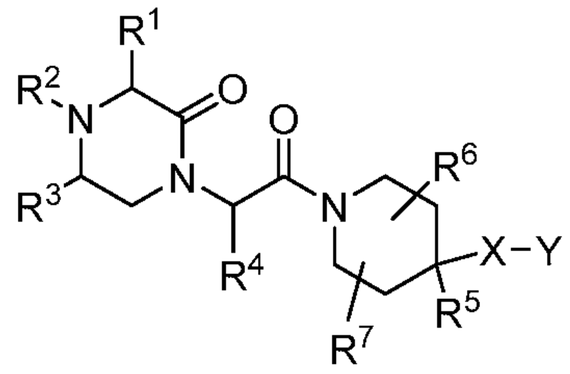
CLAIMS

1. A compound of formula (Ia)



(Ia),

or a pharmaceutically acceptable salt, hydrate, solvate or stereoisomer thereof, wherein:

R^1 is selected from H, C_{1-7} alkyl, C_{2-7} alkenyl, C_{2-7} alkynyl, C_{3-7} cycloalkyl, C_{4-7} cycloalkenyl, or C_{1-3} alkyl substituted by cycloalkyl, aryl or heteroaryl, wherein the cycloalkyl, aryl or the heteroaryl is optionally substituted by halogen, C_{1-4} alkyl or C_{3-5} cycloalkyl;

R^2 is selected from H, $C(O)R^{14}$, $C(O)NR^{15}R^{15}$, $C(O)OR^{15}$, C_{1-7} alkyl, C_{2-7} alkenyl, C_{2-7} alkynyl, C_{3-7} cycloalkyl, C_{4-7} cycloalkenyl, C_{1-5} alkyl-OR^8, C_{1-3} alkanediyl-O-C_{1-3} alkanediyl-O-C_{1-3} alkanediyl, C_{1-5} alkyl-$NHCOR^{13}$, or C_{1-3} alkyl substituted by cycloalkyl, aryl or heteroaryl, wherein the cycloalkyl, aryl or the heteroaryl is optionally substituted by halogen, C_{1-4} alkyl or C_{3-5} cycloalkyl; with the proviso that when R^2 is $C(O)NR^{15}R^{15}$, both R^{15} can form a ring wherein the ring contains the N of $NR^{15}R^{15}$ and optionally one further heteroatom selected from O and N, wherein if the one further heteroatom is N, it is optionally substituted by R^8;

R^3 and R^7 are each independently selected from H, C_{1-7} alkyl, C_{2-7} alkenyl, C_{2-7} alkynyl, C_{3-7} cycloalkyl, or C_{4-7} cycloalkenyl, all optionally substituted by halogen, OR^8, NR^8R^{11}, or C_{1-3} alkyl substituted by aryl or heteroaryl, wherein the aryl or the heteroaryl is optionally substituted by halogen, C_{1-4} alkyl or C_{3-5} cycloalkyl;

R^4 is selected from C_{1-7} alkyl, C_{2-7} alkenyl, C_{2-7} alkynyl, C_{3-7} cycloalkyl, C_{4-7} cycloalkenyl, or C_{1-3} alkyl substituted by cycloalkyl, aryl or heteroaryl, wherein the cycloalkyl, aryl or the heteroaryl is optionally substituted by halogen, C_{1-4} alkyl or C_{3-5} cycloalkyl;

R^5 is selected from H, C_{1-7} alkyl, C_{2-7} alkenyl, C_{2-7} alkynyl, C_{3-7} cycloalkyl, C_{4-7} cycloalkenyl, OR^8, C_{1-3} alkyl-OR^8, or SR^8; and wherein R^5 can form a ring with any part of X or Y, wherein the ring optionally contains a carbonyl group;

R^6 is selected from H, C_{1-7} alkyl, C_{2-7} alkenyl, C_{2-7} alkynyl, C_{3-7} cycloalkyl, C_{4-7} cycloakenyl, all optionally substituted by halogen, OR^8, NR^8R^{11}; C_{1-3} alkyl substituted by $C(O)NR^8R^{11}$; or C_{1-3} alkyl substituted by aryl or heteroaryl, wherein the aryl or the heteroaryl is optionally substituted by halogen, C_{1-4} alkyl or C_{3-5} cycloalkyl; and wherein R^6 can form a ring with any part of X; or is imidazolidinone;

R^8 and R^{11} are each independently selected from H, C_{1-7} alkyl, C_{2-7} alkenyl, C_{2-7} alkynyl, C_{3-7} cycloalkyl, or C_{4-7} cycloalkenyl;

X is selected from a bond, C_{1-7} alkanediyl, C_{2-7} alkenediyl, C_{2-7} alkynediyl, C_{3-9} cycloalkanediyl, C_{4-6} cycloalkenediyl, -O-, C_{1-3} alkanediyl-O-, -O-C_{1-7} alkanediyl, -O-C_{3-9} cycloalkanediyl, C_{1-3} alkanediyl-O-C_{1-7} alkanediyl, C_{1-7} heteroalkanediyl, or -S-C_{1-7} alkanediyl; and wherein X can form a ring or a polycyclic system with any part of R^5, R^6, or Y, wherein the ring optionally contains a carbonyl group;

Y is selected from H, $C(O)NR^{10}R^{12}$, $C(O)OR^{10}$, $R^{10}NC(O)NR^{10}R^{12}$, $OC(O)R^{10}$, $OC(O)NR^{10}R^{12}$, $S(O)_nR^8$ wherein n is 0, 1 or 2, $SO_2NR^{10}R^{12}$, $NR^{10}SO_2R^{10}$, $NR^{10}R^{12}$, $HNCOR^8$, CN, C_{3-7}-cycloalkyl optionally containing a heteroatom in the ring selected from O and N wherein if the heteroatom is N it is optionally substituted by R^8; S-aryl, O-aryl, S-heteroaryl, O-heteroaryl wherein the S-aryl, O-aryl, S-heteroaryl, O-heteroaryl are optionally substituted by one or more R^9 or R^{14}; or aryl, heteroaryl wherein the aryl or heteroaryl is optionally substituted by one or more of R^8; and wherein Y can form a ring with any part of X or R^5, wherein the ring optionally contains a carbonyl group; with the proviso that when Y is $C(O)NR^{10}R^{12}$ or $NR^{10}R^{12}$, R^{10} and R^{12} can form a ring wherein the ring contains the N of $NR^{10}R^{12}$ and optionally one further heteroatom selected from O and N, wherein if the one further heteroatom is N, it is optionally substituted by R^8;

R^9 is selected from H, halogen, C_{1-5} alkyl, C_{2-5} alkenyl, C_{2-5} alkynyl, C_{3-5} cycloalkyl, C_{1-5} alkyl-OR^8, C_{1-5} alkyl-SR^8, C_{1-5} alkyl-NR^8R^{11}, C_{1-5} alkyl-$C(O)OR^8$, C_{1-5} alkyl-$C(O)NR^8R^{11}$, C_{1-5} alkyl-$C(O)R^{10}$, CN, $C(O)R^8$, $C(O)NR^8R^{11}$, $C(O)OR^8$, $NR^8C(O)NR^8R^{11}$, $OC(O)NR^8R^{11}$, $SO_2NR^8R^{11}$, $NR^8SO_2R^8$, OR^8, NR^8R^{11}, or $S(O)_nR^8$ wherein n is 0, 1 or 2;

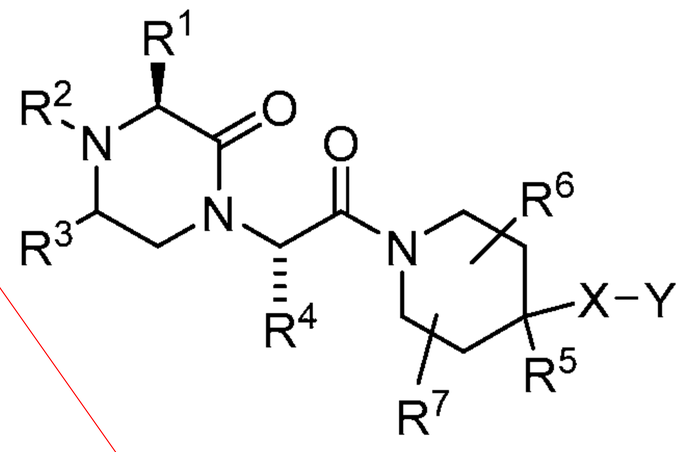
R^{10} and R^{12} are each independently selected from H, C_{1-7} alkyl, C_{2-7} alkenyl, C_{2-7} alkynyl, C_{3-7} cycloalkyl, C_{4-7} cycloalkenyl, C_{1-3} alkanediyl-O-C_{1-3} alkanediyl-O-C_{1-3} alkanediyl, C_{1-3} alkyl-aryl, or C_{1-3} alkyl-heteroaryl, all these groups optionally substituted by halogen, OR^8, or NR^8R^{11};

R^{13} is C_{1-5} alkyl substituted by a bicyclic ring optionally containing at least one heteroatom and a carbonyl group;

R^{14} is selected from H, C_{1-7} alkyl, C_{2-7} alkenyl, C_{2-7} alkynyl, C_{3-7} cycloalkyl, C_{4-7} cycloalkenyl, or C_{1-3} alkyl substituted by aryl or heteroaryl, wherein the aryl or the heteroaryl is optionally substituted by halogen, C_{1-4} alkyl or C_{3-5} cycloalkyl; and

each R^{15} is independently selected from H, C_{1-7} alkyl, C_{2-7} alkenyl, C_{2-7} alkynyl, C_{3-7} cycloalkyl, C_{4-7} cycloalkenyl, OR^8, or C_{1-3} alkyl-OR^8.

2. A compound of formula (I)



(I)

or a pharmaceutically acceptable salt, hydrate, solvate or stereoisomer thereof, wherein:

R^1 is selected from H, C_{1-7} alkyl, C_{2-7} alkenyl, C_{2-7} alkynyl, C_{3-7} cycloalkyl, C_{4-7} cycloalkenyl, or C_{1-3} alkyl substituted by aryl or heteroaryl, wherein the aryl or the heteroaryl is optionally substituted by halogen, C_{1-4} alkyl or C_{3-5} cycloalkyl;

R^2 is selected from H, $C(O)R^{14}$, $C(O)NR^{15}R^{15}$, $C(O)OR^{15}$, C_{1-7} alkyl, C_{2-7} alkenyl, C_{2-7} alkynyl, C_{3-7} cycloalkyl, C_{4-7} cycloalkenyl, C_{1-5} alkyl-OR^8, C_{1-3} alkanediyl-O-C_{1-3} alkanediyl-O-C_{1-3} alkanediyl, C_{1-5} alkyl-$NHCOR^{13}$, or C_{1-3} alkyl substituted by aryl or heteroaryl, wherein the aryl or the heteroaryl is optionally substituted by halogen, C_{1-4} alkyl or C_{3-5} cycloalkyl; with the proviso that when R^2 is $C(O)NR^{15}R^{15}$, both R^{15} can form a ring wherein the ring contains the N of $NR^{15}R^{15}$ and optionally one further heteroatom selected from O and N, wherein if the one further heteroatom is N, it is optionally substituted by R^8;

R^3 and R^7 are each independently selected from H, C_{1-7} alkyl, C_{2-7} alkenyl, C_{2-7} alkynyl, C_{3-7} cycloalkyl, C_{4-7} cycloalkenyl, all optionally substituted by halogen, OR^8, NR^8R^{11}; or C_{1-3} alkyl substituted by aryl or heteroaryl, wherein the aryl or the heteroaryl is optionally substituted by halogen, C_{1-4} alkyl or C_{3-5} cycloalkyl;

R^4 is selected from C_{1-7} alkyl, C_{2-7} alkenyl, C_{2-7} alkynyl, C_{3-7} cycloalkyl, C_{4-7} cycloalkenyl, or C_{1-3} alkyl substituted by aryl or heteroaryl, wherein the aryl or the heteroaryl is optionally substituted by halogen, C_{1-4} alkyl or C_{3-5} cycloalkyl;

R^5 is selected from H, C_{1-7} alkyl, C_{2-7} alkenyl, C_{2-7} alkynyl, C_{3-7} cycloalkyl, C_{4-7} cycloalkenyl, OR^8, C_{1-3} alkyl-OR^8, or SR^8; and wherein R^5 can form a ring with any part of X or Y, wherein the ring optionally contains a carbonyl group;

R^6 is selected from H, C_{1-7} alkyl, C_{2-7} alkenyl, C_{2-7} alkynyl, C_{3-7} cycloalkyl, C_{4-7} cycloalkenyl, all optionally substituted by halogen, OR^8, NR^8R^{11}; or C_{1-3} alkyl substituted by $C(O)NR^8R^{11}$; C_{1-3} alkyl substituted by aryl or heteroaryl, wherein the aryl or the heteroaryl is optionally substituted by halogen, C_{1-4} alkyl or C_{3-5} cycloalkyl; or is imidazolidinone;

R^8 and R^{11} are each independently selected from H, C_{1-7} alkyl, C_{2-7} alkenyl, C_{2-7} alkynyl, C_{3-7} cycloalkyl, or C_{4-7} cycloalkenyl;

X is selected from a bond, C_{1-7} alkanediyl, C_{2-7} alkenediyl, C_{2-7} alkynediyl, C_{3-6} cycloalkanediyl, C_{4-6} cycloalkenediyl, -O-, C_{1-3} alkanediyl-O-, -O-C_{1-7} alkanediyl, C_{1-3} alkanediyl-O-C_{1-7} alkanediyl, C_{1-7} heteroalkanediyl, or -S-C_{1-7} alkanediyl; and wherein X can form a ring with any part of R^5 or Y, wherein the ring optionally contains a carbonyl group;

