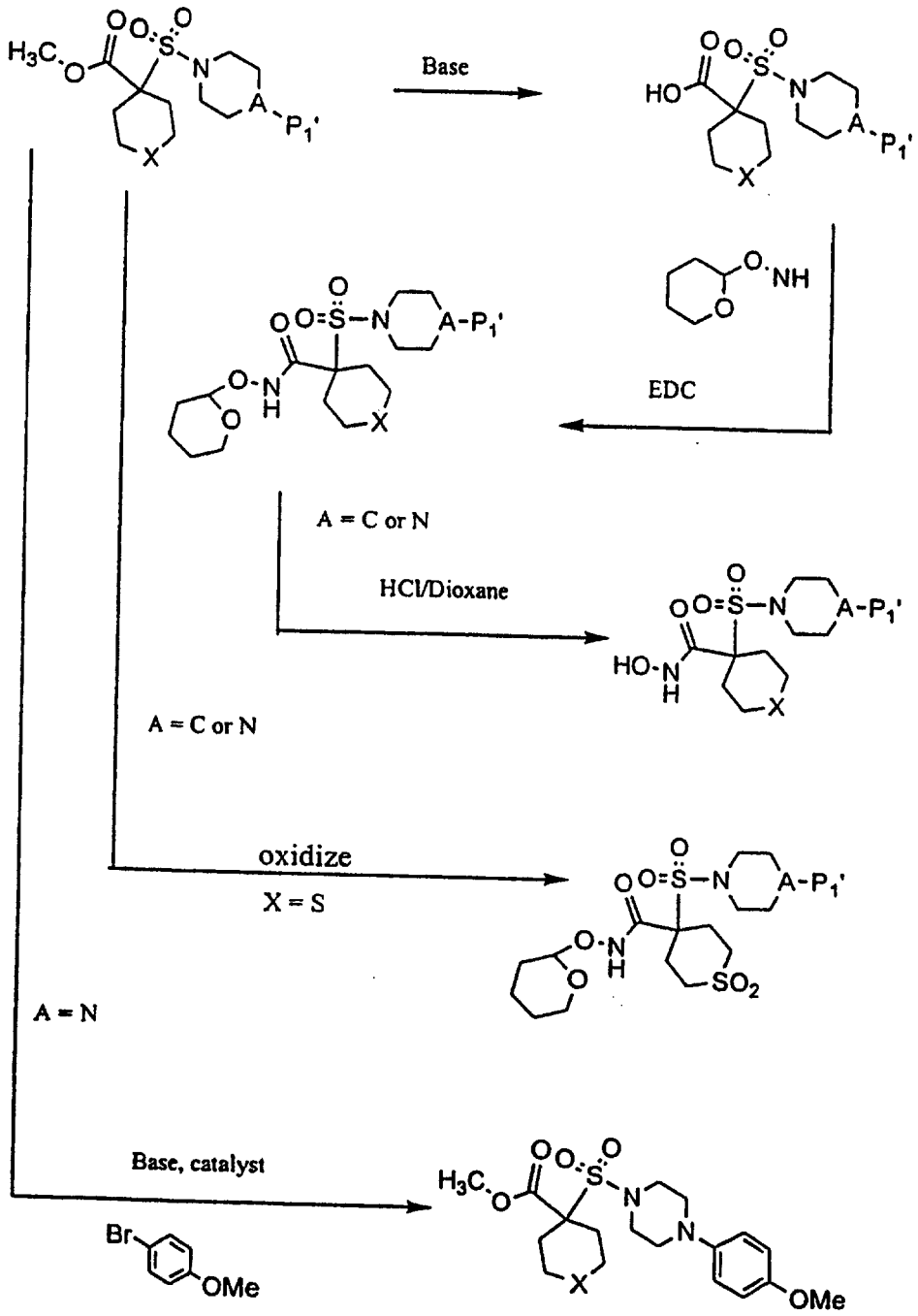
P1' = CF_3, NO_2

5

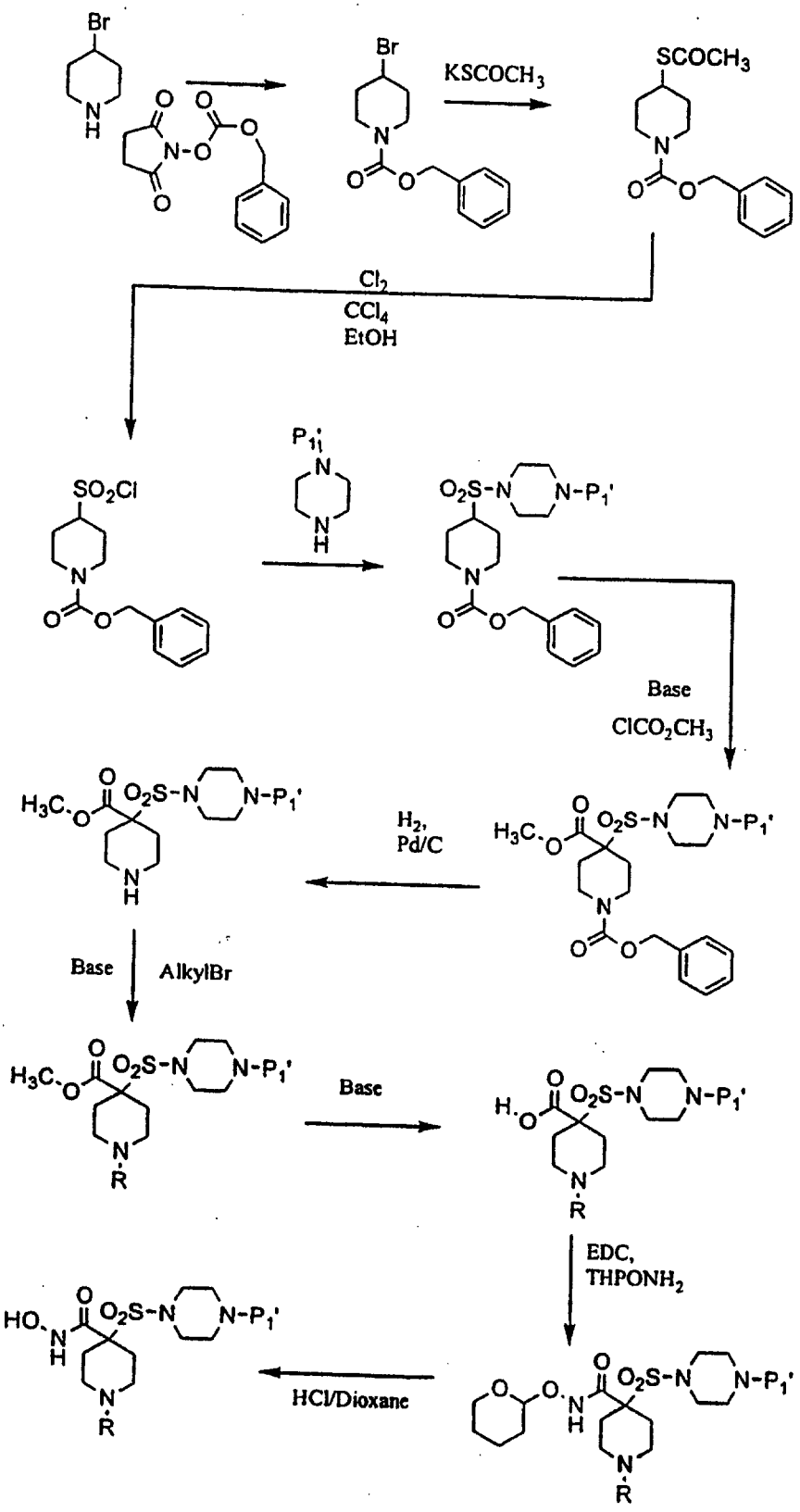
Scheme 6A


Base
Base
ClCO2CH3
or
CH3OCO2CH3
Base, Br-Et
Y = Cl, Br
X = O or
NCH2C6H5
NAryl
S, NCO2Et
Hydrolize, couple
deprotect

Scheme 6B


Base
EDC
A = C or N
HCl/Dioxane
A = C or N
oxidize
X = S
A = N
Base, catalyst
Br
OMe
OMe

Scheme 7


Br
KSCOCH3
SCOCH3
Cl2
CCl4
EtOH
SO2Cl
P1'
O2S-N
N-P1'
Base
ClCO2CH3
H3C
H2,
Pd/C
Base
AlkylBr
Base
EDC,
THPONH2
HO
HCl/Dioxane
R

As utilized herein, the term "alkyl", alone or in combination, means a straight-chain or branched-chain alkyl radical containing 1 to about 18 carbon atoms, preferably 1 to about 12 carbon atoms, and more preferably 1 to about 8 carbon atoms. Examples of such radicals include methyl, ethyl, n-propyl, isopropyl, n-butyl, isobutyl, sec-butyl, tert-butyl, pentyl, iso-amyl, hexyl, octyl and the like.

The term "alkenyl", alone or in combination, means a straight-chain or branched-chain hydrocarbon radical having one or more double bonds and containing 2 to about 18 carbon atoms preferably 2 to about 12 carbon atoms, and more preferably, 2 to about 8 carbon atoms. Examples of suitable alkenyl radicals include ethenyl (vinyl), 2-propenyl, 3-propenyl, 1,4-pentadienyl, 1,4-butadienyl, 1-butenyl, 2-butenyl, 3-butenyl, decenyl and the like.

The term "alkynyl", alone or in combination, means a straight-chain hydrocarbon radical having one or more triple bonds and containing 2 to about 18 carbon atoms, preferably 2 to about 12 carbon atoms, and more preferably, 2 to about 8 carbon atoms. Examples of alkynyl radicals include ethynyl, 2-propynyl, 3-propynyl, decynyl, 1-butynyl, 2-butynyl, 3-butynyl, and the like.

The term "carbonyl" or "oxo", alone or in combination, means a -C(=O)- group wherein the remaining two bonds (valences) can be independently substituted. The term carbonyl is also intended to encompass a hydrated carbonyl group $-C(OH)_2-$.

The term "thiol" or "sulfhydryl", alone or in combination, means a -SH group. The term "thio"

or "thia", alone or in combination, means a thiaether group; i.e., an ether group wherein the ether oxygen is replaced by a sulfur atom.

The term "amino", alone or in combination, means an amine or $-NH_2$ group whereas the term mono-substituted amino, alone or in combination, means a substituted amine -N(H)(substituent) group wherein one hydrogen atom is replaced with a substituent, and disubstituted amine means a $-N(substituent)_2$ wherein two hydrogen atoms of the amino group are replaced with independently selected substituent groups.

Amines, amino groups and amides are compounds that can be designated as primary (I°), secondary (II°) or tertiary (III°) or unsubstituted, mono-substituted or N,N-disubstituted depending on the degree of substitution of the amino nitrogen. Quaternary amine (ammonium)(IV°) means a nitrogen with four substituents $[-N^+(substituent)_4]$ that is positively charged and accompanied by a counter ion, whereas N-oxide means one substituent is oxygen and the group is represented as $[-N^+(substituent)_3-O^-]$; i.e., the charges are internally compensated.

The term "cyano", alone or in combination, means a -C-triple bond-N (-C≡N, nitrile) group. The term "azido", alone or in combination, means a -N-triple bond-N (-N≡N) group. The term "hydroxyl", alone or in combination, means a -OH group. The term "nitro", alone or in combination, means a $-NO_2$ group. The term "azo", alone or in combination, means a -N=N- group wherein the bonds at the terminal positions can be independently substituted.

The term "hydrazino", alone or in combination, means a -NH-NH- group wherein the depicted remaining two bonds (valences) can be independently substituted. The hydrogen atoms of the hydrazino group can be replaced, independently, with substituents and the nitrogen atoms can form acid addition salts or be quaternized.

The term "sulfonyl", alone or in combination, means a $-SO_2-$ group wherein the depicted remaining two bonds (valences) can be independently substituted. The term "sulfoxido", alone or in combination, means a -SO- group wherein the remaining two bonds (valences) can be independently substituted.

The term "sulfone", alone or in combination, means a $-SO_2-$ group wherein the depicted remaining two bonds (valences) can be independently substituted. The term "sulfenamide", alone or in combination, means a -SON= group wherein the remaining three depicted bonds (valences) can be independently substituted. The term "sulfide", alone or in combination, means a -S- group wherein the remaining two bonds (valences) can be independently substituted.

The term "alkoxy", alone or in combination, means an alkyl ether radical or redicals with one, two or three oxygen atoms wherein the term alkyl is as defined above. Examples of suitable alkyl ether radicals include methoxy, ethoxy, n-propoxy, isopropoxy, n-butoxy, iso-butoxy, sec-butoxy, tert-butoxy, methoxyethoxypropyl ($CH_3OCH_2CH_2OCH_2CH_2CH_2-$), 1,1-dimethoxyethane. 1,2-dimethoxyethane and the

like. The term "alkyloxy" is used to mean a substituted alkoxy group.

The term "cycloalkyl", alone or in combination, means a cyclic alkyl radical that contains 3 to about 8 carbon atoms. The term "cycloalkylalkyl" means an alkyl radical as defined above that is substituted by a cycloalkyl radical containing 3 to about 8, preferably 3 to about 6, carbon atoms. Examples of such cycloalkyl radicals include cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl and the like.

A heterocyclic (heterocyclo) group or the like alone or in combination is a saturated, unsaturated or partially unsaturated (non-aromatic) monocyclic, bicyclic or tricyclic heterocycle that contains one or more hetero atoms, typically one to three hetero atoms selected from nitrogen, oxygen and sulfur. A heterocyclic group can contain 4 to about 14 atoms in the one to three rings that also contain at least one nitrogen, oxygen or sulfur atom in addition to the carbon atoms. Preferably, a single ring is present and that ring contains 5 to 7 atoms and one hetero atom. Sulfur atoms, independently, may optionally be oxidized to, for example, -SO- or -SO_2-groups. Such a moiety can be optionally substituted on one or more ring carbon atoms by halogen, alkyl, alkoxy, oxo, and the like or as stated herein, and/or on a secondary nitrogen atom (i.e., -NH-) of the ring by alkyl, aralkoxycarbonyl, alkanoyl, aryl or arylalkyl or other groups listed herein or on a tertiary nitrogen atom (i.e., =N-) by oxido and that is attached via a carbon atom. The tertiary nitrogen atom with three substituents can

also attached to form a N-oxide [=N(O)-] group. A "heterocycloalkyl" group is an alkyl group substituted with a heterocyclo group.

The term "aryl", alone or in combination, means a 5- or 6-membered carbocyclic aromatic ring-containing moiety or a fused ring system containing two or three rings that have all carbon atoms in the ring; i.e., a carbocyclic aryl radical. Exemplary carbocyclic aryl radicals include phenyl, indenyl and naphthyl radicals.

The term "biaryl", alone or in combination means an aryl ring as define herein connected directly by a single bond to further aryl rings. Exemplary biaryl radicals include phenyl-phenyl (biphenyl), 2-phenylnapthlenyl and phenylindenyl and 1-phenyl-anthracenyl radicals.

The term "heteroaryl" alone or in combination means a 5- or 6-membered aromatic ring-containing moiety or a fused ring system (radical) containing two or three rings that have carbon atoms and also one or more heteroatoms in the ring(s) such as sulfur, oxygen and nitrogen. Sulfur atoms, independently, may optionally be oxidized to, for example, -SO- or $-SO_2$-groups. Nitrogen atoms, independently, may be optionally oxidzed to, for example, N-oxide groups or quaternized. Examples of such heterocyclic or heteroaryl groups are pyrrolidinyl, piperidyl, piperazinyl, morpholinyl, thiamorpholinyl, pyrrolyl, imidazolyl (e.g., imidazol-4-yl, 1-benzyloxycarbonylimidazol-4-yl, and the like), pyrazolyl, pyridyl, pyridyl-N-oxide, pyrazinyl, pyrimidinyl, furyl, tetrahydrofuryl, thienyl, thienyl-S-oxide, triazolyl, oxazolyl,

oxadiazoyl, thiazolyl, thiadiazoyl, indolyl (e.g., 2-indolyl, and the like), quinolinyl, (e.g., 2-quinolinyl, 3-quinolinyl, 1-oxido-2-quinolinyl, and the like), isoquinolinyl (e.g., 1-isoquinolinyl, 3-isoquinolinyl, and the like), tetrahydroquinolinyl (e.g., 1,2,3,4-tetrahydro-2-quinolyl, and the like), 1,2,3,4-tetrahydroisoquinolinyl (e.g., 1,2,3,4-tetrahydro-1-oxo-isoquinolinyl, and the like), quinoxalinyl, β-carbolinyl, 2-benzofurancarbonyl, benzothiophenyl, 1-, 2-, 4- or 5-benzimidazolyl, and the like radicals.

The term " heterocyclocarbonyl ", alone or in combination, means a heterocyclogroup attached to a -(C=O)- group.

The term " heterocyclooxycarbony ", alone or in combination, means a heterocyclogroup attached to a -O(C=O)- group.

The term " heterocycloalkoxycarbony ", alone or in combination, means a heterocyclogroup attached to a -alkylO(C=O)- group.

The term " heterocycloalkyl", alone or in combination, means a heterocyclogroup attached to an alkyl group.

The term "aralkyl", alone or in combination, means an alkyl radical as defined above in which one hydrogen atom is replaced by an aryl radical as defined above, such as benzyl, 2-phenylethyl and the like.

The term "aralkoxycarbonyl", alone or in combination, means a radical of the formula aralkyl-O-C(O)- in which the term "aralkyl" has the significance given above. An example of an aralkoxycarbonyl radical is benzyloxycarbonyl.

The term "aryloxy" means a radical of the formula aryl-O- in which the term aryl has the significance given above. The phenoxy radical is an exemplary aryloxy radical.

The terms "heteroaralkyl" and "heteroaryloxy" mean radicals structurally similar to aralkyl and aryloxy that are formed from heteroaryl radicals. Exemplary radicals include 4-picolinyl and 2-pyrimidinoxy, respectively.

The terms "alkanoyl" or "alkylcarbonyl", alone or in combination, means an acyl radical derived from an alkanecarboxylic acid, examples of which include formyl, acetyl, propionyl, butyryl, valeryl, 4-methylvaleryl, and the like.

The term "cycloalkylcarbonyl" means an acyl group derived from a monocyclic or bridged cycloalkanecarboxylic acid such as cyclopropanecarbonyl, cyclohexanecarbonyl, adamantanecarbonyl, and the like, or from a benz-fused monocyclic cycloalkanecarboxylic acid that is optionally substituted by, for example, alkanoylamino, such as 1,2,3,4-tetrahydro-2-naphthoyl, 2-acetamido-1,2,3,4-tetrahydro-2-naphthoyl.

The terms "aralkanoyl" or "aralkylcarbonyl" mean an acyl radical derived from an aryl-substituted alkanecarboxylic acid such as phenylacetyl, 3-phenylpropionyl (hydrocinnamoyl), 4-phenylbutyryl, (2-naphthyl)acetyl, 4-chlorohydrocinnamoyl, 4-aminohydrocinnamoyl, 4-methoxyhydrocinnamoyl and the like.

The terms "aroyl" or "arylcarbonyl" means an acyl radical derived from an aromatic carboxylic

acid. Examples of such radicals include aromatic carboxylic acids, an optionally substituted benzoic or naphthoic acid such as benzoyl, 4-chlorobenzoyl, 4-carboxybenzoyl, 4-(benzyloxycarbonyl)benzoyl, 1-naphthoyl, 2-naphthoyl, 6-carboxy-2 naphthoyl, 6-(benzyloxycarbonyl)-2-naphthoyl, 3-benzyloxy-2-naphthoyl, 3-hydroxy-2-naphthoyl, 3-(benzyloxyformamido)-2-naphthoyl, and the like.

The term "cycloalkylalkoxycarbonyl" means an acyl group of the formula cycloalkylalkyl-O-CO- wherein cycloalkylalkyl has the significance given above. The term "aryloxyalkanoyl" means an acyl radical of the formula aryl-O-alkanoyl wherein aryl and alkanoyl have the significance given above. The term "heterocyclooxycarbonyl" means an acyl group having the formula heterocyclo-O-CO- wherein heterocyclo is as defined above.

The term "heterocycloalkanoyl" is an acyl radical of the formula heterocyclo-substituted alkane carboxylic acid wherein heterocyclo has the significance given above. The term "heterocycloalkoxycarbonyl" means an acyl radical of the formula heterocyclo-substituted alkane-O-CO- wherein heterocyclo has the significance given above. The term "heteroaryloxycarbonyl" means an acyl radical represented by the formula heteroaryl-O-CO- wherein heteroaryl has the significance given above.

The term "aminocarbonyl" (carboxamide) alone or in combination, means an amino-substituted carbonyl (carbamoyl) group derived from an amine reacted with a carboxylic acid wherein the amino (amido nitrogen) group is unsubstituted (-NH_2) or a substituted primary or secondary amino group

containing one or two substituents selected from the group consisting of hydrogen, alkyl, aryl, aralkyl, cycloalkyl, cycloalkylalkyl radicals and the like, as recited. A hydroxamate is a N-hydroxycarboxamide.

The term "aminoalkanoyl" means an acyl group derived from an amino-substituted alkanecarboxylic acid wherein the amino group can be a primary or secondary amino group containing substituents independently selected from hydrogen, alkyl, aryl, aralkyl, cycloalkyl, cycloalkylalkyl radicals and the like.

The term "halogen" means fluoride, chloride, bromide or iodide. The term "haloalkyl" means an alkyl radical having the significance as defined above wherein one or more hydrogens are replaced with a halogen. Examples of such haloalkyl radicals include chloromethyl, 1-bromoethyl, fluoromethyl, difluoromethyl, trifluoromethyl, 1,1,1-trifluoroethyl and the like.

The term "perfluoroalkyl" means an alkyl group wherein each hydrogen has been replaced by a fluorine atom. Examples of such perfluoroalkyl groups, in addition to trifluoromethyl above, are perfluorobutyl, perfluoroisopropyl, perfluorododecyl and perfluorodecyl.

The term "perfluoroalkoxy" alone or in combination, means a perfluoroalkyl ether radical wherein the term perfluoroalkyl is as defined above. Examples of such perfluoroalkoxy groups, in addition to trifluoromethoxy (F_3C-O-), are perfluorobutoxy, perfluoroisopropoxy, perfluorododecoxy and perfluorodecoxy.

The term "perfluoroalkylthio" alone or in combination, means a perfluoroalkyl thioether radical wherein the term perfluoroalkyl is as defined above. Examples of such perfluoroalkylthio groups, in addition to trifluoromethylthio (F_3C-S-), are perfluorobutylthio, perfluoroisopropylthio, perfluorododecylthio and perfluorodecylthio.

The term "aromatic ring" in combinations such as substituted-aromatic ring sulfone or substituted-aromatic ring sulfoxide means aryl or heteroaryl as defined before.

Compounds contemplated herein can possess one or more asymmetric carbon atoms and are thus capable of existing in the form of optical isomers, enantiomers, diastereoisomers, as well as in the form of racemic or nonracemic mixtures. A compound can also exist in other isomeric forms such as ortho, meta and para isomers, cis and trans isomers, syn and anti isomers, E and Z isomers, tautomeric isomers, alpha and beta isomers, axial and equatorial isomers and isomers due to hindered rotation. An isomer can exist in equilibrium with another isomer in a mammal or a test system. Such isomeric equiliberia can also occur during synthesis, storage, formulation, as formulated pharmaceuticals, as liquids, solutions, solids, polymorphs and the like. Such a compound can also exist as an isomeric equilibrium system with a solvent or water, for example, as a hydrated ketone or aldehyde, hemiketal, hemiacetal, ketal, acetal or other class or type of solvate as is well known in the art. All isomers are included as compounds of this invention.

The chemical reactions described herein are generally disclosed in terms of their broadest application to the preparation of the compounds of this invention. Occasionally, the reactions may not be applicable as described to each compound included within the disclosed scope. The compounds for which this occurs will be readily recognized by those skilled in the art. In all such cases, either the reactions can be successfully performed by conventional modifications known to those skilled in the art, e.g., by appropriate protection of interfering groups, by changing to alternative conventional reagents, by routine modification of reaction conditions, and the like, or other reactions disclosed herein or otherwise conventional, are applicable to the preparation of the corresponding compounds that are contemplated.

"M" utilized in the reaction schemes that follow represents a leaving group such as halogen, phosphate ester or sulfate ester.

It is understood that the definition of the compounds of the various formulas herein that contain asymmetric carbons, encompass all possible stereoisomers and mixtures thereof that posses the activity discussed herein. In particular, it encompasses racemic modifications and any optical isomers which possesses the indicated activity. Optical isomers can be obtained in pure form by standard separation techniques.

Treatment Process

A process for treating a host mammal having a condition associated with pathological matrix

metalloprotease activity is also contemplated. That process comprises administering a compound described hereinbefore in an MMP enzyme-inhibiting effective amount to a mammalian host having such a condition. The use of administration repeated a plurality of times is particularly contemplated.

A contemplated compound is used for treating a host mammal such as a mouse, rat, rabbit, dog, horse, primate such as a monkey, chimpanzee or human that has a condition associated with pathological matrix metalloprotease activity.

Also contemplated is the similar use of a contemplated compound in the treatment of a disease state that can be affected by the activity of metalloproteases such as TNF-α convertase or a member of the adamalysin family of enzymes such as ADAM 10. Exemplary of such disease states are the acute phase responses of shock and sepsis, coagulation responses, hemorrhage and cardiovascular effects, fever and inflammation, anorexia and cachexia.

In treating a disease condition associated with pathological matrix metalloproteinase activity, a contemplated MMP inhibitor compound can be used, where appropriate, in the form of a pharmaceutically acceptable amine salt derived from an inorganic or organic acid. Exemplary acid salts include but are not limited to the following: acetate, adipate, alginate, citrate, aspartate, benzoate, benzenesulfonate, bisulfate, butyrate, camphorate, camphorsulfonate, digluconate, cyclopentane-propionate, dodecylsulfate, ethanesulfonate, formate. glutamate, glucoheptanoate, gluconate, glucurantae, glycerophosphate, hemisulfate, heptanoate, hexanoate,

fumarate, hydrochloride, hydrobromide, hydroiodide, 2-hydroxyethanesulfonate, isocitrate, lactate, malate, maleate, methanesulfonate, nicotinate, 2-naphthalenesulfonate, oxalate, oxalacetate, palmoate, pectinate, persulfate, 3-phenylpropionate, phosphate, monohydrogen phosphate, dihydrogen phosphate, picrate, pivalate, propionate, pyruvate, succinate, tartrate, thiocyanate, tosylate, mesylate and undecanoate.

Also, a basic nitrogen-containing group can be quaternized with such agents as lower alkyl (C_1-C_6) halides, such as methyl, ethyl, propyl, and butyl chloride, bromides, and iodides; dialkyl sulfates like dimethyl, diethyl, dibuytl, and diamyl sulfates, long chain (C_8-C_{20}) halides such as decyl, lauryl, myristyl and dodecyl chlorides, bromides and iodides, aralkyl halides like benzyl and phenethyl bromides, and others to provide enhanced water-solubility. Water or oil-soluble or dispersible products are thereby obtained as desired. The salts are formed by combining the basic compounds with the desired acid.