Y is selected from H, $C(O)NR^{10}R^{12}$, $C(O)OR^{10}$, $R^{10}NC(O)NR^{10}R^{12}$, $OC(O)R^{10}$, $OC(O)NR^{10}R^{12}$, $S(O)_nR^8$ wherein n is 0, 1 or 2, $SO_2NR^{10}R^{12}$, $NR^{10}SO_2R^{10}$, $NR^{10}R^{12}$, $HNCOR^8$, CN, C_{3-7}-cycloalkyl optionally containing a heteroatom in the ring selected from O and N wherein if the heteroatom is N it is optionally substituted by R^8; S-aryl, O-aryl, S-heteroaryl, O-heteroaryl wherein the S-aryl, O-aryl, S-heteroaryl, O-heteroaryl are optionally substituted by one or more R^9 or R^{14}; aryl, or heteroaryl wherein the aryl or heteroaryl is optionally substituted by one or more of R^8; and wherein Y can form a ring with any part of X or R^5, wherein the ring optionally contains a carbonyl group; with the proviso that when Y is $C(O)NR^{10}R^{12}$ or $NR^{10}R^{12}$, R^{10} and R^{12} can form a ring wherein the ring contains the N of $NR^{10}R^{12}$ and optionally one further heteroatom selected from O and N, wherein if the one further heteroatom is N, it is optionally substituted by R^8;

R^9 is selected from H, halogen, C_{1-5} alkyl, C_{2-5} alkenyl, C_{2-5} alkynyl, C_{3-5} cycloalkyl, C_{1-5} alkyl-OR^8, C_{1-5} alkyl-SR^8, C_{1-5} alkyl-NR^8R^{11}, C_{1-5} alkyl-$C(O)OR^8$, C_{1-5} alkyl-$C(O)NR^8R^{11}$, C_{1-5} alkyl-$C(O)R^{10}$, CN, $C(O)R^8$, $C(O)NR^8R^{11}$, $C(O)OR^8$, $NR^8C(O)NR^8R^{11}$, $OC(O)NR^8R^{11}$, $SO_2NR^8R^{11}$, $NR^8SO_2R^8$, OR^8, NR^8R^{11}, or $S(O)_nR^8$ wherein n is 0, 1 or 2;

R^{10} and R^{12} are each independently selected from H, C_{1-7} alkyl, C_{2-7} alkenyl, C_{2-7} alkynyl, C_{3-7} cycloalkyl, C_{4-7} cycloalkenyl, C_{1-3} alkanediyl-O-C_{1-3} alkanediyl-O-C_{1-3} alkanediyl, C_{1-3} alkyl-aryl, or C_{1-3} alkyl-heteroaryl, all these groups optionally substituted by halogen, OR^8, or NR^8R^{11};

R^{13} is C_{1-5} alkyl substituted by a bicyclic ring optionally containing at least one heteroatom and a carbonyl group;

R^{14} is selected from H, C_{1-7} alkyl, C_{2-7} alkenyl, C_{2-7} alkynyl, C_{3-7} cycloalkyl, C_{4-7} cycloalkenyl, or C_{1-3} alkyl substituted by aryl or heteroaryl, wherein the aryl or the heteroaryl is optionally substituted by halogen, C_{1-4} alkyl or C_{3-5} cycloalkyl; and

each R^{15} is independently selected from H, C_{1-7} alkyl, C_{2-7} alkenyl, C_{2-7} alkynyl, C_{3-7} cycloalkyl, C_{4-7} cycloalkenyl, OR^8, or C_{1-3} alkyl-OR^8.

3. The compound according to any one of the previous claims, wherein R^1 is selected from C_{1-7} alkyl, C_{2-7} alkenyl, C_{2-7} alkynyl, C_{3-7} cycloalkyl, C_{4-7} cycloalkenyl, or C_{1-3} alkyl substituted by aryl or heteroaryl, wherein the aryl or the heteroaryl is optionally substituted by halogen, C_{1-4} alkyl or C_{3-5} cycloalkyl.

4. The compound according to any one of the previous claims, wherein R^1 is selected from C_{2-7} alkyl, C_{3-7} cycloalkyl, or C_{1-3} alkyl substituted by aryl or heteroaryl, wherein the aryl or the heteroaryl is optionally substituted by halogen, C_{1-4} alkyl or C_{3-5} cycloalkyl.

5. The compound according to any one of the previous claims, wherein R^1 is selected from C_{3-7} alkyl, C_{3-7} cycloalkyl, or C_{1-3} alkyl substituted by aryl or heteroaryl.

6. The compound according to any one of the previous claims, wherein R^2 is selected from H, $C(O)R^{14}$, $C(O)OR^{15}$, C_{1-7} alkyl, C_{3-7} cycloalkyl, C_{1-3} alkanediyl-O-C_{1-3} alkanediyl-O-C_{1-3} alkanediyl, C_{1-5} alkyl-OR^8, C_{1-5} alkyl-$NHCOR^{13}$, or C_{1-3} alkyl substituted by aryl, wherein the aryl is optionally substituted by halogen, C_{1-4} alkyl or C_{3-5} cycloalkyl.

7. The compound according to any one of the previous claims, wherein R^2 is selected from H, $C(O)R^{14}$, wherein R^{14} is C_{1-7} alkyl; C_{1-7} alkyl, C_{3-7} cycloalkyl, C_{1-5} alkyl-OR^8, C_{1-5} alkyl-$NHCOR^{13}$, wherein R^{13} is pentylamino-5-oxopentyl-7-thia-2.4-diazabicyclo[3.3.0]octan-3-one; or C_{1-3} alkyl substituted by aryl, wherein the aryl is optionally substituted by halogen, C_{1-4} alkyl or C_{3-5} cycloalkyl.

8. The compound according to any one of the previous claims, wherein R^3 and R^7 are each independently selected from H, C_{1-7} alkyl, C_{2-7} alkenyl, C_{2-7} alkynyl, C_{3-7} cycloalkyl, or C_{4-7} cycloalkenyl.

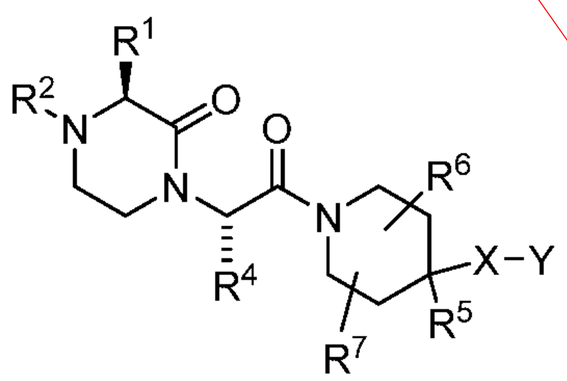
9. The compound according to any one of the previous claims, wherein R^3 and R^7 are H.

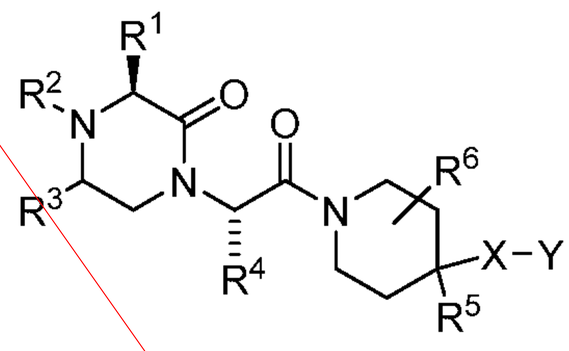
10. The compound according to any one of the previous claims, wherein R^4 is selected from C_{1-7} alkyl, C_{3-7} cycloalkyl, or C_{1-3} alkyl substituted by aryl or heteroaryl, wherein the aryl or the heteroaryl is optionally substituted by halogen, C_{1-4} alkyl or C_{3-5} cycloalkyl.

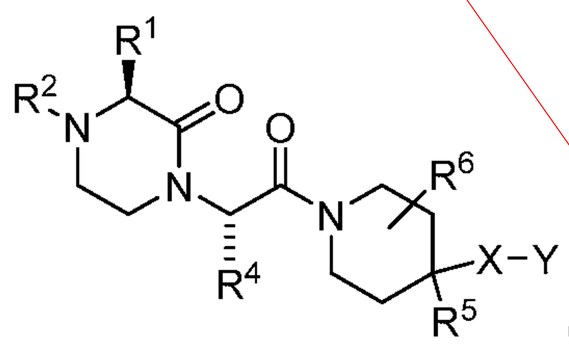
11. The compound according to any one of the previous claims, wherein R^4 is selected from C_{2-7} alkyl, C_{3-7} cycloalkyl, or C_{1-3} alkyl substituted by aryl or heteroaryl, wherein the aryl or the heteroaryl is optionally substituted by halogen, C_{1-4} alkyl or C_{3-5} cycloalkyl.

12. The compound according to any one of the previous claims, wherein R^4 is selected from C_{3-7} alkyl, C_{3-7} cycloalkyl, or C_{1-3} alkyl substituted by aryl or heteroaryl.

13. The compound according to any one of the previous claims, wherein the compound is of any one of Formulae (IIa), (IIb), or (IIc):

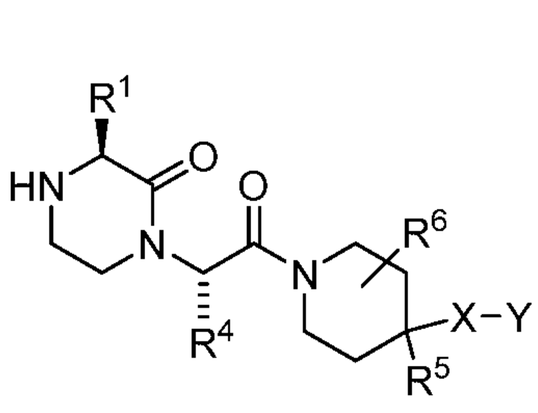

(IIa);

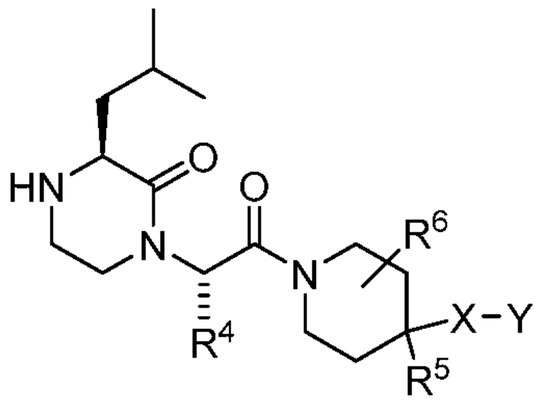

(IIb); or

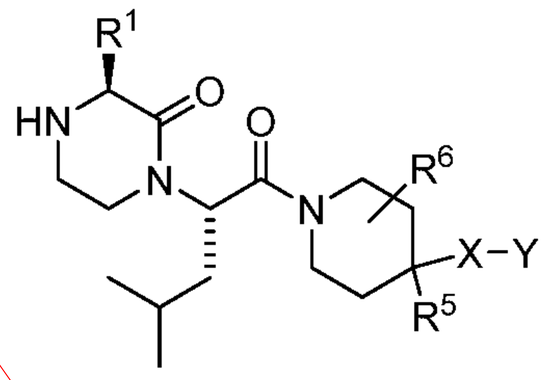

(IIc);

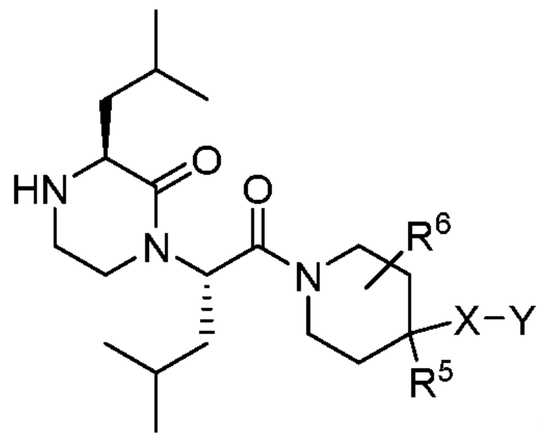
or a pharmaceutically acceptable salt, hydrate, solvate or stereoisomer thereof, wherein R^1, R^2, R^3, R^4, R^5, R^6, R^7, X, and Y are as described herein.

14. The compound according to any one of the previous claims, wherein the compound is of any one of Formulae (IIIa), (IIIb), (IIIc), or (IIId):


(IIIa);


(IIIb);



(IIIc); or  (IIId);

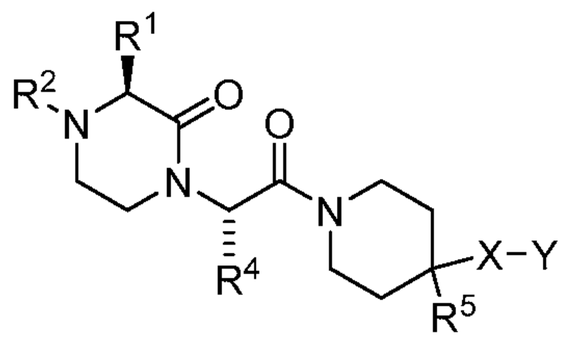
or a pharmaceutically acceptable salt, hydrate, solvate or stereoisomer thereof, wherein R^1, R^4, R^5, R^6, X, and Y are as described herein.