Other compounds useful in this invention that are acids can also form pharmaceutically acceptable salts. Pharmaceutically acceptable cations include metallic ions and organic ions. More preferred metallic ions include, but are not limited to appropriate alkali metal (Group Ia) salts, alkaline earth metal (Group IIa) salts and other physiological acceptable metal ions. Exemplary ions include aluminum, calcium, lithium, magnesium, potassium, sodium and zinc in their usual valences. Preferred organic ions include protonated tertiary amines and

quaternary ammonium cations, including in part, trimethylamine, diethylamine, N,N'-dibenzyl-ethylenediamine, chloroprocaine, choline, diethanolamine, ethylenediamine, meglumine (N-methylglucamine) and procaine.

The term "pharmaceutically acceptable" is used adjectivally herein to mean that the modified noun is appropriate for use in a pharmaceutical product.

In some cases, the salts can also be used as an aid in the isolation, purification or resolution of the compounds of this invention.

Total daily dose administered to a host mammal in single or divided doses of an MMP enzyme-inhibiting effective amount can be in amounts, for example, of about 0.001 to about 100 mg/kg body weight daily, preferably about 0.001 to about 30 mg/kg body weight daily and more usually about 0.01 to about 10 mg. Dosage unit compositions can contain such amounts or submultiples thereof to make up the daily dose.

A suitable dose can be administered, in multiple sub-doses per day. Multiple doses per day can also increase the total daily dose, should such dosing be desired by the person prescribing the drug. Such composition can be administered 1 to 6 times a day, more usually 1 to 4 times a day.

The dosage regimen for treating a disease condition with a compound and/or composition of this invention is selected in accordance with a variety of factors, including the type, age, weight, sex, diet and medical condition of the patient, the severity of the disease, the route of administration,

pharmacological considerations such as the activity, efficacy, pharmacokinetic and toxicology profiles of the particular compound employed, whether a drug delivery system is utilized and whether the compound is administered as part of a drug combination. Thus, the dosage regimen actually employed can vary widely and therefore can deviate from the preferred dosage regimen set forth above.

A compound useful in the present invention can be formulated as a pharmaceutical composition. Such a composition can then be administered orally, which is preferred, parenterally, by inhalation spray, rectally, or topically in dosage unit formulations containing conventional nontoxic pharmaceutically acceptable carriers, adjuvants, and vehicles as desired. Topical administration can also involve the use of transdermal administration such as transdermal patches or iontophoresis devices. The term parenteral as used herein includes subcutaneous injections, intravenous, intramuscular, intrasternal injection, or infusion techniques. Formulation of drugs is discussed in, for example, Hoover, John E., Remington's Pharmaceutical Sciences, Mack Publishing Co., Easton, Pennsylvania; 1975 and Liberman, H.A. and Lachman, L., Eds., Pharmaceutical Dosage Forms, Marcel Decker, New York, N.Y., 1980.

Injectable preparations, for example, sterile injectable aqueous or oleaginous suspensions can be formulated according to the known art using suitable dispersing or wetting agents and suspending agents. The sterile injectable preparation can also be a sterile injectable solution or suspension in a nontoxic parenterally acceptable diluent or solvent,

for example, as a solution in 1,3-butanediol. Among the acceptable vehicles and solvents that can be employed are water, Ringer's solution, and isotonic sodium chloride solution. In addition, sterile, fixed oils are conventionally employed as a solvent or suspending medium. For this purpose any bland fixed oil can be employed including synthetic mono- or diglycerides. In addition, fatty acids such as oleic acid find use in the preparation of injectables. Dimethyl acetamide, surfactants including ionic and non-ionic detergents, polyethylene glycols can be used. Mixtures of solvents and wetting agents such as those discussed above are also useful.

Suppositories for rectal administration of the drug can be prepared by mixing the drug with a suitable nonirritating excipient such as cocoa butter, synthetic mono- di- or triglycerides, fatty acids and polyethylene glycols that are sold at ordinary temperatures but liquid at the rectal temperature and will therefore melt in the rectum and release the drug.

Solid dosage forms for oral administration can include capsules, tablets, pills, powders, and granules. In such solid dosage forms, the compounds of this invention are ordinarily combined with one or more adjuvants appropriate to the indicated route of administration. If administered *per os*, the compounds can be admixed with lactose, sucrose, starch powder, cellulose esters of alkanoic acids, cellulose alkyl esters, talc, stearic acid, magnesium stearate, magnesium oxide, sodium and calcium salts of phosphoric and sulfuric acids, gelatin, acacia

gum, sodium alginate, polyvinylpyrrolidone, and/or polyvinyl alcohol, and then tableted or encapsulated for convenient administration. Such capsules or tablets can contain a controlled-release formulation as can be provided in a dispersion of active compound in hydroxypropylmethyl cellulose. In the case of capsules, tablets, and pills, the dosage forms can also comprise buffering agents such as sodium citrate, magnesium or calcium carbonate or bicarbonate. Tablets and pills can additionally be prepared with enteric coatings.

For therapeutic purposes, formulations for parenteral administration can be in the form of aqueous or non-aqueous isotonic sterile injection solutions or suspensions. These solutions and suspensions can be prepared from sterile powders or granules having one or more of the carriers or diluents mentioned for use in the formulations for oral administration. The compounds can be dissolved in water, polyethylene glycol, propylene glycol, ethanol, corn oil, cottonseed oil, peanut oil, sesame oil, benzyl alcohol, sodium chloride, and/or various buffers. Other adjuvants and modes of administration are well and widely known in the pharmaceutical art.

Liquid dosage forms for oral administration can include pharmaceutically acceptable emulsions, solutions, suspensions, syrups, and elixirs containing inert diluents commonly used in the art, such as water. Such compositions can also comprise adjuvants, such as wetting agents, emulsifying and suspending agents, and sweetening, flavoring, and perfuming agents.

The amount of active ingredient that can be combined with the carrier materials to produce a single dosage form varies depending upon the mammalian host treated and the particular mode of administration.

Best Mode for Carrying Out the Invention

Without further elaboration, it is believed that one skilled in the art can, using the preceding description, utilize the present invention to its fullest extent. The following preferred specific embodiments are, therefore, to be construed as merely illustrative, and not limiting of the remainder of the disclosure in any way whatsoever.

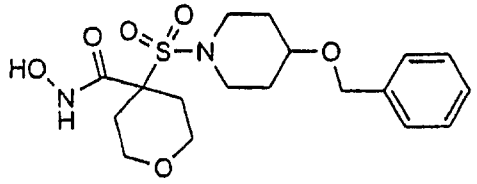
Abbreviations are often used for reagents and solvents in the specific examples that follow. Those abbreviations and their meanings are as follows:

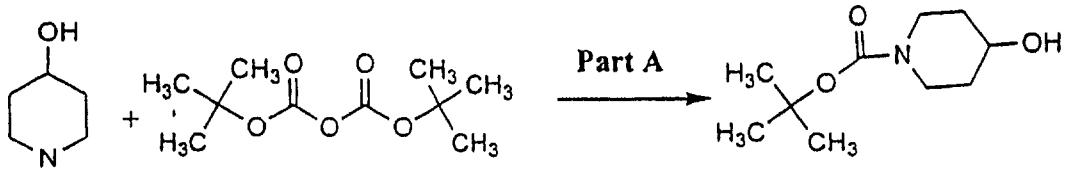
BOC = t-butoxycarbonyl
DEAD = diethyl azodicarboxylate
DMF = dimethylformamide
DMPU = 1,3-dimethyl-3,4,5,6-tetrahydro-2(1H)-pyrimidinone
EtOAc = ethyl acetate
EDC = 1-ethyl-3-[3-(dimethylamino)-propyl]carbodiimide hydrochloride
Et_2O = diethyl ether
HOBT = 1-hydroxybenzotriazole
MeOH = methanol
$MeCl_2$ = methylene chloride
MsCl = methanesulfonyl chloride
NMM = N-methyl morpholine
THF = tetrahydrofruan

TsCl = toluenesulfonyl chloride

THP-O-hydroxylamine = O-tetrahydropyran-hydroxylamine and O-tetrahydro-2H-pyran-2-yl-hydroxylamine

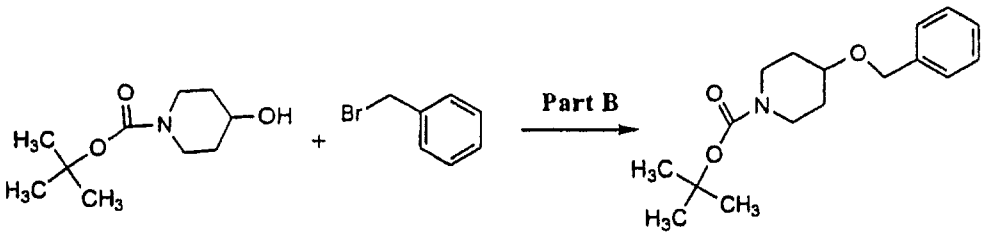
Example 1: Preparation of





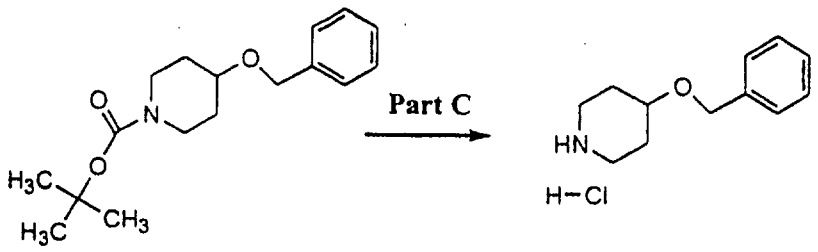
Part A: To a slurry of 4-hydroxypiperadine (46.3 g, 458 mmol) in tetrahydrofuran (400 mL) was added triethylamine (67 mL, 481 mmol), followed by slow addition of a solution of di-tert-butyl-dicarbonate (100 g, 458 mmol) in tetrahyrdofuran (200 mL). The temperature was monitored and maintained below 32°C. The mixture was stirred for 4 hours before working up. Work up comprised stripping the tetrahydrofuran by rotary evaporation and taking the residue up in ethyl acetate (300 mL). The organic was then washed with 5% $KHSO_4$ (3x-150 mL), saturated $NaHCO_3$ (3x- 150 mL), and brine (2x-150 mL). The organic portion was then dried over anhydrous $MgSO_4$,

filtered, and concentrated to afford a crude yellow oil. The oil was crystallized from hexanes providing the N-BOC-4-hydroxypiperidine product as a tan solid (86 g, 93% yield). ^{1}H NMR showed the desired compound.

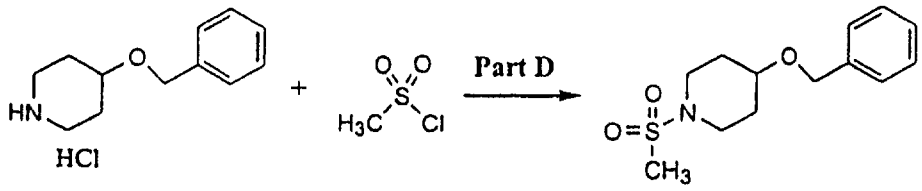


Part B: To a slurry of NaH (60% oil dispersion, 2.4 g, 60 mmol) in N,N-dimethylformamide (DMF; 70 mL) cooled to zero degrees C under N_2 was slowly added a solution of the N-BOC-4-hydroxypiperidine product from Part A (10 g, 50 mmol) in DMF (20 mL). The temperature was monitored and maintained at < 5°C. The mixture was stirred 15 minutes before slowly adding a solution of benzyl bromide (9 mL, 60 mmol) in DMF (10 mL), keeping temperature at < 10°C. The reaction was allowed to come to room temperature and was stirred 12 hours. To quench, the reaction was cooled to zero degrees C and H_2O (50 mL) was added. Work up comprised stripping the solvents by rotary evaporation and dissolving the residue in ethyl acetate (150 mL) and H_2O (100 mL). The layers were separated and the aqueous was extracted via ethyl acetate (2x- 150 mL). The organic portions were washed with saturated $NaHCO_3$ (2x-100 mL), H_2O (1x-150 mL), and brine (1x- 150 mL), then dried over Na_2SO_4, filtered, and concentrated to afford a crude oil (18 g, 100+% crude yield). ^{1}H NMR showed the desired

compound along with the benzyl bromide starting material.

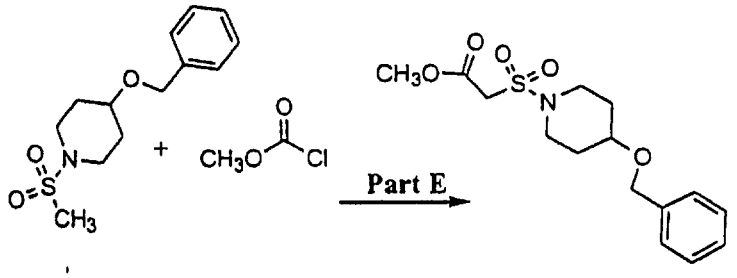


Part C: To a solution of the crude product of Part B in 1,4-dioxane (10 mL) was added 4N HCl in dioxane (50 mL, 200 mmol). The mixture stirred at room temperature until starting material was gone by LC (~1 h). The solvents were then stripped and the residue was slurried in diethyl ether and filtered. The solid was washed with diethyl ether (2x-50 mL) and dried *in vacuo* to afford a white solid (11.5 g, 100% yield). ^{1}H NMR showed the desired compound as the HCl salt.



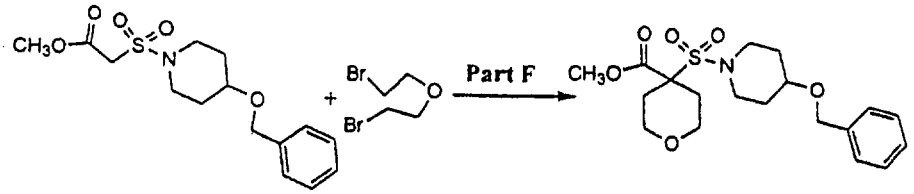
Part D: The HCl salt of Part C (10g, 44 mmol) and triethylamine (15.3 mL, 110 mmol) were slurried in CH_2Cl_2 (170 mL) and cooled to zero degrees C. A solution of methane sulfonyl chloride (5.1 mL, 66 mmol) in CH_2Cl_2 (50 mL) was slowly added, maintaining the temperature below 10°C with an ice bath. After the addition, the ice bath was removed and the reaction stirred for 1 hour as it came to room

temperature. After the disappearance of the starting material, the solvent was stripped and the residue was dissolved in ethyl acetate (100 mL) and H_2O (30 mL). Once separated, the organic layer was washed with 5% $KHSO_4$ (3x-50 mL) and brine (1x- 50 mL). The organic layer was then dried over Na_2SO_4, filtered, and concentrated to afford an oily solid that was recrystallized from diethylether and hexanes, affording an off-white solid (12.3 g, 95% yield), SC 79767. ^1H NMR showed the desired compound. HPLC showed 100% at t_r= 12.1 minutes.

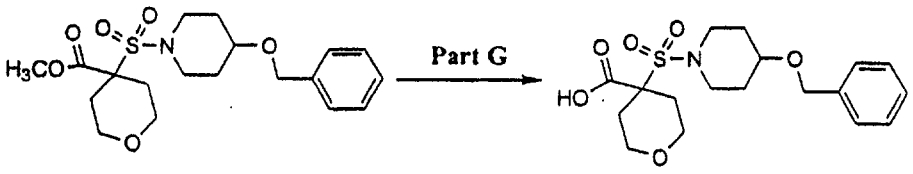


Part E: Oven-dried glassware was charged with the product of Part D (5.0 g, 16.9 mmol) and tetrahydrofuran (34 mL) and the composition was cooled to -75°C. Lithium bis(trimethylsilyl)amide (1.0 M in tetrahydrofuran, 34 mL, 34 mmol) was slowly added, keeping temperature < -60°C. Reaction was stirred for 30 minutes after the addition, and was then charged with a solution of methyl chloroformate (1.3 mmol, 16.9 mmol) in tetrahydrofuran (17 mL), again keeping the temperature < -60°C. After stirring for 1 hour at -75°C, the reaction was quenched with saturated NH_4Cl, keeping temperature < -20°C. The aqueous portion froze into a solid chunk of ice. After warming to 5°C, the mixture was extracted with ethyl acetate (3x- 200 mL). The resulting organic

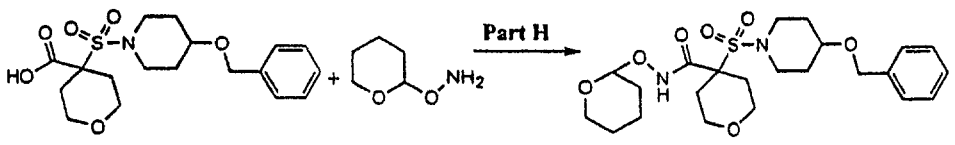
portions were washed with saturated NH_4Cl (2x-100 mL) and brine (1x-100mL), then dried over Na_2SO_4 and concentrated to afford the depicted product as a tan oil (5.0 g, 91% crude yield). ^1H NMR showed the desired compound with some starting material present. HPLC showed 90% at t_r= 13.9 minutes, 10% at 12.1 minutes.



Part F: To a solution of the product of Part E (4.5 g, 13.7 mmol) and dibromodiethylether (1.9 mL, 15.1 mmol) in DMF (28 mL) was added 18-Crown-6 (500 mg, cat.) followed by potassium carbonate (3.8 g, 27.4 mmol). The mixture was heated at 60°C for 4 hours after which more potassium carbonate (1.9 g, 13.7 mmol) was added, and the reaction continued at 60°C for 14 hours. Liquid chromatography showed <10% starting material remained. The reaction was worked up by pouring into stirring 10% HCl_{aq} (200 mL). A gummy solid resulted that was extracted with ethyl acetate (3x- 300 mL). The resulting organic portions were washed with brine (2x- 200 mL), dried over Na_2SO_4, and concentrated to afford a dark brown oil. The product was crystallized from diethylether and hexanes. The product was dried to afford the pyran methyl ester as an orange solid (3.7 g, 69% yield). ^1H NMR showed the desired compound. HPLC showed 96% at t_r=25.2 minutes.

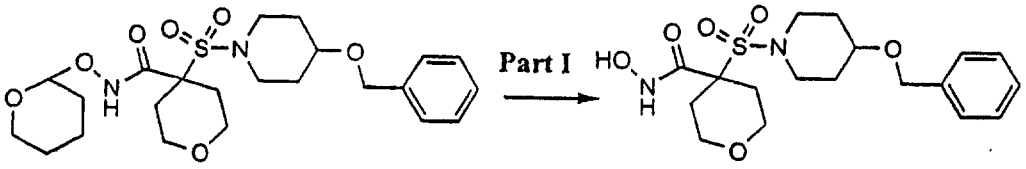


Part G: To a solution of the product of Part F (3.5 g, 8.8 mmol) in tetrahydrofuran (20 mL) was added potassium trimethylsilonate (2.7 g, 21.1 mmol). The reaction stirred overnight (about eighteen hours) at room temperature. Liquid chromatography showed that < 3% starting material remained. Work up comprised stripping the tetrahydrofuran and taking the residue up in H_2O (100 mL). The solution was washed with diethylether (50 mL). The aqueous portion was then cooled to zero degrees C and 10% HCl_{aq} was slowly added until about pH 3. The acidic mixture was then extracted with ethyl acetate (3x-150 mL). The organic portions were washed with brine (1x- 100 mL), dried over Na_2SO_4, and concentrated to afford a wet solid. The solid was dried *in vacuo* with phosphorous pentoxide yielding an orange solid (2.4 g, 72% yield). ^1H NMR showed the desired carboxylic acid compound. HPLC showed 97% at t_r=21.3 minutes.



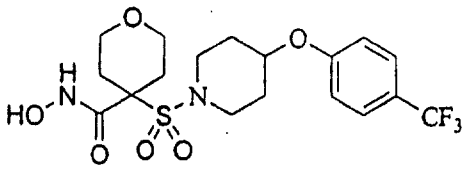
Part H: To a solution of the Part G acid product (2.4 g, 6.2 mmol) in dimethylacetamide (10 mL) was added N-methylmorpholine (2.0 mL, 18.6 mmol) followed by N-hydroxybenzotriazole hydrate (1.0 g,

7.4 mmol), O-(tetrahydro-2H-pyran-2-yl)hydroxylamine (1.1 g, 9.4 mmol), and 1-(3-dimethylaminopropyl)-3-ethylcarbodiimide hydrochloride (1.8 g, 9.4 mmol). The mixture stirred overnight (about eighteen hours) and was then stripped of solvent. The residue was dissolved in ethyl acetate (250 mL) and washed with 5% $NaHSO_4$ (1x- 150 mL), saturated potassium carbonate (1x-150 mL), and brine (1x-150 mL). The organic portions were then dried over Na_2SO_4 and concentrated to afford a viscous oil (3.2g, 100+% crude yield). ^1H NMR showed the desired compound. HPLC showed 95% at t_r=23.5 minutes.



Part I: The crude oil product of Part H (3.0 g, 6.2 mmol) was dissolved in acetonitrile (10 mL) and stirred with 10% HCl_{aq} (15 mL) for 2 hours at which time liquid chromatography showed no more starting material present. The acetonitrile was removed using an N_2 stream, affording a solid that was collected, washed with H_20 (1x-20 mL), and dried *in vacuo* to afford the product as a tan solid (1.6 g, 64% yield). ^1H NMR showed the desired compound. HPLC showed 99% at t_r=18.8 minutes. Mass spectroscopy showed M^{+H}_{found} = 399 (M^{+H}_{calc} = 399).

Example 2: Preparation of tetrahydro-N-hydroxy-4-[[4-[4-(trifluoromethyl)phenoxy]-1-piperidinyl]sulfonyl]-2H-pyran-4-carboxamide



Part A: In dry equipment under nitrogen, 4-hydroxypiperidine (20.2 g, 0.2 mol) was dissolved in tetrahydrofuran (200 mL) and triethylamine (29 mL, 0.21 mol). A solution of di-t-butyldicarbonate (43.65 g, 0.2 mol) was added at such a rate that the temperature remained below thirty degrees Celsius. After stirring at ambient temperature for four hours, the reaction was concentrated *in vacuo*. The residue was taken up in ethyl acetate, washed with water, 5% $KHSO_4$, saturated $NaHCO_3$, brine, dried over Na_2SO_4, filtered, and concentrated *in vacuo* to give the BOC piperidine as a white solid (37.7 g, 94%).

Part B: Preparation of 1,1-Dimethylethyl 4-[4-(trifluoromethyl)phenoxy]-1-piperidinecarboxylate

To a solution of the BOC piperidine from Part A (6.03 g,30 mmol) in dimethylformamide (60 mL) was added cesium carbonate (9.77 g, 30 mmol) and 4-fluorobenzotrifluoride (3.8 mL, 30 mmol). The slurry was stirred at ninety degrees Celsius. After nineteen hours, cesium carbonate (3.26g, 10 mmol) and 4-fluorobenzotrifluoride (0.95ml mL, 10 mmol) were added and the reaction continued at ninety degrees Celsius. After a total of forty six hours, the reaction was concentrated *in vacuo*. The residue was taken up in ethyl acetate, washed with water three times, brine, dried over Na_2SO_4, filtered, and

concentrated *in vacuo*. Chromatography (on silica, ethyl acetate/hexanes) provided the substituted BOC piperidine as a white solid (6.0 g, 58%).

Part C: Preparation of 4-[4-(trifluoromethyl)-phenoxylpiperidine

To a slurry of the substituted BOC piperidine from Part B (5.95 g, 17.2 mmol) in 1,4-dioxane (10 mL) was added 4N HCl dioxane solution (17 mL). After one hour at ambient temperature the reaction was concentrated *in vacuo*. The residue was slurried in diethyl ether and vacuum filtration of the resulting precipitate provided the hydrochloride salt as a white solid (4.6 g, 100%).

Part D: Preparation of 1-(Methylsulfonyl)-4-[4-(trifluoromethyl)phenoxylpiperidine

To a solution of the hydrochloride salt from Part C (4.6 g, 16.9 mmol) and triethylamine (5.9 mL, 42.4 mmol) in methylene chloride (45 mL) at zero degrees Celsius was added a solution of methanesulfonyl chloride (1.97 mL, 25.4 mmol) in methylene chloride (10 mL). After one hour at ambient temperature, the solvent was removed *in vacuo*. The residue was taken up in ethyl acetate, washed with water two times, brine, dried over Na_2SO_4, filtered, and concentrated *in vacuo*. The residue was slurried in diethyl ether and vacuum filtration of the resulting precipitate provided the sulfonamide as an off-white solid (5.25 g, 96%).

Part E: Preparation of methyl [[4-[4-(trifluoromethyl)phenoxy]-1-piperidinyl]sulfonyl]acetate

In dry equipment under nitrogen, the sulfonamide from Part D (4.2 g, 13 mmol) was dissolved in dry

tetrahydrofuran (26 mL), chilled to minus seventy-five degrees Celsius, and a 1M solution of lithium bis(trimethylsilyl)amide (26 mL) was added while maintaining the temperature below minus sixty-five degrees. After thirty minutes at minus seventy-five degrees Celsius, a solution of methyl chloroformate (1.0 mL, 13 mmol) in dry tetrahydrofuran (13 mL) was added maintaining the temperature below minus sixty degrees. After thirty minutes at minus seventy-five degrees Celsius, the reaction was quenched with saturated ammonium chloride solution (100 mL) and extracted with ethyl acetate. The combined extracts were washed with saturated ammonium chloride solution, brine, dried over Na_2SO_4, filtered, and concentrated *in vacuo* to give the methylene sulfonamide as a yellow oil (4.95 g, 100%).

Part F: Preparation of Methyl tetrahydro-4-[[4-[4-(trifluoromethyl)phenoxy]-1-piperidinyl]sulfonyl]-2H-pyran-4-carboxylate

To a solution of the methylene sulfonamide from Part E (6.15 g, 16 mmol) in dimethylformamide (32 mL) was added potassium carbonate (7.8 g, 56.6 mmol), bis-(2-bromoethyl)ether (2.1 mL, 16 mmol) and 18-Crown-6 (500 mg). The slurry was stirred at sixty degrees Celsius. After sixteen hours, potassium carbonate (2.0 g, 14 mmol) and bis-(2-bromoethyl)ether (0.2 mL, 1.6 mmol) were added and the reaction stirred at sixty degrees Celsius . After a total of twenty two hours, the reaction was concentrated *in vacuo*. The residue was taken up in ethyl acetate, washed with water three times, brine, dried over Na_2SO_4, filtered, and concentrated *in*

vacuo. Chromatography (on silica, ethyl acetate/hexanes) provided the THP-substituted sulfonamide as a white solid (4.75 g, 65%).