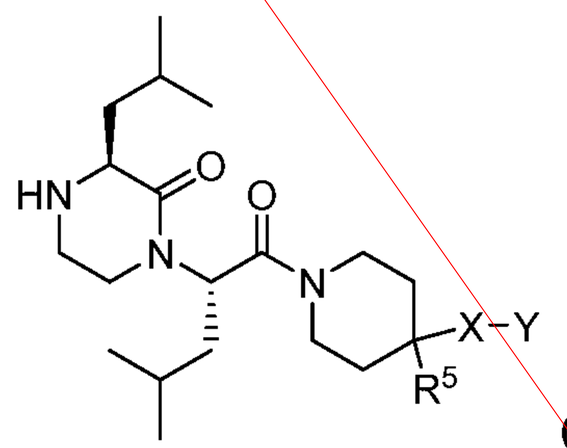
15. The compound according to any one of the previous claims, wherein R^5 is selected from H, C_{1-7} alkyl, OR^8, or SR^8; and wherein C_{1-7} alkyl, OR^8 or SR^8 of R^5 can form a ring with any part of X or Y, wherein the ring optionally contains a carbonyl group.

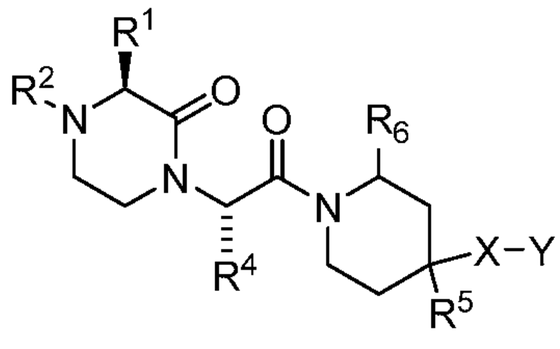
16. The compound according to any one of the previous claims, wherein R^6 is selected from H, C_{1-7} alkyl, C_{2-7} alkenyl, C_{2-7} alkynyl, C_{3-7} cycloalkyl, or C_{4-7} cycloalkenyl; or is imidazolidinone.

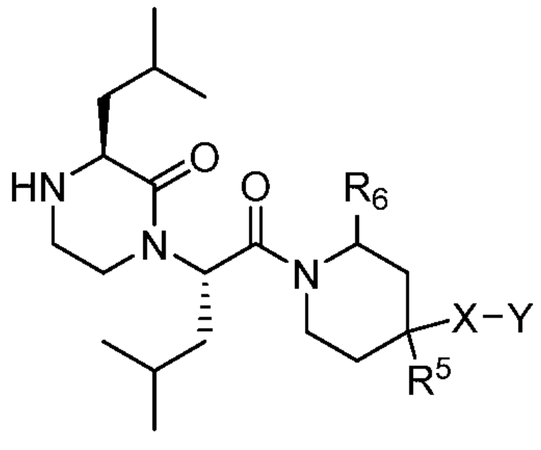
17. The compound according to any one of the previous claims, wherein R^6 is H, C_{1-7} alkyl, or imidazolidinone.

18. The compound according to any one of the previous claims, wherein the compound is of any one of Formulae (IVa), (IVb), (IVc) or (IVd):



(IVa);  (IVb);



(IVc); or  (IVd);

or a pharmaceutically acceptable salt, hydrate, solvate or stereoisomer thereof, wherein R^1, R^2, R^4, R^5, R^6, X, and Y are as described herein.

19. The compound according to any one of the previous claims, wherein R^8 and R^{11} are each independently selected from H, C_{1-7} alkyl, C_{2-7} alkenyl, or C_{3-7} cycloalkyl.

20. The compound according to any one of the previous claims, wherein R^9 is selected from H, C_{1-5} alkyl, halogen, C_{1-5} alkyl-NR^8R^{11}, C_{1-5} alkyl-$C(O)OR^8$, C_{1-5} alkyl-$C(O)NR^8R^{11}$, CN, $C(O)R^8$, $C(O)NR^8R^{11}$, $C(O)OR^8$, or OR^8.

21. The compound according to any one of the previous claims, wherein R^{10} and R^{12} are each independently selected from H, C_{1-7} alkyl, C_{2-7} alkenyl, C_{3-7} cycloalkyl, C_{4-7} cycloalkenyl, C_{1-3} alkanediyl-O-C_{1-3} alkanediyl-O-C_{1-3} alkanediyl, C_{1-3} alkyl-aryl, or C_{1-3} alkyl-heteroaryl, all these groups optionally substituted by halogen or OR^8.

22. The compound according to any one of the previous claims, wherein R^{14} is selected from C_{1-7} alkyl, C_{3-7} cycloalkyl, or C_{1-3} alkyl substituted by aryl or heteroaryl, wherein the aryl or the heteroaryl is optionally substituted by halogen, C_{1-4} alkyl or C_{3-5} cycloalkyl.

23. The compound according to any one of the previous claims, wherein R^{14} is selected from C_{1-7} alkyl or C_{3-7} cycloalkyl.

24. The compound according to any one of the previous claims, wherein R^{14} is C_{1-7} alkyl.

25. The compound according to any one of the previous claims, wherein each R^{15} is independently selected from H, C_{1-7} alkyl, or C_{3-7} cycloalkyl.

26. The compound according to any one of the previous claims, wherein each R^{15} is independently selected from H, C_{1-7} alkyl.

27. The compound according to any one of the previous claims, wherein X is selected from a bond, C_{1-7} alkanediyl, -O-, C_{1-3} alkanediyl-O-, -O-C_{1-7} alkanediyl, C_{1-3} alkanediyl-O-C_{1-7} alkanediyl, C_{1-7} heteroalkanediyl, or -S-C_{1-7} alkanediyl; and wherein X can form a ring with any part of R^5 or Y, wherein the ring optionally contains a carbonyl group.

28. The compound according to any one of the previous claims, wherein X is selected from a bond and C_{1-7} alkanediyl, and wherein C_{1-7} alkanediyl of X can form a ring with any part of Y.

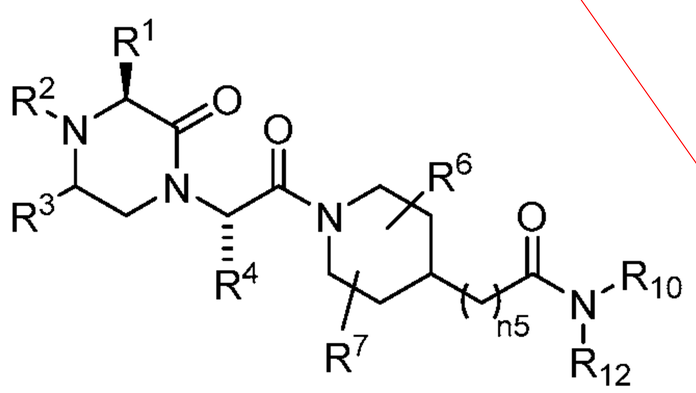
29. The compound according to any one of the previous claims, wherein X is selected from a bond, -O-C_{1-7} alkanediyl, -S-C_{1-7} alkanediyl and C_{1-7} alkanediyl, and wherein –O-C_{1-7} alkanediyl, -S-C_{1-7} alkanediyl or C_{1-7} alkanediyl of X can form a ring with any part of R^5, wherein the ring optionally contains a carbonyl group.

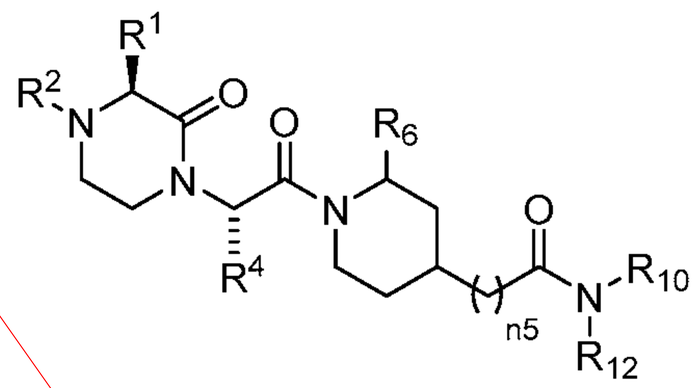
30. The compound according to any one of the previous claims, wherein Y is selected from H, $C(O)NR^{10}R^{12}$, $C(O)OR^{10}$, $NR^{10}R^{12}$, CN, C_{3-7}-cycloalkyl optionally containing a heteroatom in the ring selected from O and N wherein if the heteroatom is N it is optionally substituted by R^8; S-aryl, O-aryl, S-heteroaryl, O-heteroaryl wherein the S-aryl, O-aryl, S-heteroaryl, O-heteroaryl are optionally substituted by one or more R^9 or R^{14}; or aryl, heteroaryl wherein the aryl or heteroaryl is optionally substituted by one or more of R^8; and wherein when Y is $C(O)NR^{10}R^{12}$ or $NR^{10}R^{12}$, Y can form a ring with any part of X or R^5, wherein the ring optionally contains a carbonyl group; with the proviso that when Y is $C(O)NR^{10}R^{12}$ or $NR^{10}R^{12}$, R^{10} and R^{12} can form a ring wherein the ring contains the N of $NR^{10}R^{12}$ and optionally one further heteroatom selected from O and N, wherein if the one further heteroatom is N, it is optionally substituted by R^8.

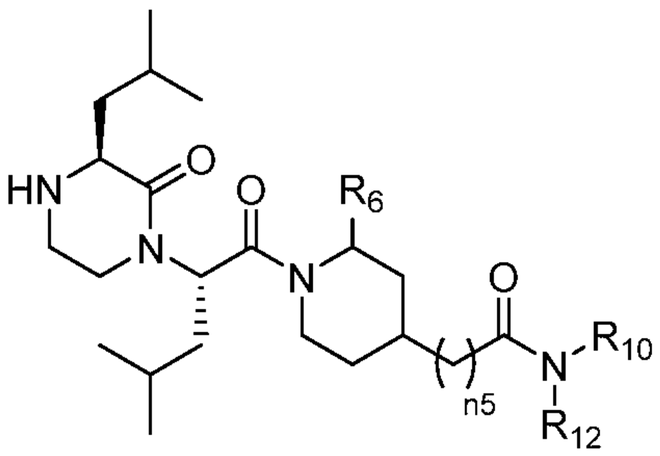
31. The compound according to any one of the previous claims, wherein Y is selected from H, $C(O)NR^{10}R^{12}$, $C(O)OR^{10}$, $NR^{10}R^{12}$, CN, C_{3-7}-cycloalkyl optionally containing a heteroatom in the ring selected from O and N wherein if the heteroatom is N it is optionally substituted by R^8; S-aryl, O-aryl, S-heteroaryl, O-heteroaryl wherein the S-aryl, O-aryl, S-heteroaryl, O-heteroaryl are optionally substituted by one or more R^9 or R^{14}; or aryl, heteroaryl wherein the aryl or heteroaryl is optionally substituted by one or more of R^8; and wherein Y can form a ring with any part of X or R^5, wherein the ring optionally contains a carbonyl group; with the proviso that when Y is $C(O)NR^{10}R^{12}$ or $NR^{10}R^{12}$, R^{10} and R^{12} can form a ring wherein the ring contains the N of $NR^{10}R^{12}$ and optionally one further heteroatom selected from O and N, wherein if the one further heteroatom is N, it is optionally substituted by R^8.

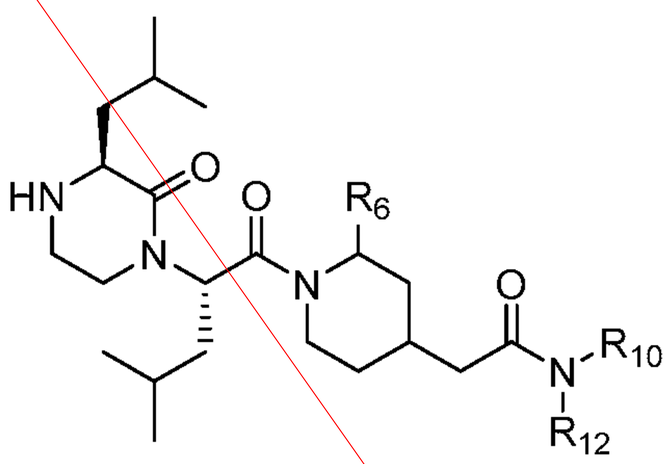
32. The compound according to any one of the previous claims, wherein Y is selected from $C(O)NR^{10}R^{12}$, $NR^{10}R^{12}$, C_{3-7}-cycloalkyl optionally containing a heteroatom in the ring selected from O and N wherein if the heteroatom is N it is optionally substituted by R^8; S-aryl, O-aryl, S-heteroaryl, O-heteroaryl wherein the S-aryl, O-aryl, S-heteroaryl, O-heteroaryl are optionally substituted by one or more R^9 or R^{14}; or heteroaryl wherein the heteroaryl is optionally substituted by one or more of R^8; and wherein Y can form a ring with any part of X or R^5, wherein the ring optionally contains a carbonyl group; with the proviso that when Y is $C(O)NR^{10}R^{12}$ or $NR^{10}R^{12}$, R^{10} and R^{12} can form a ring wherein the ring contains the N of $NR^{10}R^{12}$ and optionally one further heteroatom selected from O and N, wherein if the one further heteroatom is N, it is optionally substituted by R^8.