Part G: Preparation of tetrahydro-4-[[4-[4-(trifluoromethyl)phenoxy]-1-piperidinyl]sulfonyl]-2H-pyran-4-carboxylic acid

In dry equipment under nitrogen, the THP-substituted sulfonamide from Part F (0.9 g, 2 mmol) was dissolved in dry tetrahydrofuran (4.0 mL) and potassium trimethylsilonate (0.38 g, 3.0 mmol) was added at ambient temperature. After twenty four hours water (100 mL) was added and the solution concentrated *in vacuo*. The residue was taken up in water and extracted with ethyl acetate to remove unreacted starting material. The aqueous solution was treated with 6 N HCl until pH=1. The slurry was extracted with ethyl acetate and the combined extracts washed with water, dried over Na_2SO_4, filtered, and concentrated *in vacuo*. The residue was heated in diethyl ether, the solid filtered and dried to give the carboxylic acid as a white solid (635 mg, 73%).

Part H: Preparation of tetrahydro-N-[(tetrahydro-2H-pyran-2-yl)-oxy]-4-[[4-[4-(trifluoromethyl)phenoxy]-1-piperidinyl]sulfonyl]-2H-pyran-4-carboxamide

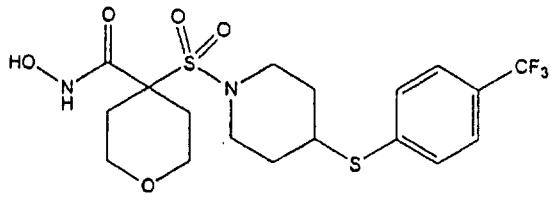
In dry equipment under nitrogen, the carboxylic acid from Part G (3.0 g, 6.86 mmol) was dissolved in dry dimethylformamide (17 mL) and the remaining reagents were added to the solution in the following order: N-hydroxybenzotriazole hydrate (1.11

g, 8.24 mmol), N-methylmorpholine (2.26 mL, 20.6 mmol), O-(tetrahydro-2H-pyran-2-yl)hydroxylamine (2.49 g, 21.3 mmol), and 1-(3-dimethylaminopropyl)-3-ethylcarbodiimide hydrochloride (1.84 g, 9.6 mmol). After two hours at ambient temperature, the reaction was concentrated *in vacuo*. The residue was taken up in ethyl acetate, washed with water, 5% $KHSO_4$, saturated $NaHCO_3$, brine, dried over Na_2SO_4, filtered, and concentrated *in vacuo*. Chromatography (on silica, ethyl acetate/hexanes) provided the THP hydroxamate as a white foam (2.3 g, 63%). HRMS (ES+) M+ H^+ calculated for $C_{23}H_{31}N_2O_7\ S_1F_3$: 537.1882, found 537.1856.

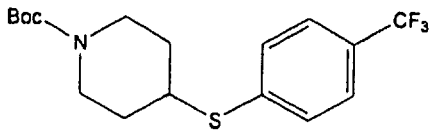
Part I: Preparation of tetrahydro-N-hydroxy-4-[[4-[4-(trifluoromethyl)phenoxy]-1-piperidinyl]sulfonyl]-2H-pyran-4-carboxamide

To a solution of the THP hydroxamate from Part H (1.55 g, 2.89 mmol) in 1,4-dioxane (7 mL) was added 4 N HCl dioxane solution (7 mL) and methanol (7 mL). After one hour at ambient temperature the reaction was diluted with ethyl acetate and washed with water, dried over Na_2SO_4, filtered, and concentrated *in vacuo*. The product was recrystallized (acetone/hexanes) to give the depicted compound as a white solid (1.23 g, 95%). HRMS (ES+) M+ H^+ calculated for $C_{18}H_{23}N_2O_6\ S_1F_3$: 453.1307, found 453.1319.

Example 3: Preparation of tetrahydro-N-hydroxy-4-[[4-[[4-[(trifluoromethyl)thio]phenyl]-thio]-1-piperidinyl]sulfonyl]-2H-pyran-4-carboxamide

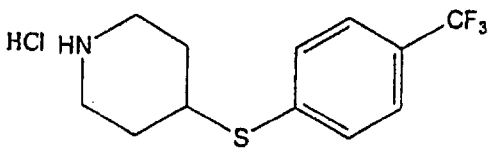


Part 1: Preparation of



To a slurry of Cs_2CO_3 (Aldrich, 20 g, 50 mmol) and 4-(methylsulfonyl)hydroxy-1-piperidinecarboxylic acid, 1,1-dimethylethyl ester of Example 14, part B (5 g, 25 mmol) in acetone (70 mL) at 25°C under N_2 was slowly added 4-trifluromethyl thiophenol (10 g, 50 mmol). The mixture was stirred 48 hours. After this time the acetone was removed by roto-evaporation and taking the residue up in ethyl acetate (150 mL) and H_2O (100 mL). The layers were separated and the aqueous was extracted via ethyl acetate (2x- 150 mL). The organics were washed with saturated K_2CO_3 (2x-100 mL), H_2O (1x-150 mL), and brine (1x- 150 mL), then dried over Na_2SO_4, filtered, and concentrated to afford the crude N-Boc piperidine as an oil. The oil was purified on silica gel to give 6 g of a clear oil. ^1H NMR and mass spectrum were consistent with the desired compound.

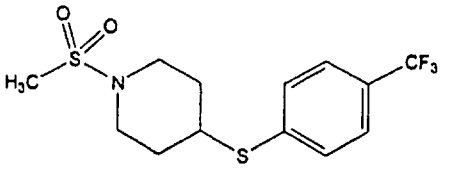
Part 2: Preparation of



To a solution of the product (6 g) of Part 1 in 1,4-dioxane (10 mL) was added 4 N HCl in dioxane (50

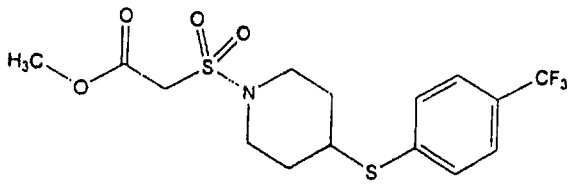
mL, 200 mmol). The mixture stirred at room temperature until starting material was gone by LC (about one hour). The solvents were then removed and the residue was slurried in diethyl ether and filtered. The solid was washed with diethyl ether (2x-50 mL) and *dried in vacuo* to afford the piperidine HCl salt as a white solid (6 g). ^{1}H NMR and mass spectrum showed the desired compound as the HCl salt.

Part 3: Preparation of



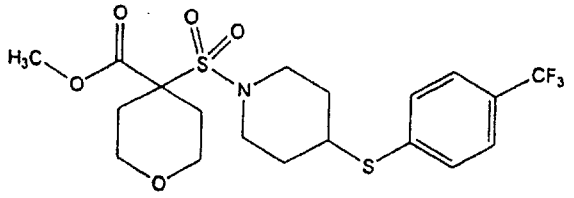
The HCl salt of Part 2 (6 g, 30 mmol) and triethylamine (Aldrich, 10 mL, 110 mmol) were slurried in CH_2Cl_2 (100 mL) and cooled to zero°C. A solution of methane sulfonyl chloride (Aldrich, 4 g, 45 mmol) in CH_2Cl_2 (20 mL) was slowly added, maintaining the temperature below 10°C. After the addition, the ice bath was removed and the reaction stirred 1 hour as it warmed to ambient temperature. After the disappearance of the starting material, the solvent was removed and the residue was taken up in ethyl acetate (100 mL) and H_2O (30 mL). Once separated, the organic layer was washed with 5% $KHSO_4$ (3x-50 mL) and brine (1x- 50 mL). The organic layer was then dried over Na_2SO_4, filtered, and concentrated to afford the piperidine as an oily solid that was recrystallized from diethyl ether, affording an off-white solid (3.5 g). ^{1}H NMR and mass spectrum showed the desired compound.

Part 4: Preparation of



Oven-dried glassware was charged with the compound from Part 3 (3.0 g, 12 mmol), tetrahydrofuran (34 mL,) and cooled to -75°C. Lithium bis(trimethylsilyl)amide (Aldrich, 1.0 M in tetrahydrofuran, 35 mL, 33 mmol) was slowly added, keeping temperature lessthan -60°C. The reaction was stirred for 30 minutes after the addition and was then charged with a solution of methylchloroformate (Aldrich, 1.3 mmol, 16.9 mmol) in tetrahydrofuran (17 mL), again keeping the temperature at less than -60°C. After stirring for 1 hour at -75°C, the reaction was quenched with saturated NH_4Cl, keeping temperature at less than -20°C. The aqueous portion freezes into a solid chunk of ice. After warming to 5°C, the mixture was extracted via ethyl acetate (3x- 200 mL). Organics were washed with saturated NH_4Cl (2x-100 mL) and brine (1x-100mL), then dried over Na_2SO_4 and concentrated to afford the methylene piperidine as a tan oil (5.0 g, 91% crude yield). ^1H NMR and mass spectrum indicated desired compound.

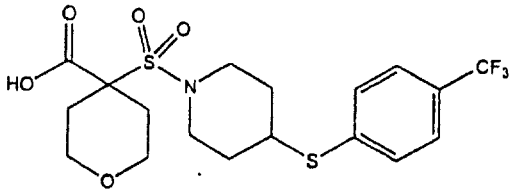
Part 5: Preparation of



To a solution of compound from Part 4 (3 g, 11 mmol) and dibromo-diethylether (Lancaster, 1.8 mL, 15.1 mmol) in dimethylformamide (28 mL) was added 18-Crown-6 (Aldrich, 500 mg, cat.), followed by

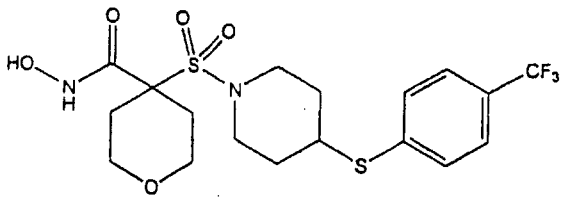
potassium carbonate (Aldrich, 3.8 g, 27.4 mmol). The mixture was heated at 60°C for 16 hours. The product was isolated by pouring the reaction mixture into stirring 10% HCl_{aq} (200 mL) and extraction with ethylacetate (3x- 300 mL). Organics were washed with brine (2x- 200 mL), dried over Na_2SO_4, and concentrated to afford the ester as an oil. The oil was crystallized from diethylether (1.6 g). ^1H NMR and mass spectrum showed the desired compound.

Part 6: Preparation of



To a solution from Part 5 (2 g, 7 mmol) in tetrahydrofuran (20 mL) was added potassium trimethylsilonate (Aldrich, 2 g, 18 mmol). The reaction, stirred overnight (about 18 hours) at room temperature. LC showed less than 3% starting material remained. Work up comprised removing the tetrahydrofuran and taking the residue up in H_2O (100 mL). The solution was washed with diethylether (50 mL). The aqueous was then cooled to zero°C and 10% HCl_{aq} was slowly added until pH = 3. The acidic mixture was then extracted with ethyl acetate (3x-150 mL). The organics were washed with brine (1x- 100 mL), dried over Na_2SO_4, and concentrated to afford a wet solid. The solid was dried *in vacuo* with phosphorous pentoxide yielding the acid as an orange solid (2.4 g, 72% yield). ^1H NMR and mass spectrum showed the desired compound.

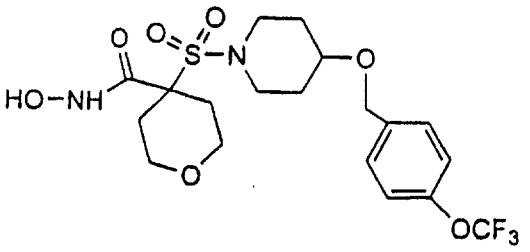
Part 7: Preparation of

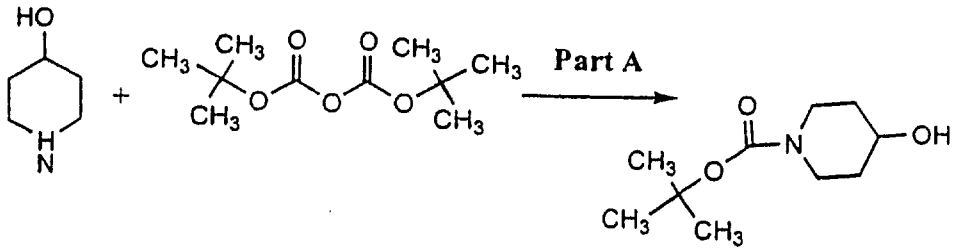


To a solution of the acid product in Part 6 (2.4 g, 6.2 mmol) in dimethylacetamide (10 mL) was added N-methylmorpholine (Aldrich, 2.0 mL, 18.6 mmol) followed by N-hydroxybenzotriazole hydrate (Aldrich,1.0 g, 7.4 mmol), O- (tetrahydro-2H-pyran-2-yl) hydroxylamine (1.1 g, 9.4 mmol), and, lastly, 1-(3-dimethylaminopropyl)-3-ethylcarbodiimide hydrochloride (Sigma, 1.8 g, 9.4 mmol). The mixture stirred overnight (about 18 hours) and was then stripped of solvent. The residue was taken up in ethyl acetate (250 mL) and washed with 5% $NaHSO_4$ (1x-150 mL), saturated potassium carbonate (1x-150 mL), and brine (1x-150 mL). The organic layer was dried over Na_2SO_4 and concentrated to afford a viscous oil. ^1H NMR and MS showed the desired compound.