33. The compound according to any one of the previous claims, wherein the compound is of any one of Formulae (Va), (Vb), (Vc), or (Vd):


(Va);

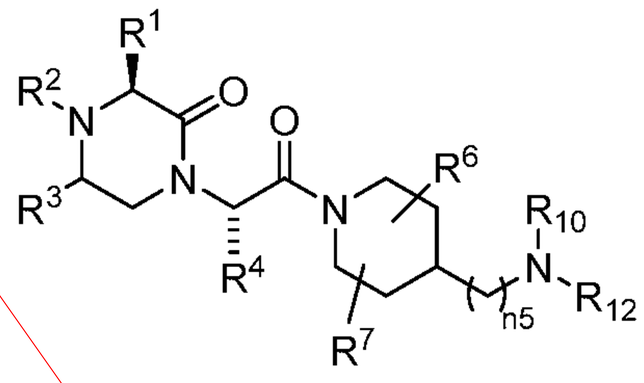

(Vb);


(Vc); or

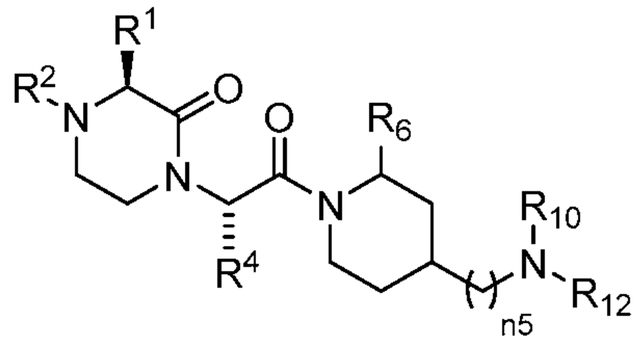

(Vd);

or a pharmaceutically acceptable salt, hydrate, solvate or stereoisomer thereof, wherein n5 is 0, 1, 2, 3, 4, 5, 6, or 7, preferably 1, 2, or 3, and R^1, R^2, R^3, R^4, R^6, R^7, R^{10} and R^{12} are as described herein.

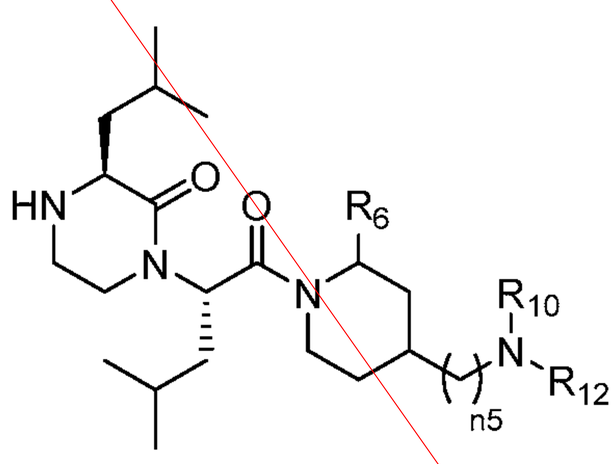
34. The compound according to any one of the previous claims, wherein the compound is of any one of Formulae (VIa), (VIb), (VIc), or (VId):



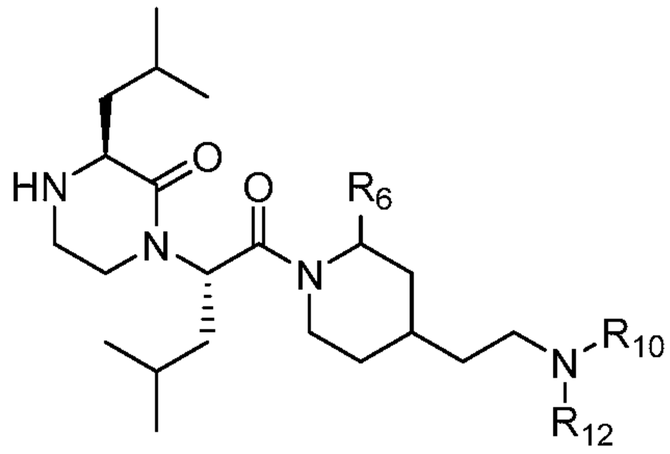
(VIa);



(VIb);



(VIc); or



(VId);

or a pharmaceutically acceptable salt, hydrate, solvate or stereoisomer thereof, wherein n5 is 0, 1, 2, 3, 4, 5, 6, or 7, preferably 1, 2, or 3, and R^1, R^2, R^3, R^4, R^6, R^7, R^{10} and R^{12} are as described herein.

35. The compound according to any one of the previous claims, wherein Y is selected from $NR^{10}R^{12}$ and C_{3-7}-cycloalkyl optionally containing a heteroatom in the ring selected from O and N wherein if the heteroatom is N it is optionally substituted by R^8; and wherein Y can form a ring with any part of X or R^5; with the proviso that when Y is $NR^{10}R^{12}$, R^{10} and R^{12} can form a ring wherein the ring contains the N of $NR^{10}R^{12}$ and optionally one further heteroatom selected from O and N, wherein if the one further heteroatom is N, it is optionally substituted by R^8.

36. The compound according to any one of the previous claims, wherein R^5 is selected from H and C_{1-7} alkyl; wherein C_{1-7} alkyl of R^5 can form a ring with any part of Y;
wherein X is selected from a bond and C_{1-7} alkanediyl, and wherein C_{1-7} alkanediyl of X can form a ring with any part of Y;
wherein Y is selected from $NR^{10}R^{12}$ and C_{3-7}-cycloalkyl optionally containing a heteroatom in the ring wherein the heteroatom is N and is optionally substituted by R^8 wherein R^8 is C_{1-7} alkyl;
wherein Y can form a ring with any part of C_{1-7} alkanediyl of X or with any part of C_{1-7} alkyl of R^5; with the proviso that when Y is $NR^{10}R^{12}$, R^{10} and R^{12} can form a ring wherein the ring contains the N of $NR^{10}R^{12}$ and optionally one further heteroatom selected from O and N, wherein if the one further heteroatom is N, it is optionally substituted by R^8; and

wherein R^{10} and R^{12} are each independently selected from H, C_{1-7} alkyl, C_{3-7} cycloalkyl, C_{1-3} alkyl-aryl, all these groups optionally substituted by halogen.

37. The compound according to any one of the previous claims, wherein R^5 is selected from C_{1-7} alkyl, OR^8, or SR^8; wherein C_{1-7} alkyl, OR^8 or SR^8 of R^5 can form a ring with any part of X;

wherein X is selected from –O-C_{1-7} alkanediyl, -S-C_{1-7} alkanediyl, or C_{1-7} alkanediyl, and wherein –O-C_{1-7} alkanediyl, -S-C_{1-7} alkanediyl or C_{1-7} alkanediyl of X can form a ring with any part of R^5; and

wherein Y is $NR^{10}R^{12}$ wherein R^{10} and R^{12} can form a ring wherein the ring contains the N of $NR^{10}R^{12}$ and optionally one further heteroatom selected from O and N, wherein if the one further heteroatom is N, it is optionally substituted by R^8.

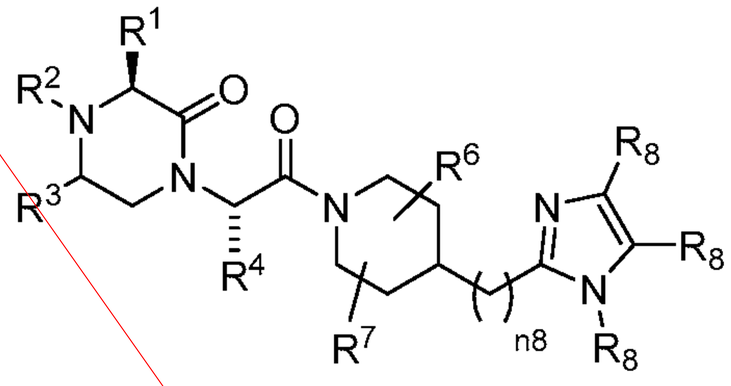
38. The compound according to any one of the previous claims,

wherein R^5 is OR^8, wherein R^8 of OR^8 is C_{1-7} alkyl, and wherein OR^8 of R^5 can form a ring with any part of X;

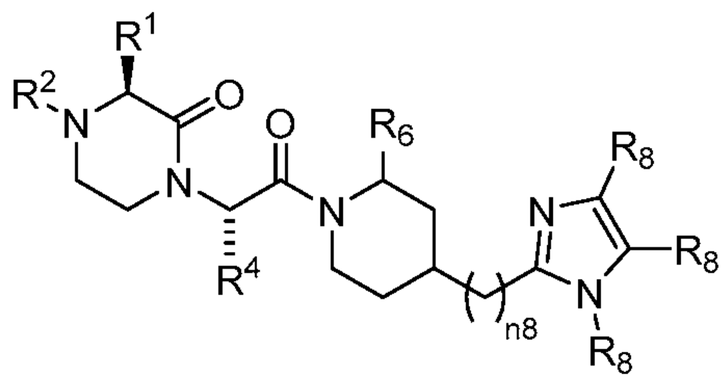
wherein X is –O-C_{1-7} alkanediyl and wherein –O-C_{1-7} alkanediyl of X can form a ring with any part of R^5; and

wherein Y is $NR^{10}R^{12}$ wherein R^{10} and R^{12} can form a ring wherein the ring contains the N of $NR^{10}R^{12}$ and four or five carbon atoms.

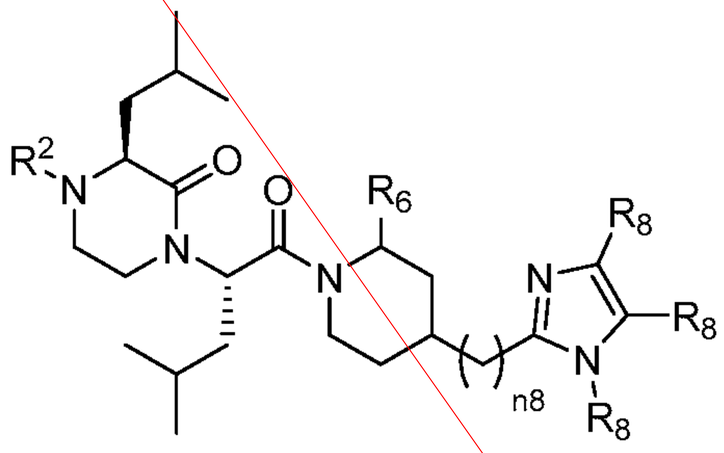
39. The compound according to any one of the previous claims, wherein the compound is of any one of Formulae (VIIa), (VIIb), (VIIc), (VIId), (VIIe), or (VIIf):



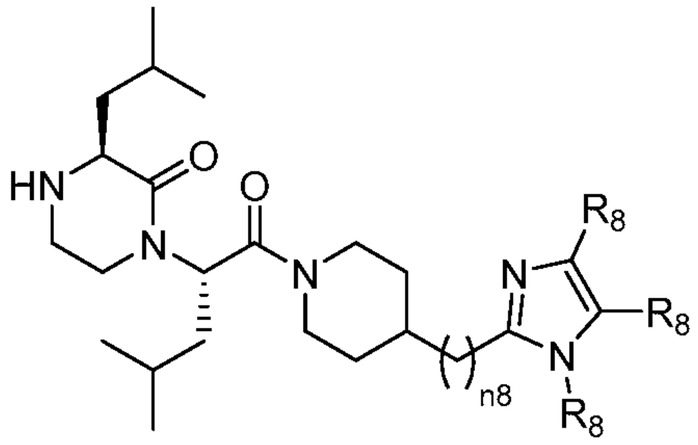
(VIIa);



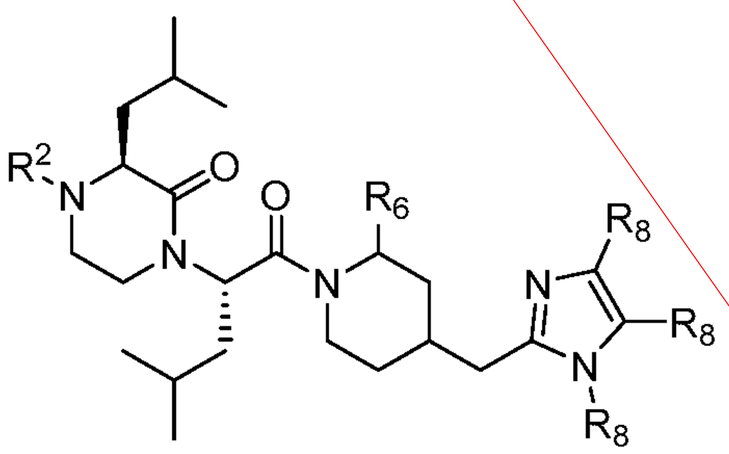
(VIIb);



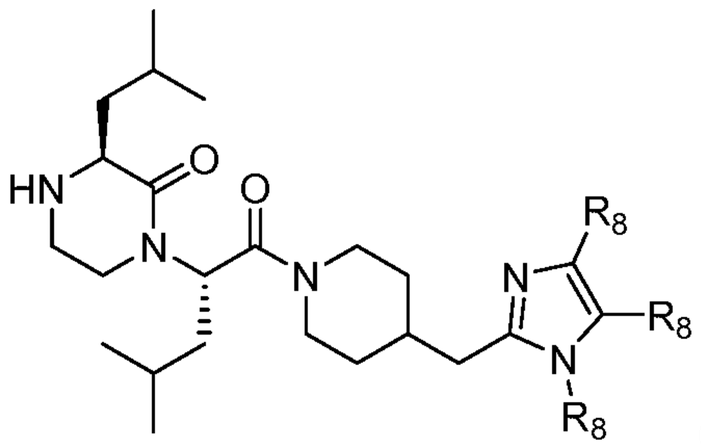
(VIIc);



(VIId);



(VIIe); or



(VIIf);

or a pharmaceutically acceptable salt, hydrate, solvate or stereoisomer thereof, wherein n8 is 0, 1, 2, 3, 4, 5, 6, or 7, preferably 1, 2, or 3, and R^1, R^2, R^3, R^4, R^6, R^7, and R^8 are as described herein.