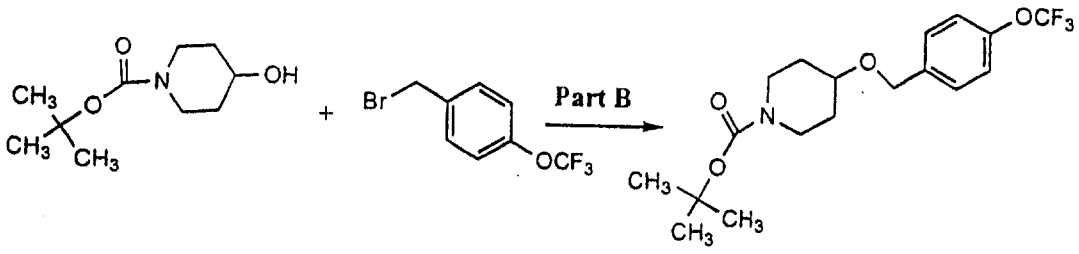
The viscous crude oil (3.0 g, 6.2 mmol) was dissolved in acetonitrile (10 mL) and stirred with 10% HCl_{aq} (15 mL) for 2 hours, after which, liquid chromatography (LC) showed no more starting material. The acetonitrile was removed with N_2 stream over the surface of the solution affording a solid that was collected, washed with H_20 (1x-20 mL), and dried *in vacuo* to afford the product as a tan solid (1.6 g, 64% yield). ^1H NMR showed the desired compound. Mass spectroscopy showed: $C_{18}H_{23}F_3N_2O_5S_3$ M^{+H}_{found} = 500 (M^{+H}_{calc} = 500).

Example 4: Preparation of

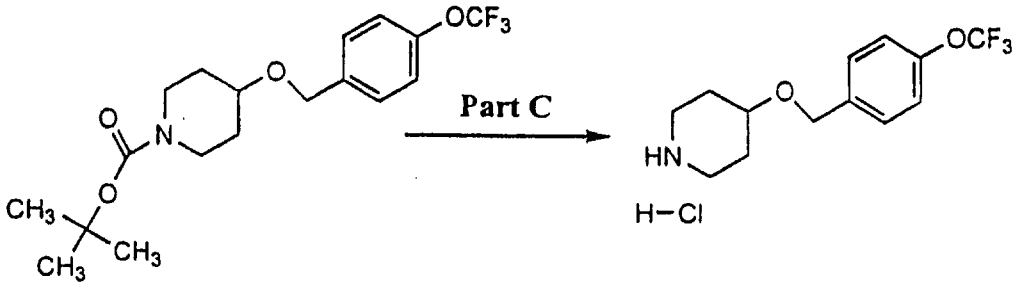




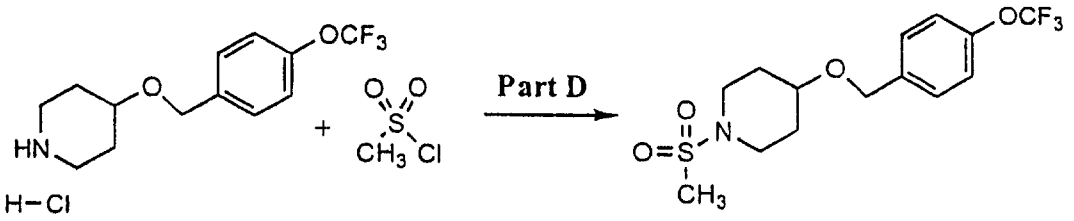
Part A: To a slurry of 4-hydroxypiperidine (46.3 g, 458 mmol) in tetrahydrofuran (400 mL) was added triethylamine (67 mL, 481 mmol), followed by slow addition of a solution of di-tert-butyl-dicarbonate (100 g, 458 mmol) in tetrahyrdofuran (200 mL). The temperature was monitored and maintained below 32°C. The mixture was stirred for 4 hours before working up. Work up consisted of removing the tetrahydrofuran *in vacuo* and taking the residue up in ethyl acetate (300 mL). The organic phase was then washed with 5% $KHSO_4$ (3x-150 mL), saturated $NaHCO_3$ (3x- 150 mL), and brine (2x-150 mL). The organic phase was then dried over anhydrous $MgSO_4$, filtered, and concentrated to afford a crude yellow oil. The oil was crystallized from hexanes providing the N-BOC-4-hydroxypiperidine product as a tan solid (86 g, 93% yield). ^1H NMR showed the desired compound.



Part B: To a slurry of NaH (60% oil dispersion, 2.4 g, 60 mmol) in N,N-dimethylformamide (70 mL) cooled to zero degrees C under N_2 was slowly added a solution of the N-BOC-4-hydroxypiperidine product from Part A (10 g, 50 mmol) in N,N-dimethylformamide (20 mL). The temperature was monitored and maintained at < 5°C. The mixture was stirred 15 minutes before slowly adding a solution of benzyl bromide (9 mL, 60 mmol) in N,N-dimethylformamide (10 mL), keeping temperature < 10°C. The reaction was permitted to come to room temperature and was stirred 12 hours. To quench, the reaction was cooled to zero degrees C and H_2O (50 mL) was added. Work up consisted of removing the solvents *in vacuo* and taking the residue up in ethyl acetate (150 mL) and H_2O (100 mL). The layers were separated and the aqueous layer was extracted with ethyl acetate (2x-150 mL). The organic phase was washed with saturated $NaHCO_3$ (2x-100 mL), H_2O (1x-150 mL), and brine (1x-150 mL), then dried over Na_2SO_4, filtered, and concentrated to afford a crude oil (18 g, 100*% crude yield). ^1H NMR showed the desired compound along with the benzyl bromide starting material.

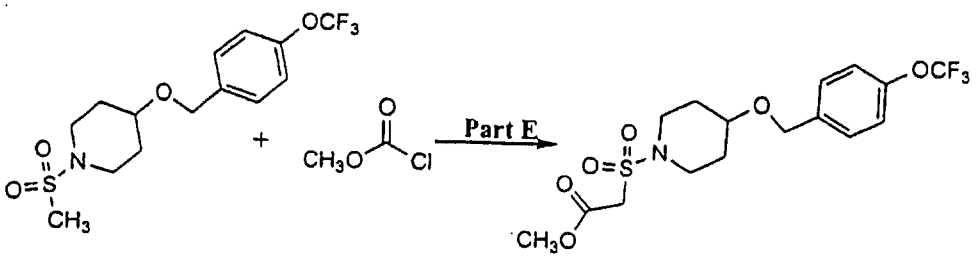


Part C: To a solution of the crude product of Part B in 1,4-dioxane (10 mL) was added 4 N HCl in dioxane (50 mL, 200 mmol). The mixture stirred at room temperature until starting material was gone by liquid chromatography (LC; about 1 hour). The solvents were then removed and the residue was slurried in diethyl ether and filtered. The solid was washed with diethyl ether (2x-50 mL) and dried *in vacuo* to afford a white solid (11.5 g, 100% yield). ^{1}H NMR showed the desired compound as the HCl salt.



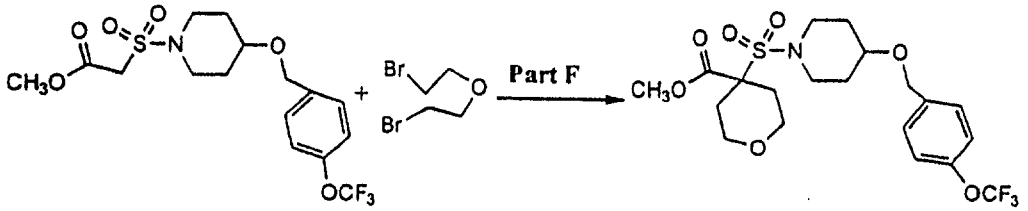
Part D: The HCl salt of Part C (10g, 44 mmol) and triethylamine (15.3 mL, 110 mmol) were slurried in CH_2Cl_2 (170 mL) and cooled to zero degrees C with an ice bath. A solution of methanesulfonyl chloride (5.1 mL, 66 mmol) in CH_2Cl_2 (50 mL) was slowly added, maintaining the temperature below 10°C. After the addition, the ice bath was removed and the reaction stirred 1 h as it came to room temperature. After the disappearance of the starting material, the

solvent was removed and the residue was taken up in ethyl acetate (100 mL) and H_2O (30 mL). Once separated, the organic layer was washed with 5% $KHSO_4$ (3x-50 mL) and brine (1x- 50 mL). The organic layer was then dried over Na_2SO_4, filtered, and concentrated to afford an oily solid that was recrystallized from diethyl ether and hexanes, affording an off-white solid (12.3 g, 95% yield), the sulfonamide. ^1H NMR showed the desired compound. HPLC showed 100% at t_r= 12.1 minutes.

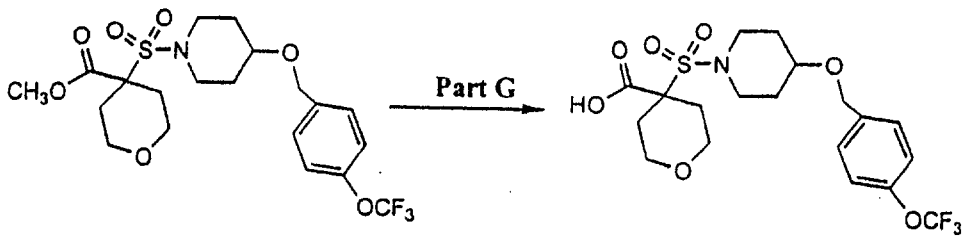


Part E: Oven-dried glassware was charged with the sulfonamide of Part D (5.0 g, 16.9 mmol) and tetrahydrofuran (34 mL) and cooled to -75°C. Lithium bis(trimethylsilyl)amide (1.0 M in tetrahydrofuran, 34 mL, 34 mmol) was slowly added, keeping temperature < -60°C. Reaction mixture was stirred for 30 minutes after the addition and was then charged with a solution of methyl chloroformate (1.3 mmol, 16.9 mmol) in tetrahydrofuran (17 mL) again keeping the temperature < -60°C. After stirring for 1 hour at -75°C, the reaction was quenched with saturated NH_4Cl, keeping temperature < -20°C. The aqueous portion froze into a solid chunk of ice. After warming to 5°C, the mixture was extracted via ethyl acetate (3x-200 mL). Organic layers were washed with saturated NH_4Cl (2x-100 mL) and brine (1x-100 mL), then dried over Na_2SO_4 and concentrated to afford the methyl

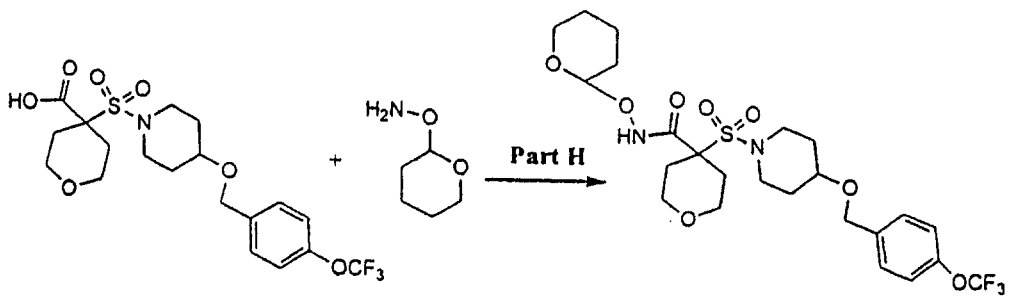
formate as a tan oil (5.0 g, 91% crude yield). ^{1}H NMR showed the desired compound with some starting material present. HPLC showed 90% at t_r= 13.9 minutes, 10% at 12.1 minutes.



Part F: To a solution of the methyl formate of Part E (4.5 g, 13.7 mmol) and dibromo-diethylether (Lancaster, 1.9 mL, 15.1 mmol) in dimethylformamide (28 mL) was added 18-Crown-6 (500 mg, cat.), followed by potassium carbonate (3.8 g, 27.4 mmol). The mixture was heated at 60°C for 4 hours, after which more potassium carbonate (1.9g, 13.7 mmol) was added, and the reaction continued at 60°C for 14 hours. LC showed <10% starting material remained. The reaction was worked up by pouring into stirring 10% HCl_{aq} (200 mL). A gummy solid resulted that was extracted with ethyl acetate (3x- 300 mL). Organic layers were washed with brine (2x- 200 mL), dried over Na_2SO_4, and concentrated to afford a dark brown oil. Oil was crystallized from diethyl ether and hexanes. The solid was dried to afford the pyran methyl ester as an orange solid (3.7 g, 69% yield). ^{1}H NMR showed the desired compound. HPLC showed 96% at t_r=25.2 minutes.

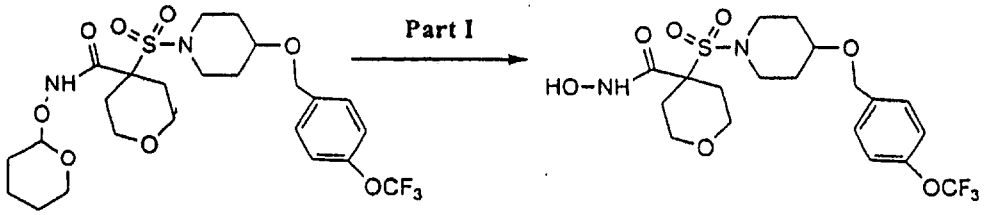


Part G: To a solution of the pyran methyl ester of Part F (3.5 g, 8.8 mmol) in tetrahydrofuran (20 mL) was added potassium trimethylsilonate (2.7 g, 21.1 mmol). The reaction stirred overnight (about eighteen hours) at room temperature. LC showed < 3% starting material remained. Work up consisted of removing the tetrahydrofuran and taking the residue up in H_2O (100 mL). The solution was washed with diethyl ether (50 mL). The aqueous phase was then cooled to zero degrees C and 10% HCl_{aq} was slowly added until pH value of about 3. The acidic mixture was then extracted with ethyl acetate (3x-150 mL). The organic layers were washed with brine (1x- 100 mL), dried over Na_2SO_4, and concentrated to afford a wet solid. The solid was dried *in vacuo* with phosphorous pentoxide yielding the carboxylic acid as an orange solid (2.4 g, 72% yield). ^1H NMR showed the desired compound. HPLC showed 97% at t_r=21.3 minutes.