40. The compound according to any one of the previous claims,
wherein Y is aryl or heteroaryl, wherein the aryl or heteroaryl is optionally substituted by one or more of R^8; or S-heteroaryl, wherein the S-heteroaryl is optionally substituted by one or more R^{14}.

41. The compound according to any one of the previous claims,
wherein R^5 is selected from H and C_{1-7} alkyl;
wherein X is selected from a bond and C_{1-7} alkanediyl;
wherein Y is heteroaryl, wherein the heteroaryl is optionally substituted by one or more of R^8; or S-heteroaryl, wherein the S-heteroaryl is optionally substituted by one or more R^{14}.

42. The compound according to any one of the previous claims,

wherein Y is $C(O)NR^{10}R^{12}$; and wherein R^{10} and R^{12} can form a ring wherein the ring contains the N of $NR^{10}R^{12}$ and optionally one further heteroatom selected from O and N, wherein if the one further heteroatom is N, it is optionally substituted by R^8.

43. The compound according to any one of the previous claims, wherein R^5 is selected from H and C_{1-7} alkyl;
wherein X is selected from a bond and C_{1-7} alkanediyl;
wherein Y is $C(O)NR^{10}R^{12}$; and wherein R^{10} and R^{12} can form a ring wherein the ring contains the N of $NR^{10}R^{12}$ and optionally one further heteroatom selected from O and N, wherein if the one further heteroatom is N, it is optionally substituted by R^8; and wherein R^{10} and R^{12} are each independently selected from H, C_{1-7} alkyl, C_{2-7} alkenyl, C_{3-7} cycloalkyl, C_{1-3} alkyl-aryl.

44. The compound according to any one of the previous claims, wherein Y is selected from S-aryl, O-aryl, S-heteroaryl, O-heteroaryl, wherein the S-aryl, O-aryl, S-heteroaryl, O-heteroaryl are optionally substituted by one or more R^9 or R^{14}.

45. The compound according to any one of the previous claims,
wherein R^5 is selected from H and C_{1-7} alkyl;
wherein X is selected from a bond and C_{1-7} alkanediyl,
wherein Y is selected from O-aryl and O-heteroaryl, wherein the O-aryl or O-heteroaryl is optionally substituted by one or more R^9;
wherein R^9 is selected from H, C_{1-5} alkyl, halogen, C_{1-5} alkyl-NR^8R^{11}, C_{1-5} alkyl-$C(O)OR^8$, C_{1-5} alkyl-$C(O)NR^8R^{11}$, CN, $C(O)R^8$, $C(O)NR^8R^{11}$, $C(O)OR^8$, and OR^8.

46. The compound according to any one of the previous claims, wherein Y is $C(O)OR^{10}$.

47. The compound according to any one of the previous claims, wherein
wherein R^5 is selected from H and C_{1-7} alkyl;
wherein X is selected from a bond and C_{1-7} alkanediyl;
wherein Y is $C(O)OR^{10}$; and
wherein R^{10} is selected from H, C_{1-7} alkyl, C_{2-7} alkenyl, C_{3-7} cycloalkyl, C_{4-7} cycloalkenyl, C_{1-3} alkanediyl-O-C_{1-3} alkanediyl-O-C_{1-3} alkanediyl, C_{1-3} alkyl-aryl, or C_{1-3} alkyl-heteroaryl, all these groups optionally substituted by OR_8.

48. The compound according to any one of the previous claims, wherein Y is H.

49. The compound according to any one of the previous claims, wherein

wherein R^5 is C_{1-7} alkyl;

wherein X is a bond; and

wherein Y is H.

50. The compound according to any one of the previous claims, wherein Y is CN.

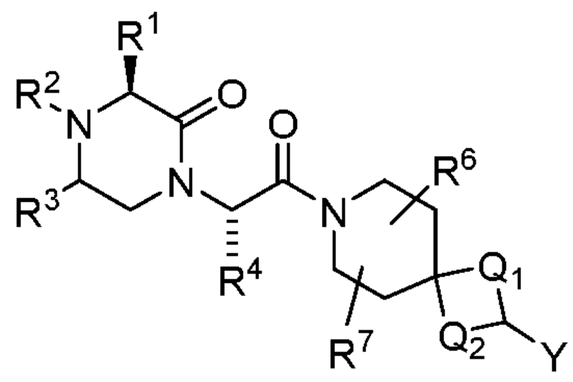
51. The compound according to any one of the previous claims, wherein

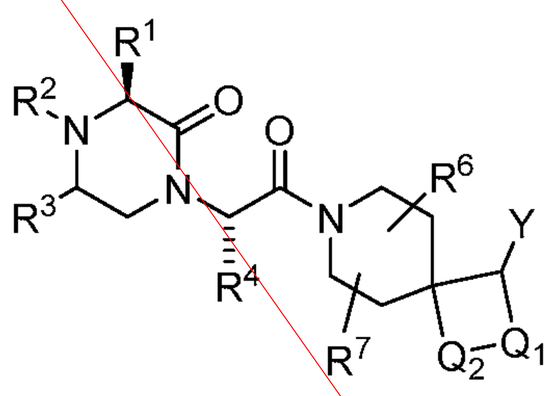
R^5 is H;

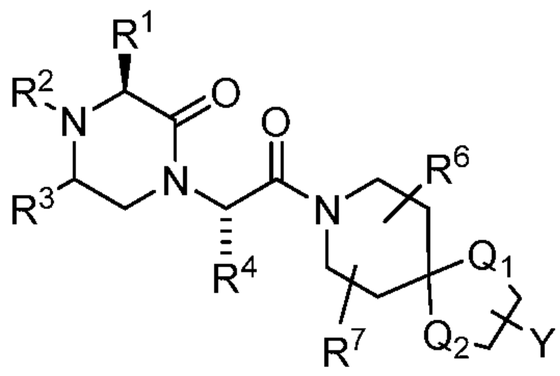
X is C_{1-7} alkanediyl; and

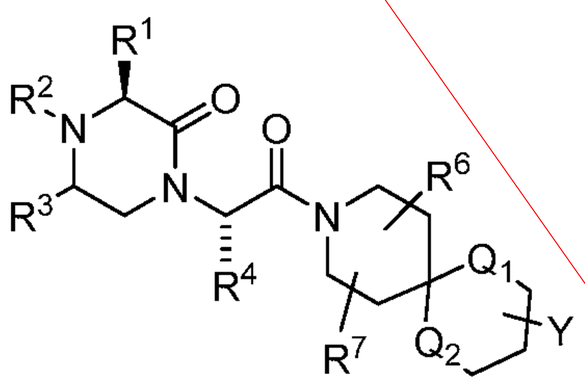
Y is CN.

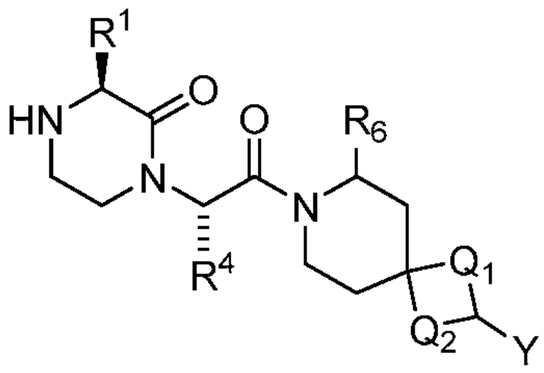
52. The compound according to any one of the previous claims, wherein the compound is of any one of Formulae (VIIIa), (VIIIb), (VIIIc), (VIIId), (VIIIe), (VIIIf), (VIIIg), (VIIIh), (VIIIi), (VIIIj), (VIIIk), (VIIIl):

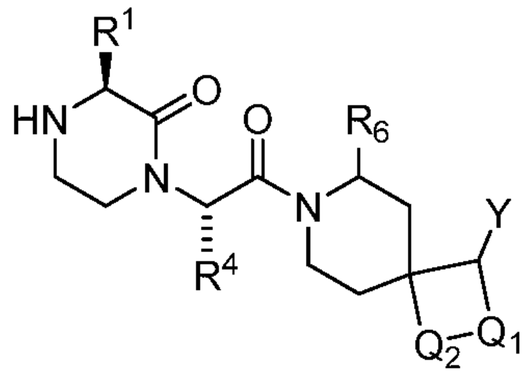

(VIIIa);

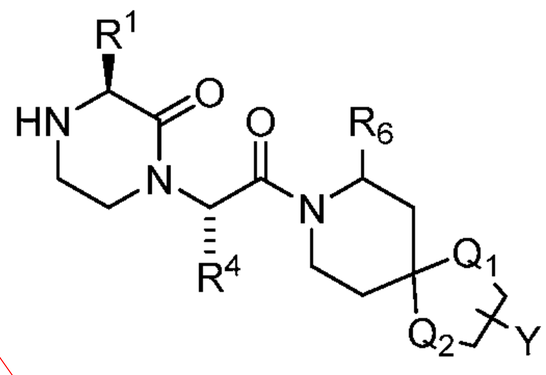

(VIIIb);

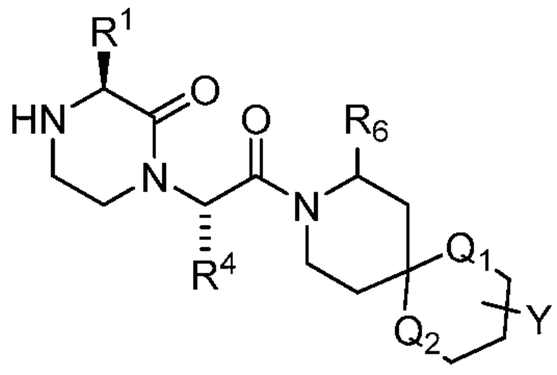

(VIIIc);

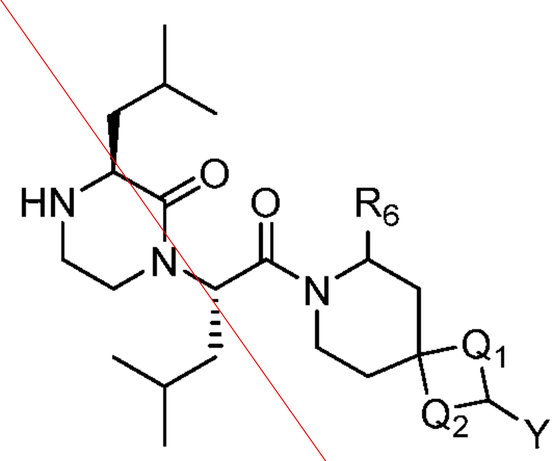

(VIIId);

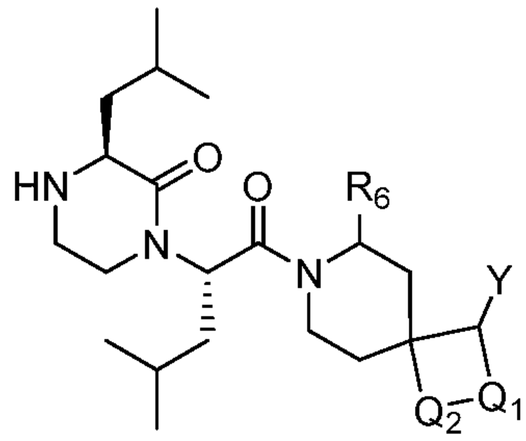

(VIIIe);

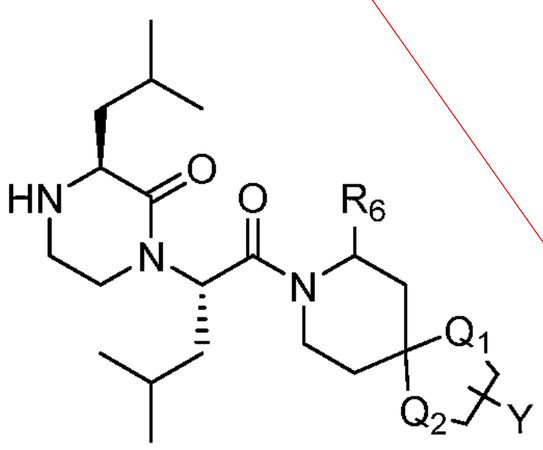

(VIIIf);

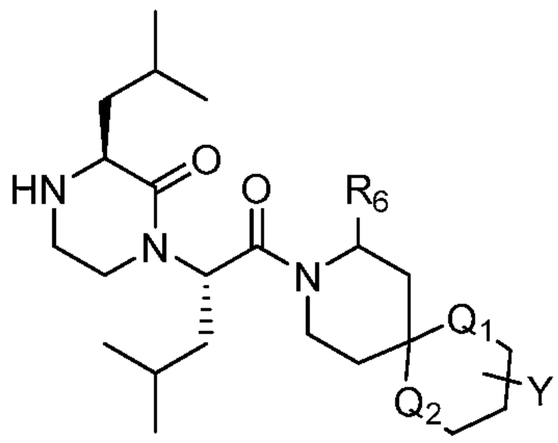

(VIIIg);


(VIIIh);


(VIIIi);

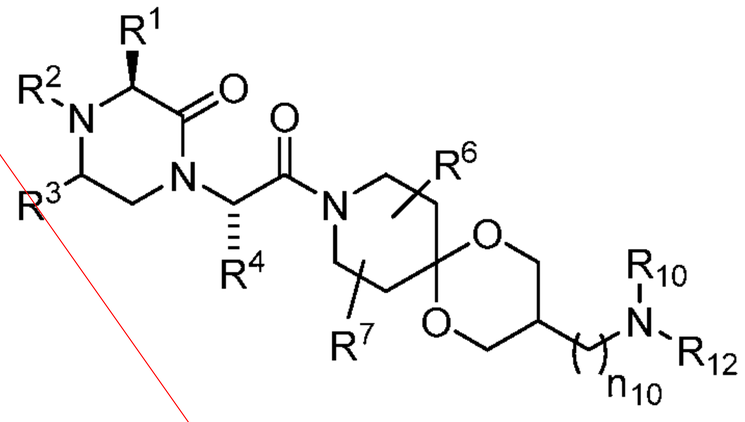

(VIIIj);

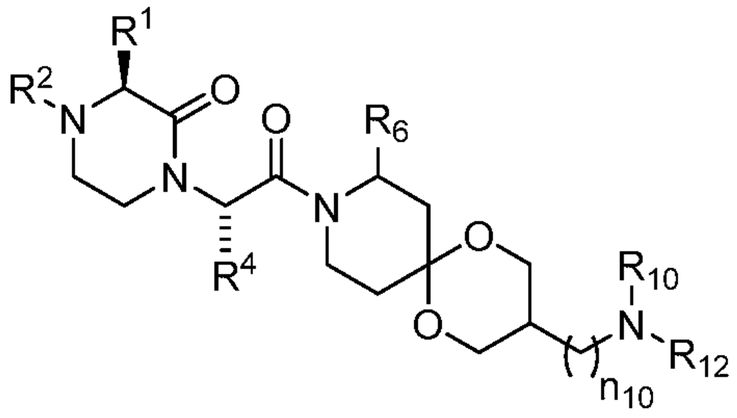

(VIIIk); or

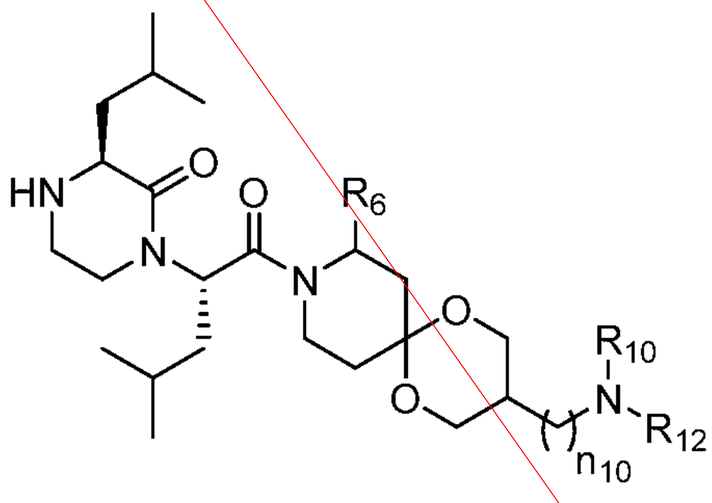

(VIIIl);

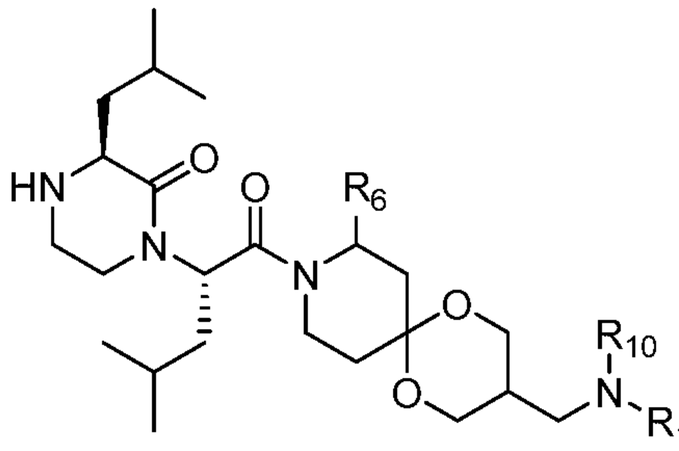
or a pharmaceutically acceptable salt, hydrate, solvate, or stereoisomer thereof, wherein Q_1 and Q_2 are each independently O, S, NR^8, or CR^8, and R^1, R^2, R^3, R^4, R^6, R^7, R^8, and Y are as described herein.

53. The compound according to any one of the previous claims, wherein the compound is of any one of Formulae (IXa), (IXb), (IXc), or (IXd):


(IXa);

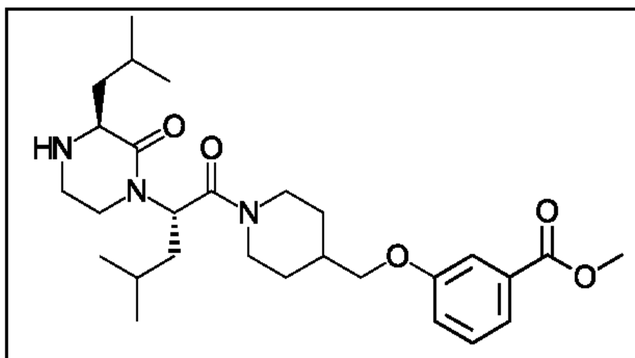
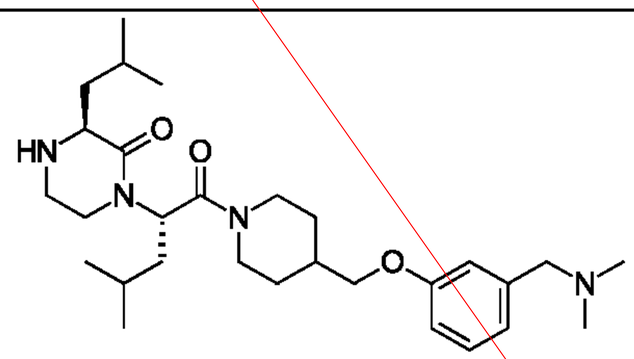
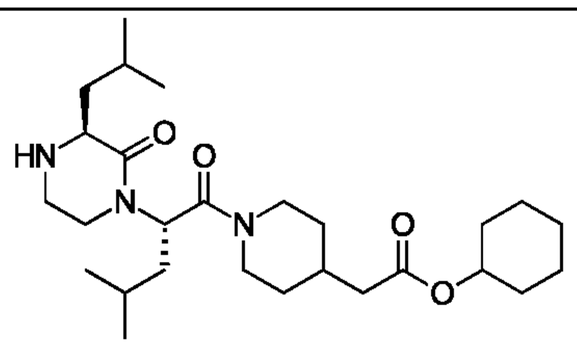
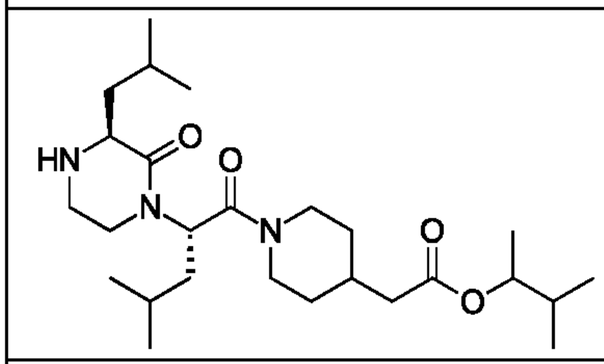
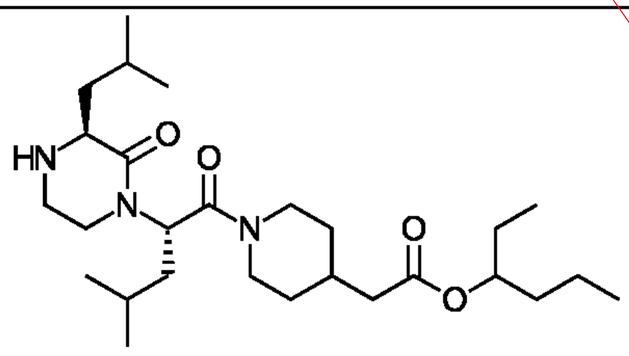
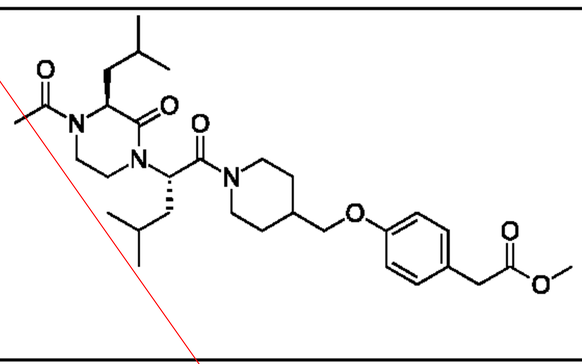
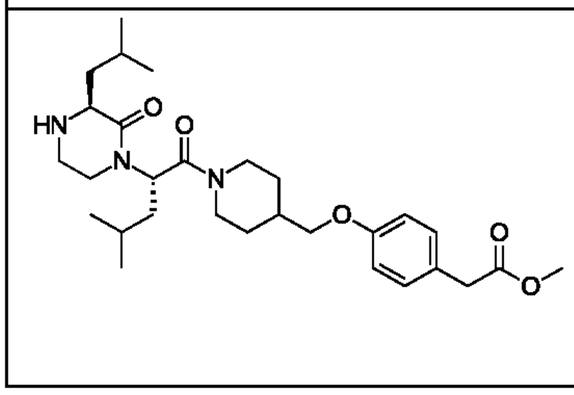
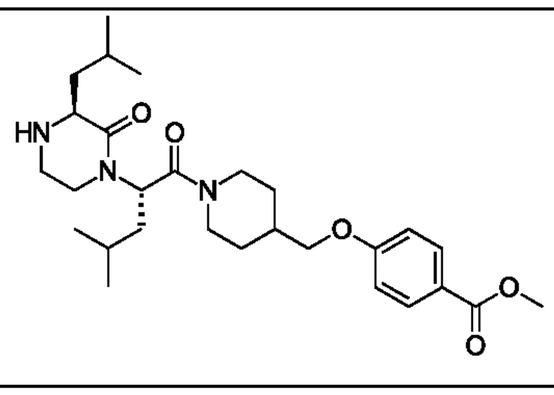
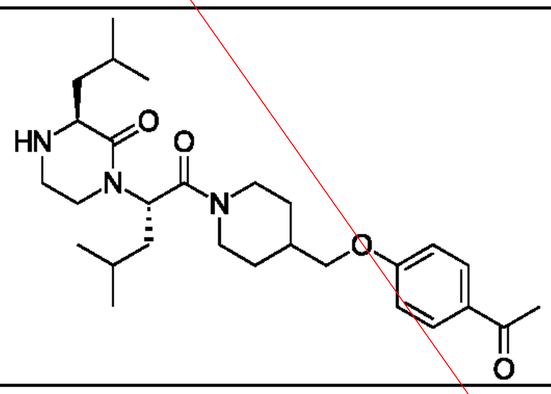

(IXb);