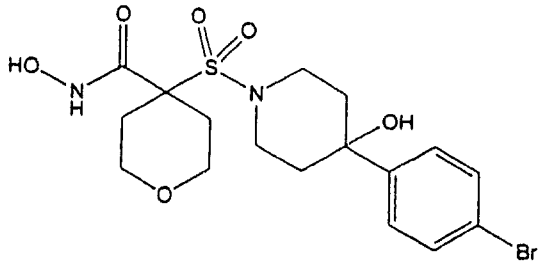
Part H: To a solution of the Part G carboxylic acid product (2.4 g, 6.2 mmol) in dimethylacetamide

(10 mL) was added N-methylmorpholine (2.0 mL, 18.6 mmol), followed by N-hydroxybenzotriazole hydrate (,1.0 g, 7.4 mmol), O-(tetrahydro-2H-pyran-2-yl) hydroxylamine (1.1 g, 9.4 mmol), and 1-(3-dimethylaminopropyl)-3-ethylcarbodiimide hydrochloride (1.8 g, 9.4 mmol). The mixture was stirred overnight (about eighteen hours) and then solvent was removed. The residue was taken up in ethyl acetate (250 mL) and washed with 5% $NaHSO_4$ (1x-150 mL), saturated potassium carbonate (1x-150 mL), and brine (1x-150 mL). The organic phase was then dried over Na_2SO_4 and concentrated to afford a viscous oil (3.2g, 100+% crude yield). ^1H NMR showed the desired compound. HPLC showed 95% at t_r=23.5 minutes.

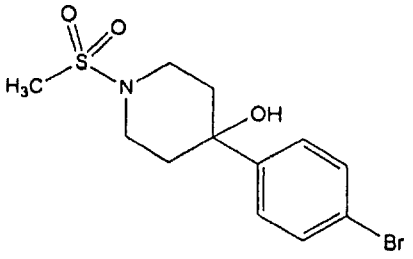


Part I: The viscous oil product of Part H (3.0 g, 6.2 mmol) was dissolved in acetonitrile (10 mL) and stirred with 10% HCl_{aq} (15 mL) for 2 hours. After which time, LC showed no more starting material. The acetonitrile was removed via N_2 stream affording a solid that was collected, washed with H_20 (1x-20 mL), and dried *in vacuo* to afford the depicted hydroxamate as a tan solid (1.6 g, 64% yield). ^1H NMR showed the desired compound. HPLC showed 99% at t_r=18.8 minutes. Mass spectroscopy showed M^{+H}_{found} = 399 (M^{+H}_{calc} = 399).

Example 5: Preparation of 4-[[4-(4-bromophenyl)-4-hydroxy-1-piperidinyl]sulfonyl]-tetrahydro-N-hydroxy-2H-pyran-4-carboxamide

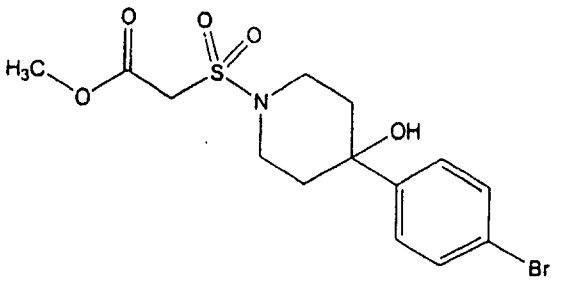


Part 1: Preparation of



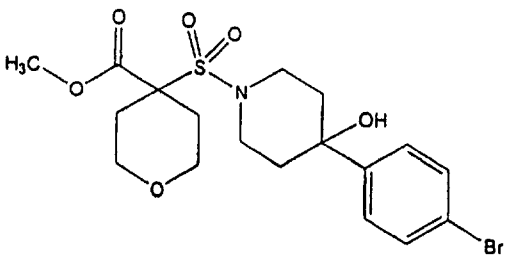
4-(4-Bromophenyl)-4-hydroxypiperidine (Aldrich, 3 g, 1.3 mmol) and N-methylmorpholine (Aldrich, 1.5 g, 2.6 mmol) were slurried in CH_2Cl_2 (50 mL) and cooled to zero°C. A solution of methane sulfonyl chloride (Aldrich, 2 g, 2.1 mmol) in CH_2Cl_2 (20 mL) was slowly added, maintaining the temperature below 10°C. After the addition, the ice bath was removed and the reaction stirred 1 hour as it warmed to ambient temperature. After the disappearance of the starting material, the solvent was removed under reduced pressure. Water (100 mL) was added and 10% aqueous hydrochloride acid and the product filtered to result in the methylsulonamide as an off-white solid (3.5 g). ^1H NMR and mass spectroscopy showed the desired compound.

Part 2: Preparation of



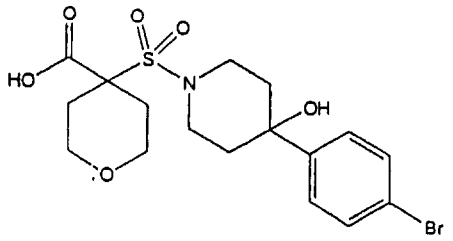
Oven-dried glassware was charged with the compound from Part 1 (5.0 g, 15 mmol) and tetrahydrofuran (30 mL,) and cooled to -75°C. Lithium bis(trimethylsilyl)amide (Aldrich, 1.0 M in tetrahydrofuran, 50 mL, 33 mmol) was slowly added, keeping temperature less than -60°C. Reaction stirred for 30 minutes after the addition and was then charged with a solution of methyl chloroformate (Aldrich, 1.3 mmol, 16.9 mmol) in tetrahydrofuran (17 mL) again keeping the temperature at less -60°C. After stirring for 1 hour at -75°C, the reaction was quenched with saturated NH_4Cl, keeping temperature less than -20°C. The aqueous does freeze into a solid chunk of ice. After warming to 5°C, the mixture was extracted via ethyl acetate (3x- 200 mL). Organics were washed with saturated NH_4Cl (2x-100 mL) and brine (1x-100mL), then dried over Na_2SO_4 and concentrated to afford the methylene sulfonamide as an amber oil (6.0 g, 91% crude yield). ^1H NMR and mass spectroscopy indicated desired compound.

Part 3: Preparation of



To a solution of compound from Part 2 (5 g, 13 mmol) and dibromo-diethylether (Lancaster, 1.8 mL, 15.1 mmol) in dimethylformamide (28 mL) was added 18-Crown-6 (Aldrich, 500 mg, cat.) followed by potassium carbonate (Aldrich, 3.8 g, 27.4 mmol). The mixture was heated at 60°C for 16 hours. The product was isolated by pouring into stirring 10% HCl_{aq} (200 mL) and extracted with ethyl acetate (3x- 300 mL). Organics were washed with brine (2x- 200 mL), dried over Na_2SO_4, and concentrated to afford the ester as an oil. The crystallized to result in 3 grams of a tan solid. ^1H NMR and mass spectroscopy showed the desired compound.

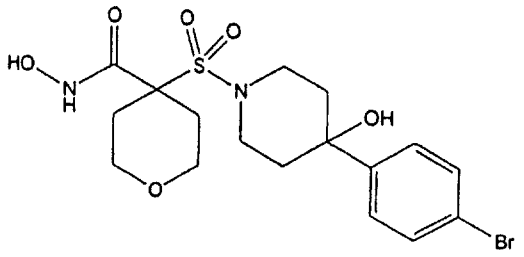
Part 4: Preparation of



To a solution from Part 3 (3 g, 7 mmol) in tetrahydrofuran (20 mL) was added potassium trimethylsilonate (Aldrich, 3 g, 23 mmol). The reaction stirred overnight (about 18 hours) at room temperature. Liquid chromatography (LC) showed less than 3% starting material remained. Work up comprised removing the tetrahydrofuran and taking the residue up in H_2O (100 mL). The solution was washed with diethylether (50 mL). The aqueous was then cooled to 0°C and 10% HCl_{aq} was slowly added until pH = 3. The acidic mixture was then extracted via ethyl acetate (3x-150 mL). The organics were washed with brine (1x-100 mL), dried over Na_2SO_4, and concentrated to afford a wet solid. The solid was dried *in vacuo*

with phosphorous pentoxide yielding the acid as an orange solid (3 g, 72% yield). ^{1}H NMR and mass spectroscopy showed the desired compound.

Part 5: Preparation of

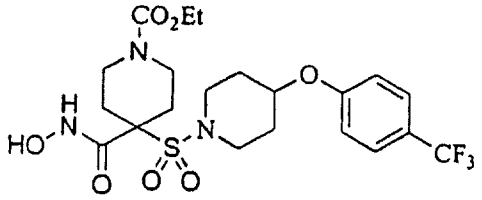


To a solution of the acid product in Part 4 (3.5 g, 8 mmol) in dimethylacetamide (10 mL) was added N-methylmorpholine (Aldrich, 2.0 mL, 18.6 mmol) followed by N-hydroxybenzotriazole hydrate (Aldrich, 1.0 g, 12 mmol), O-(tetrahydro-2H-pyran-2-yl) hydroxylamine (1.1 g, 12 mmol), and 1-(3-dimethylaminopropyl)-3-ethylcarbodiimide hydrochloride (Sigma, 2.3 g, 12 mmol). The mixture was stirred overnight (about 18 hours) and was then stripped of solvent. The residue was taken up in ethyl acetate (250 mL) and washed with 5% $NaHSO_4$ (1x-150 mL), saturated potassium carbonate (1x-150 mL), and brine (1x-150 mL). The organic layer was then dried over Na_2SO_4 and concentrated to afford a viscous oil. ^{1}H NMR and mass spectroscopy showed the desired compound.

The viscous crude oil (4.0 g, 6.2 mmol) was dissolved in acetonitrile (10 mL) and stirred with 10% HCl_{aq} (15 mL) for 2 hours, after which, LC showed no more starting material. The acetonitrile was removed with N_2 stream over the surface of the solution affording a solid that was collected, washed with H_20 (1x-20 mL), and dried *in vacuo* to afford the product as a tan solid (2 g). ^{1}H NMR showed the

desired compound. Mass spectroscopy showed: $C_{17}H_{23}F_3N_2O_6SBr$ M^{+H}_{found} = 463 (M^{+H}_{calc} = 463).

Example 6: Preparation of ethyl 4-[(hydroxyamino)-carbonyl]-4-[[4-[4-(trifluoromethyl)-phenoxy]-1-piperidinyl]sulfonyl]-1-piperidinecarboxylate



Part A: Preparation of 1,1-Dimethylethyl 4-hydroxy-1-piperidinecarboxylate

In dry equipment under nitrogen, 4-hydroxypiperidine (20.2 g, 0.2 mol) was dissolved in tetrahydrofuran (200 mL) and triethylamine (29 mL, 0.21 mol). A solution of di-t-butyldicarbonate (43.65 g, 0.2 mol) was added at such a rate that the temperature remained below thirty degrees Celsius. After stirring at ambient temperature for four hours, the reaction was concentrated *in vacuo*. The residue was taken up in ethyl acetate, washed with water, 5% $KHSO_4$, saturated $NaHCO_3$, saturated sodium chloride solution, dried over Na_2SO_4, filtered, and concentrated *in vacuo* to give the BOC piperidine as a white solid (37.7 g, 94%).

Part B: Preparation of 1,1-Dimethylethyl 4-[4-(trifluoromethyl)phenoxy]-1-piperidinecarboxylate

To a solution of the BOC piperidine from part A (6.03 g,30 mmol) in dimethylformamide (60 mL) were

added cesium carbonate (9.77 g, 30 mmol) and 4-fluorobenzotrifluoride (3.8 mL, 30 mmol). The slurry was stirred at ninety degrees Celsius. After nineteen hours cesium carbonate (3.26g, 10 mmol) and 4-fluorobenzotrifluoride (0.95ml mL, 10 mmol) were added and the reaction continued at ninety degrees Celsius. After a total of forty six hours, the reaction was concentrated *in vacuo*. The residue was taken up in ethyl acetate, washed with water three times, saturated sodium chloride solution, dried over Na_2SO_4, filtered, and concentrated *in vacuo*. Chromatography (on silica, ethyl acetate/hexanes) provided the substituted BOC piperidine as a white solid (6.0 g, 58%).

Part C: Preparation of 4-[4-(trifluoromethyl)-phenoxyl]piperidine

To a slurry of the substituted BOC piperidine from part B (5.95 g, 17.2 mmol) in 1,4-dioxane (10 mL) was added 4N HCl dioxane solution (17 mL). After one hour at ambient temperature, the reaction was concentrated *in vacuo*. The residue was slurried in diethyl ether and vacuum filtration of the resulting precipitate provided the hydrochloride salt as a white solid (4.6 g, 100%).

Part D: Preparation of 1-(methylsulfonyl)-4-[4-(trifluoromethyl)phenoxyl]piperidine

To a solution of the hydrochloride salt from part C (4.6 g, 16.9 mmol) and triethylamine (5.9 mL, 42.4 mmol) in dichloromethane (45 mL) at zero degrees Celsius was added a solution of methane sulfonyl chloride (1.97 mL, 25.4 mmol) in dichloromethane (10 mL). After one hour at ambient temperature, the solvent was stripped *in vacuo*. The residue was taken

up in ethyl acetate, washed with water two times, saturated sodium chloride solution, dried over Na_2SO_4, filtered, and concentrated *in vacuo*. The residue was slurried in diethyl ether and vacuum filtration of the resulting precipitate provided the sulfonamide as an off-white solid (5.25 g, 96%).