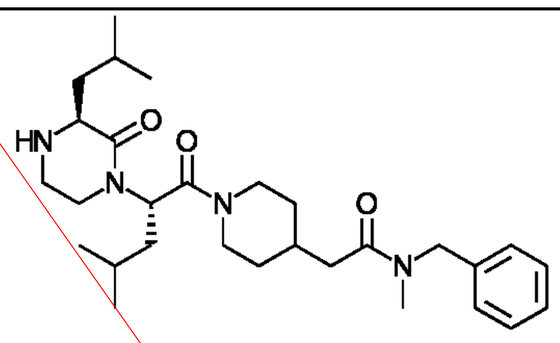
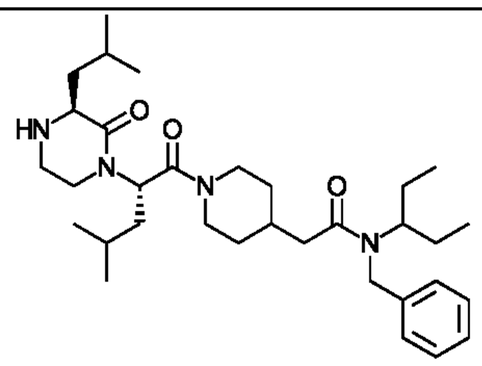
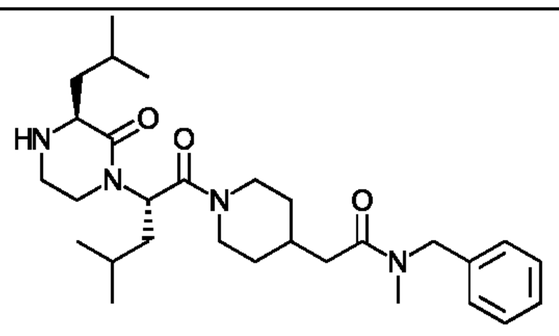
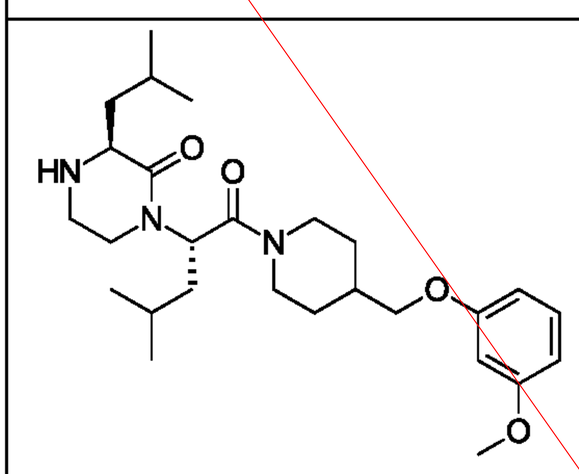
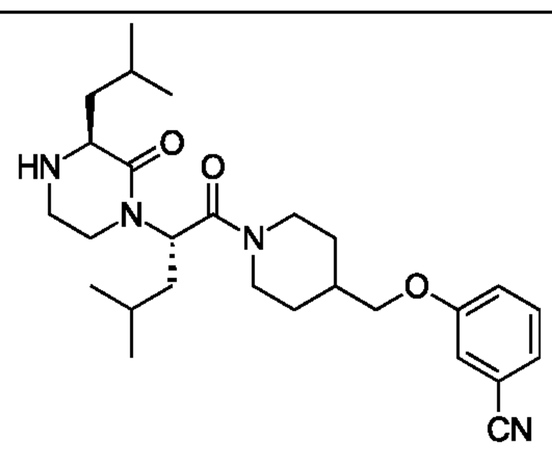
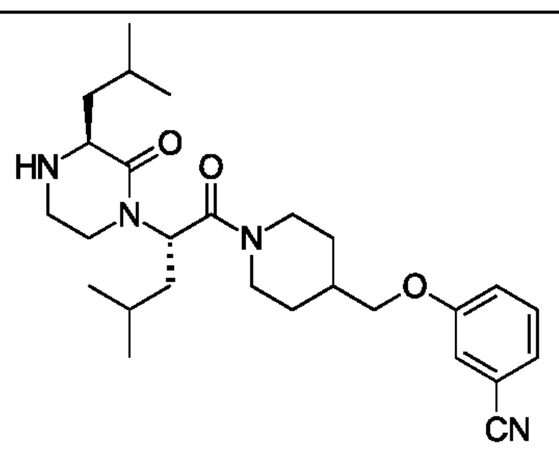
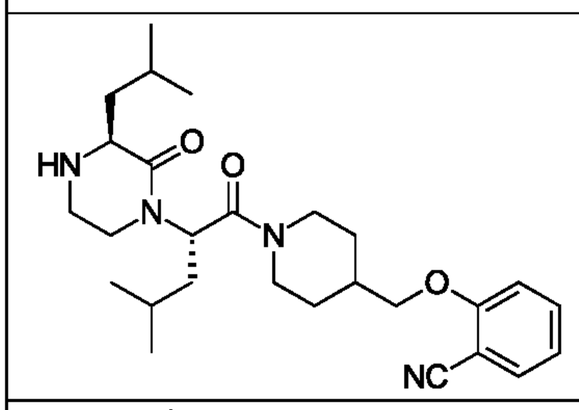
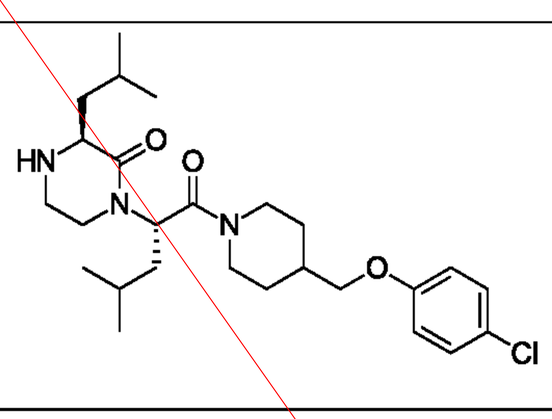
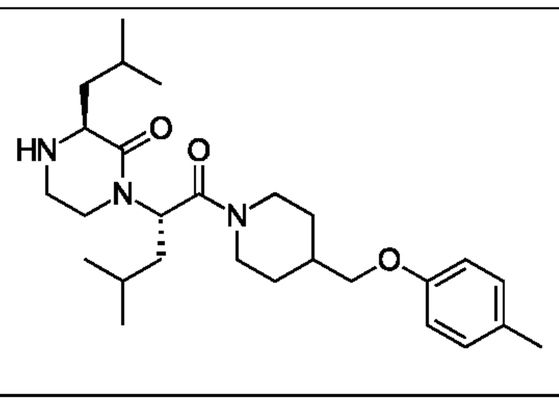
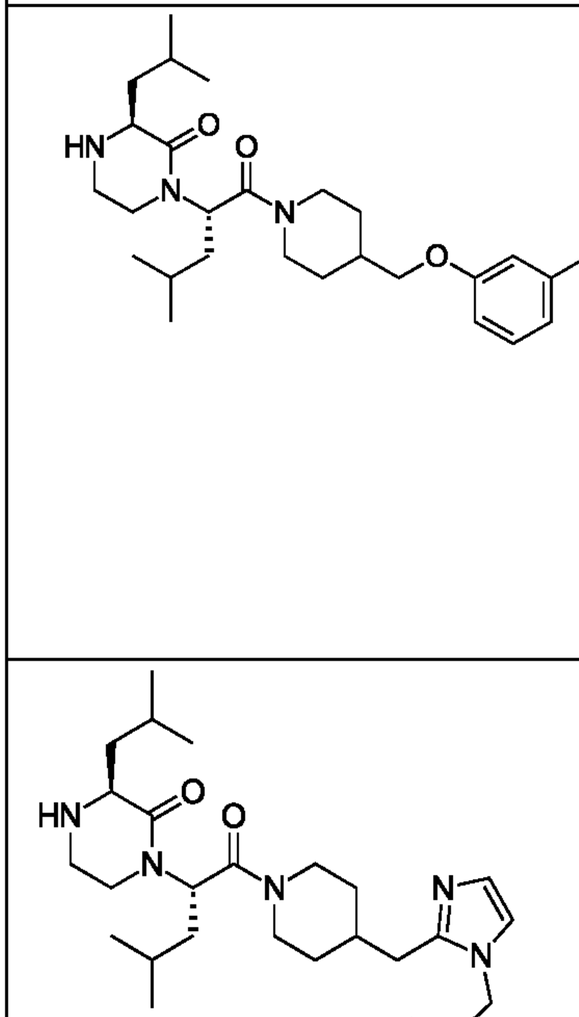
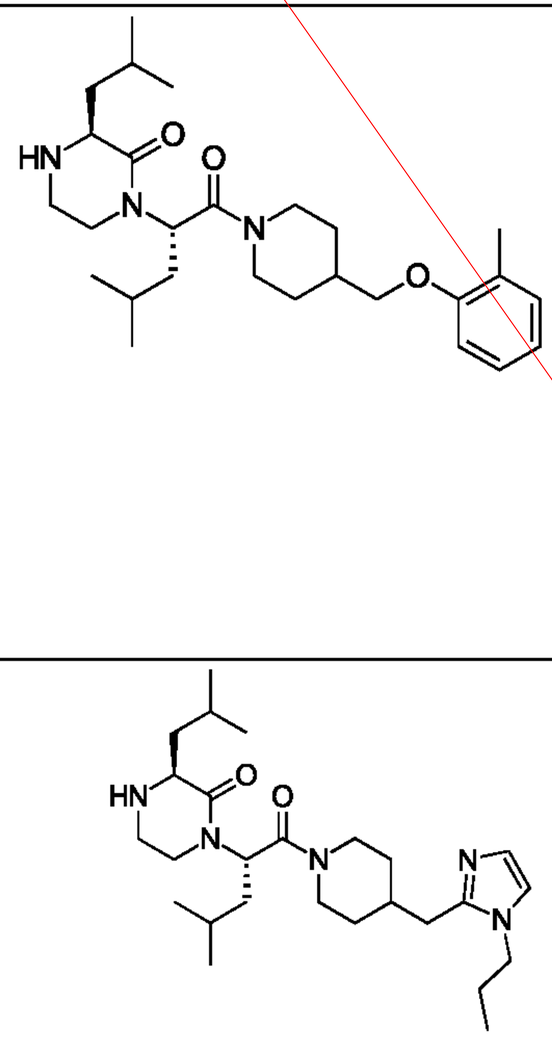
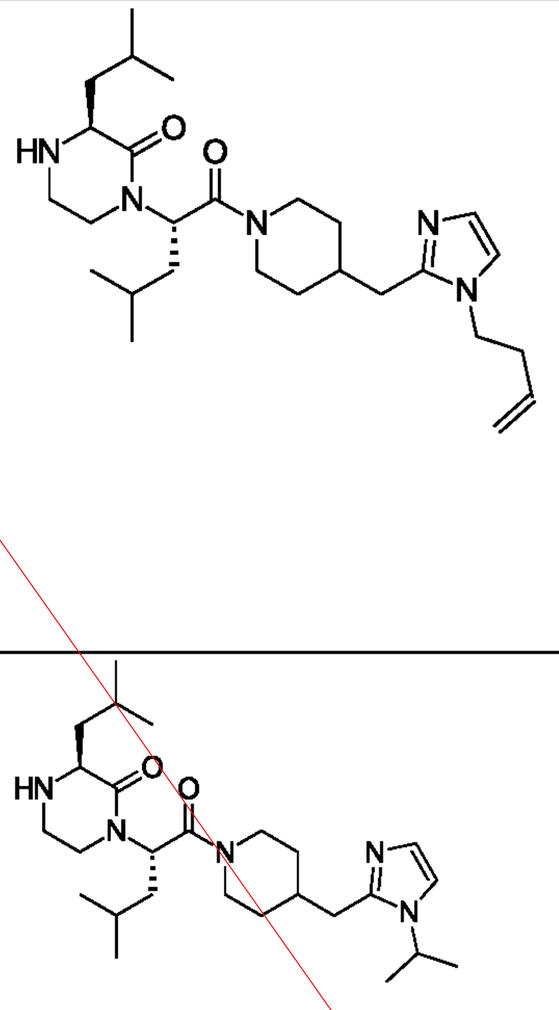