Part E: Preparation of methyl [[4-[4-(trifluoromethyl)phenoxy]-1-piperidinyl]-sulfonyl]acetate

In dry equipment under nitrogen, the sulfonamide from part D (4.2 g, 13 mmol) was dissolved in dry tetrahydrofuran (26 mL), chilled to minus seventy-five degrees Celsius, and a 1 M solution of lithium bis(trimethylsilyl)amide (26 mL) was added while maintaining the temperature below minus sixty five degrees.

After thirty minutes at minus seventy-five degrees Celsius, a solution of methyl chloroformate (1.0mL, 13 mmol) in dry tetrahydrofuran (13 mL) was added maintaining the temperature below minus sixty degrees. After thirty minutes at minus seventy-five degrees Celsius, the reaction was quenched with saturated ammonium chloride solution (100 mL) and extracted with ethyl acetate. The combined extracts were washed with saturated ammonium chloride solution, saturated sodium chloride solution, dried over Na_2SO_4, filtered, and concentrated *in vacuo* to give the methylene sulfonamide as an yellow oil (4.95 g, 100%).

Part F: Preparation of 1-Ethyl 4-methyl 4-[[4-[4-(trifluoromethyl)phenoxy]-1-piperidinyl]-sulfonyl-1,4-piperidinecarboxylate

To a solution of the methylene sulfonamide from part E (6.15 g, 16 mmol) in dimethylformamide (32 mL) were added potassium carbonate (7.8 g, 56.6 mmol), bis-(2-bromoethyl)amine ethyl carbamate [3.0 g, 10.75 mmol; prepared by method found in *Synth. Commun.*; 11;1;1981;p.17-24] and 18-Crown-6 (500 mg). The slurry was stirred at sixty degrees Celsius. After sixteen hours, potassium carbonate (2.0 g, 14 mmol) was added and the reaction stirred at sixty degrees Celsius. After a total of twenty four hours, the reaction was concentrated *in vacuo*. The residue was taken up in ethyl acetate, washed with water three times, saturated sodium chloride solution, dried over Na_2SO_4, filtered, and concentrated *in vacuo*. Chromatography (on silica, ethyl acetate/ hexanes) provided the piperidine sulfonamide as a clear colorless oil (1.2 g, 31%).

Part G: Preparation of 1-Ethyl hydrogen 4-[[4-[4-(trifluoromethyl)phenoxy]-1-piperidinyl]-sulfonyl]-1,4-piperidinecarboxylate

In dry equipment under nitrogen, the piperidine sulfonamide from part F (1.0 g, 1.9 mmol) was dissolved in dry tetrahydrofuran (7.0 mL) and potassium trimethylsilonate (0.38 g, 3.0 mmol) was added at ambient temperature. After eighteen hours, water (100 mL) was added and the solution concentrated *in vacuo*. The residue was taken up in water and extracted with ethyl acetate. The combined ethyl acetate extracts were concentrated *in vacuo*. The residue was wetted with water and 1 N HCl solution (1.5 mL) was added, the slurry was extracted with ethyl acetate and the combined extracts washed with saturated sodium chloride solution, dried over

Na_2SO_4, filtered, and concentrated *in vacuo* to give the carboxylic acid as a white foam (860 mg, 89%).

Part H: Preparation of Ethyl 4-[[[(tetrahydro-2H-pyran-2-yl)oxy]amino]carbonyl]-4-[[4-[4-(trifluoromethyl)phenoxy]-1-piperidinyl]-sulfonyl]-1-piperidinecarboxylate

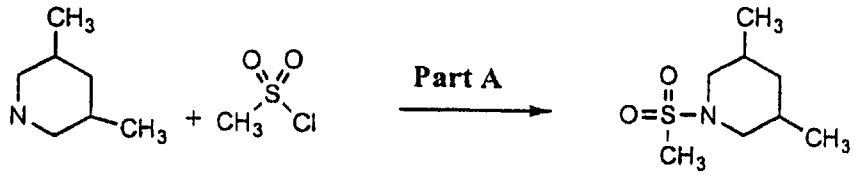
In dry equipment under nitrogen, the carboxylic acid from part G (0.82 g, 1.6 mmol) was dissolved in dry dimethylformamide (4 mL) and the remaining reagents were added to the solution in the following order: N-hydroxybenzotriazole hydrate (0.26 g, 1.9 mmol), N-methylmorpholine (0.53 mL, 4.84 mmol), O-(tetrahydro-2H-pyran-2-yl)hydroxylamine (0.585 g, 5.0 mmol), and 1-(3-dimethylaminopropyl)-3-ethylcarbodiimide hydrochloride (0.43 g, 2.26 mmol). After two hours at ambient temperature, the reaction was concentrated *in vacuo*. The residue was taken up in ethyl acetate, washed with water, 5% $KHSO_4$, saturated $NaHCO_3$, saturated sodium chloride solution, dried over Na_2SO_4, filtered, and concentrated *in vacuo*. Chromatography (on silica, ethyl acetate/hexanes) provided the THP hydroxamate as a white foam (0.72 g, 73%).

Part I: Preparation of ethyl 4-[(hydroxyamino)-carbonyl]-4-[[4-[4-(trifluoromethyl)-phenoxy]-1-piperidinyl]sulfonyl]-1-piperidinecarboxylate

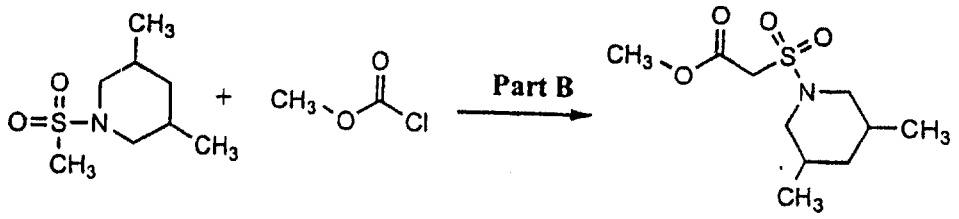
To a solution of the THP hydroxamate from part H (0.69 g, 1.1 mmol) in 1,4-dioxane (3 mL) were added 4 N HCl dioxane solution (3 mL) and methanol (3 mL). After two hours at ambient temperature, the reaction was diluted with ethyl acetate and washed with water, dried over Na_2SO_4, filtered, and concentrated *in*

vacuo. The product was recrystallized (acetone/hexanes) to give the title compound as a white solid (420 mg, 73%). HRMS (ES+) M+ NH_4^+ calculated for $C_{21}H_{28}N_3O_7S_1F_3$: 541.1944, found 541.1904.

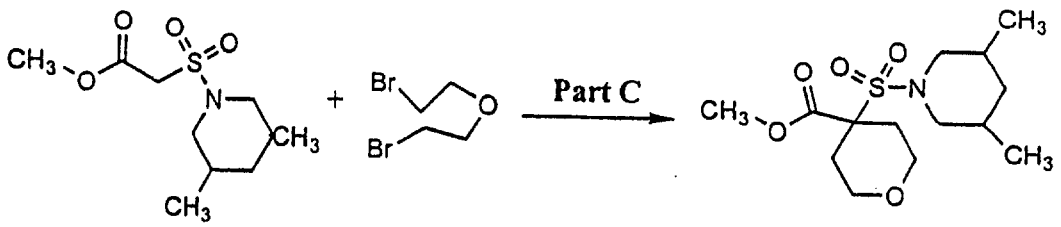
Example 7: Preparation of 4-[(3,5-dimethyl-1-piperidinyl)sulfonyl]tetrahydro-N-hydroxy-2H-pyran-4-carboxamide



Part A: 3,5-Dimethylpiperadine (70% cis/30% trans, 7.0 mL, 53 mmol) and triethylamine (11.2 mL,, 80 mmol) were slurried in CH_2Cl_2 (75 mL) and cooled to zero degrees C. A solution of methanesulfonyl chloride (6.2 mL, 80 mmol) in CH_2Cl_2 (25 mL) was slowly added, maintaining the temperature < 10°C with an ice bath. After the addition, the ice bath was removed and the reaction stirred 1 hour as it came to room temperature. After the disappearance of the starting material, the solvent was removed and the residue was taken up in ethyl acetate (200 mL) and H_2O (50 mL). Once separated, the organic layer was washed with 5% $KHSO_4$ (3x-50 mL) and brine (1x- 50 mL). The organic layer was then dried over Na_2SO_4, filtered, and concentrated to afford the methyl sulfonamide an off white solid (10.0 g, 99% yield. ^1H NMR showed the desired compound.

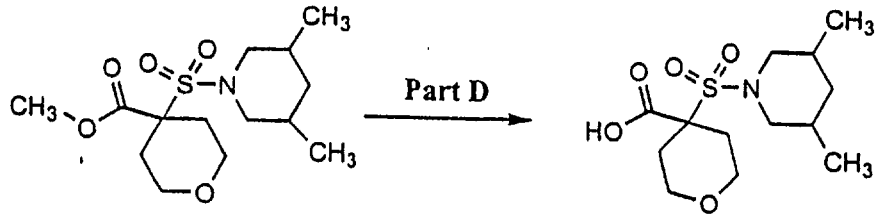


Part B: Oven-dried glassware was charged with the methyl sulfonamide product of Part A (10.0 g, 52.3 mmol) and tetrahydrofuran (160 mL), and cooled to -75°C. Lithium bis(trimethylsilyl)amide (1.0 M in tetrahydrofuran, 157 mL, 157 mmol) was slowly added, keeping temperature < -60°C. Reaction was stirred for 30 minutes after the addition and was then charged with a solution of methyl chloroformate (4.0 mL, 52.3 mmol) in tetrahydrofuran (80 mL), again keeping the temperature at < -60°C. After stirring for 1 hour at -75°C, the reaction was quenched with saturated NH_4Cl, keeping temperature < -20°C. The aqueous portion froze into a solid chunk of ice. After warming to 5°C, the mixture was extracted with ethyl acetate (3x- 200 mL). Organic phases were washed with saturated NH_4Cl (2x-100 mL) and brine (1x-100mL), then dried over Na_2SO_4 and concentrated to afford the methyl ester as a brown oil (10.7 g, 82 % crude yield). ^{1}H-NMR showed the desired compound.



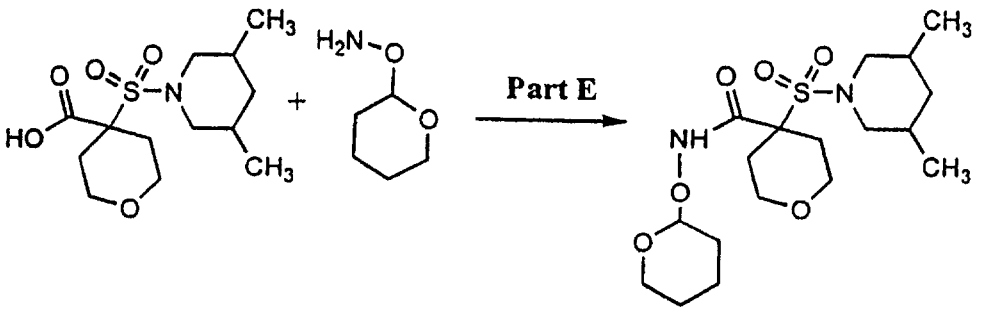
Part C: To a solution of the methyl ester product from Part B (5.0 g, 20 mmol) and dibromo-diethylether (3.0 mL, 24.1 mmol) in dimethylformamide

(40 mL) was added 18-Crown-6 (500 mg, cat.) followed by potassium carbonate (8.3 g, 60.0 mmol). The mixture was heated at 60°C for 4 hours, after which time more potassium carbonate (1.9 g, 13.7 mmol) was added, and the reaction continued at 60°C for 14 hours. LC showed <5% starting material remained. The reaction was worked up by pouring into stirring 10% HCl_{aq} (200 mL). A gummy solid resulted that was extracted with ethyl acetate (3x- 300 mL). Organic layers were washed with brine (2x- 200 mL), dried over Na_2SO_4, and concentrated to afford the as an orange solid (3.6 g, 56% yield). ^{1}H-NMR showed the desired compound.



Part D: Potassium trimethylsilanolate (4.3 g, 34 mmol) was added to a solution of the pyran methyl ester product from Part C (3.6 g, 11.3 mmol) in tetrahydrofuran (30 mL). The reaction stirred overnight (about eighteen hours) at room temperature. Work up consisted of removing the tetrahydrofuran and taking the residue up in H_2O (100 mL). The solution was washed with diethyl ether (50 mL). The aqueous portion was then cooled to zero degrees C and 10% HCl was slowly added until about a pH value of 3. The acidic mixture was then extracted with ethyl acetate (3x-150 mL). The organic layers were washed with brine (1x- 100 mL), dried over Na_2SO_4, and

concentrated to afford the carboxylic acid as a yellow solid (2.5 g,72% yield). ^{1}H-NMR showed the desired compound.



Part E: To a solution of the carboxylic acid product of Part D (2.2 g, 7.2 mmol) in dimethylacetamide (15 mL) was added N-methylmorpholine (2.4 mL, 22.0 mmol) followed by N-hydroxybenzotriazole hydrate (1.2 g, 8.6 mmol), O-(tetrahydro-2H-pyran-2-yl)hydroxylamine (1.3 g, 10.8 mmol), and 1-(3-dimethylaminopropyl)-3-ethylcarbodiimide hydrochloride (2.1 g, 10.8 mmol). The mixture was stirred overnight (about eighteen hours) and was then the solvent was removed. The residue was taken up in ethyl acetate (250 mL) and washed with 5% $NaHSO_4$ (1x- 150 mL), saturated potassium carbonate (1x-150 mL), and brine (1x-150 mL). The organic layer was then dried over Na_2SO_4 and concentrated to afford the THP-protected hydroxamate as a brown oil (2.7 g, 93% yield). ^{1}H-NMR showed the desired compound.