(IXc); or

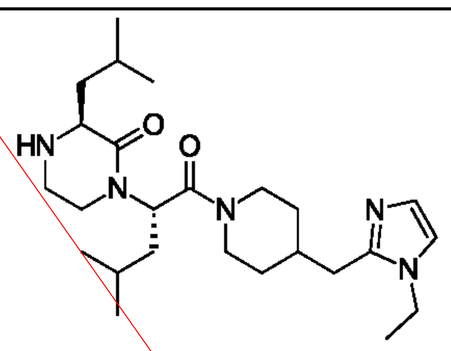
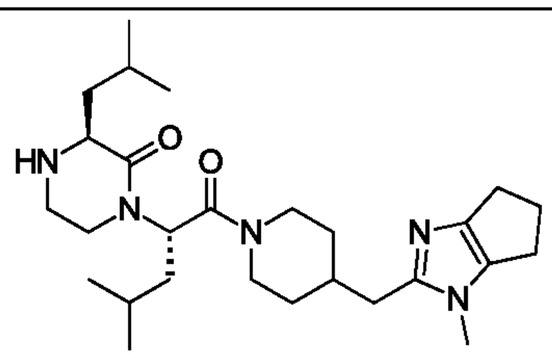
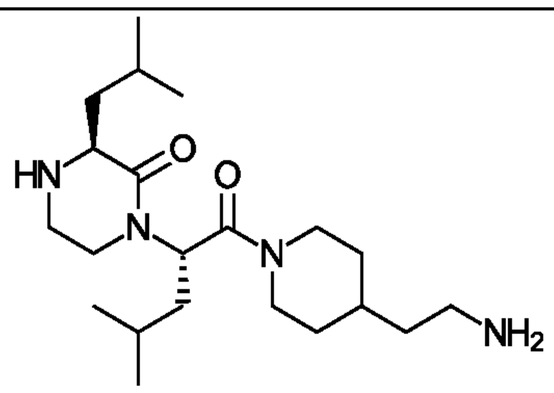
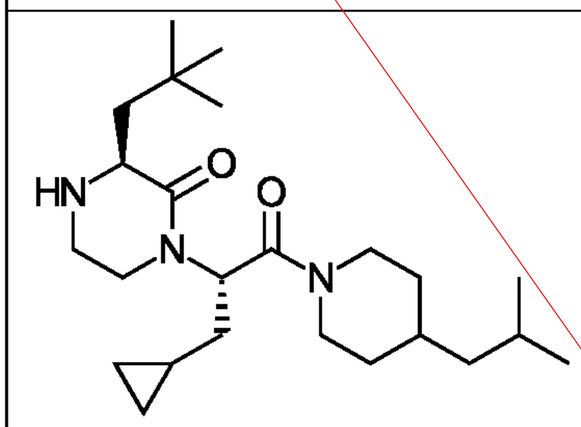
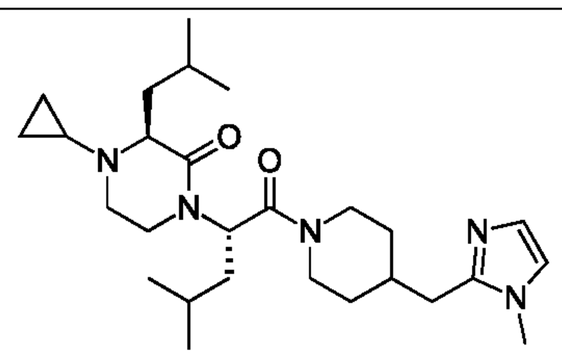
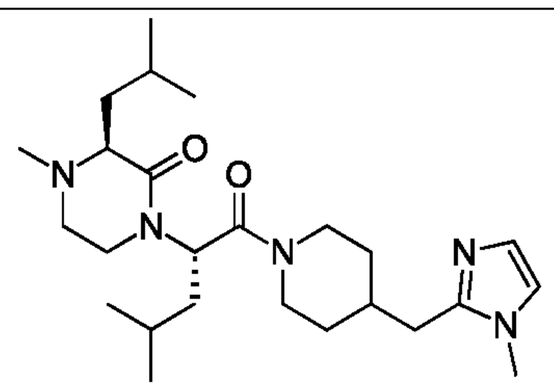
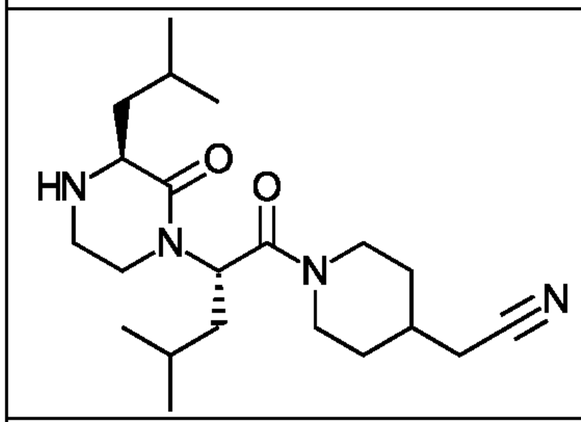
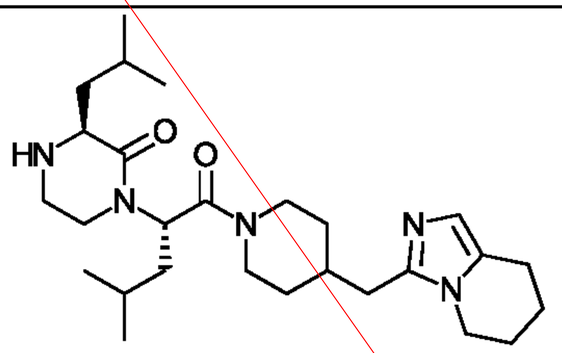
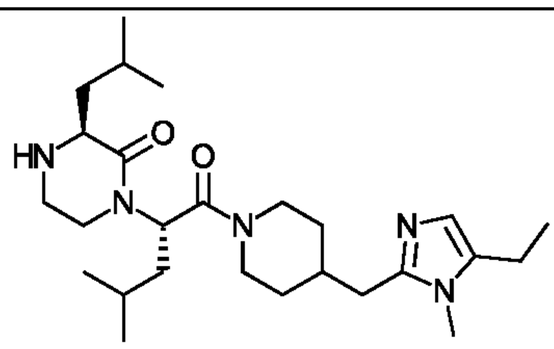
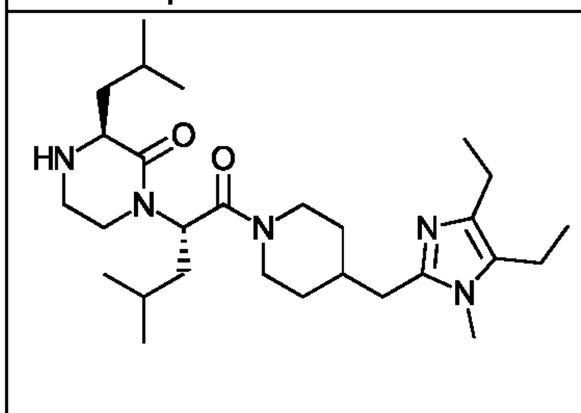
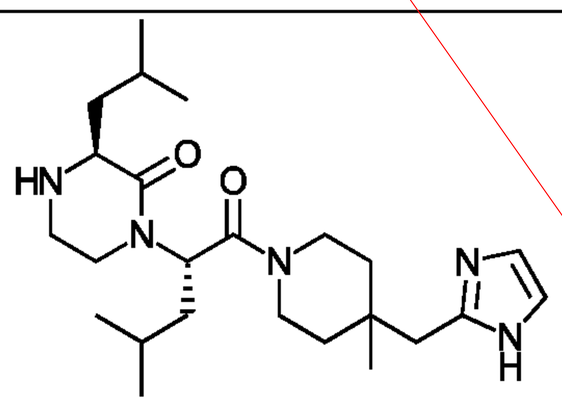
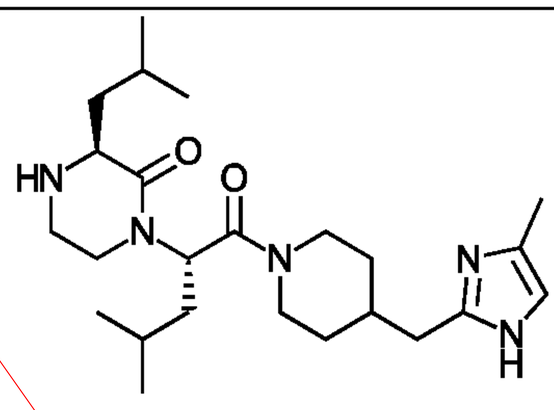

(IXd);

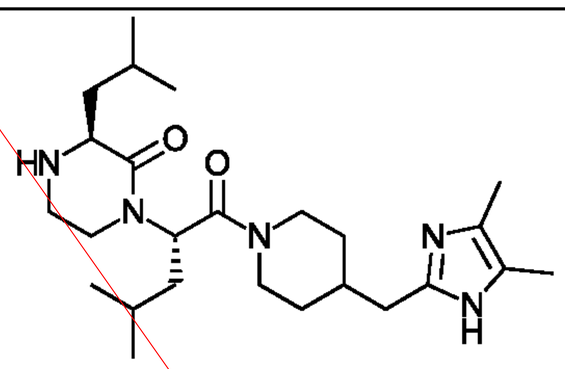
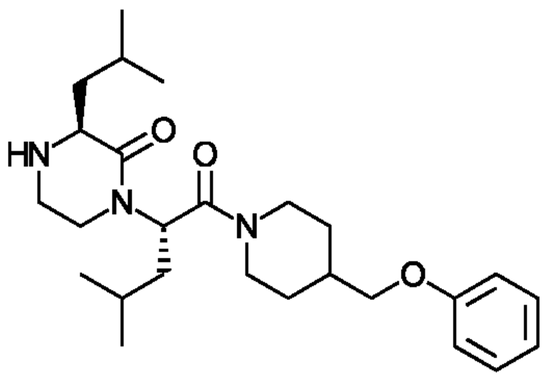
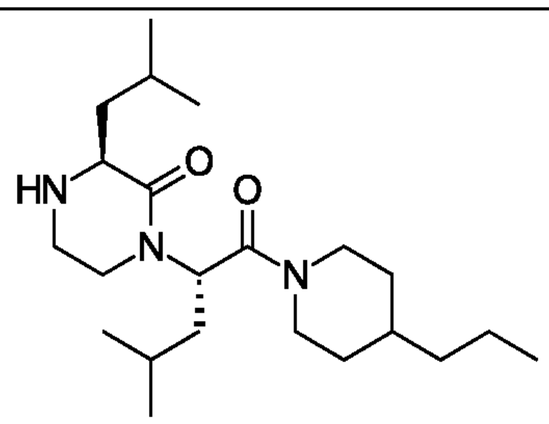
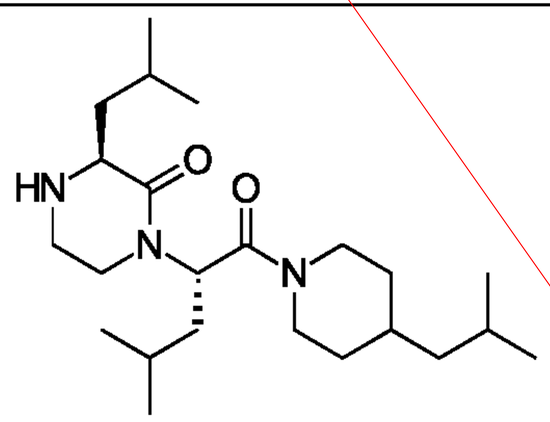
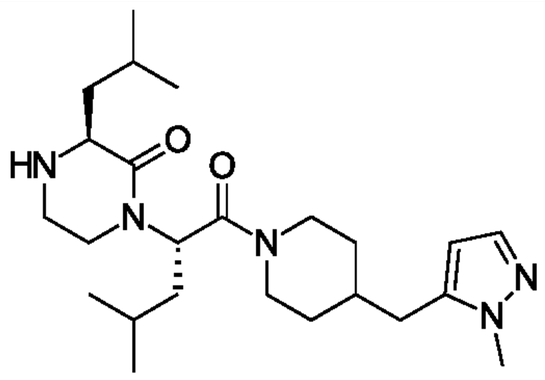
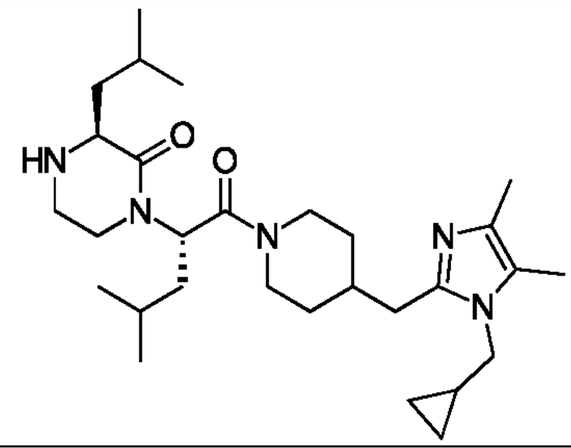
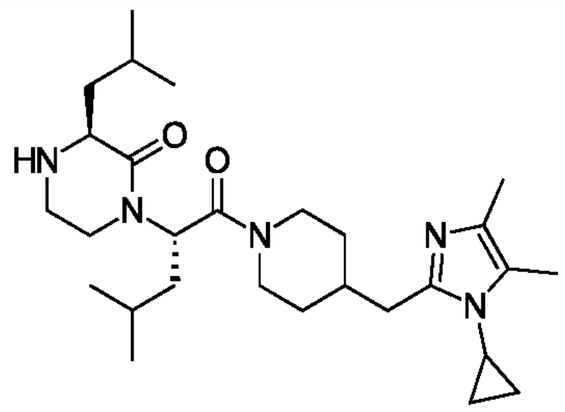
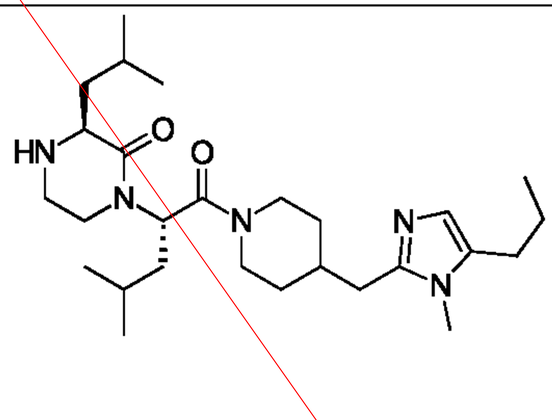
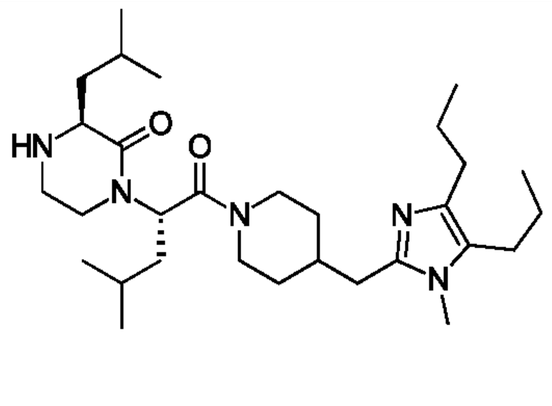
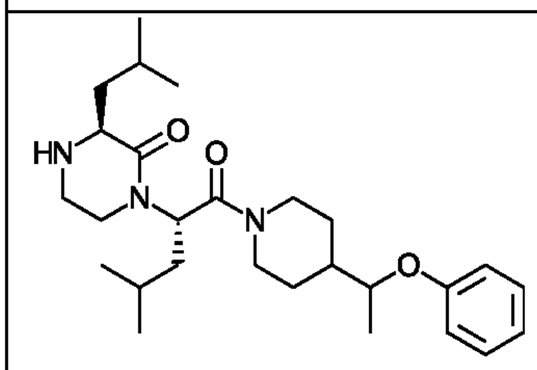
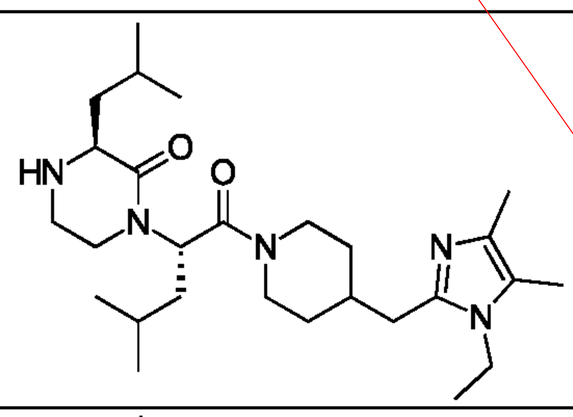
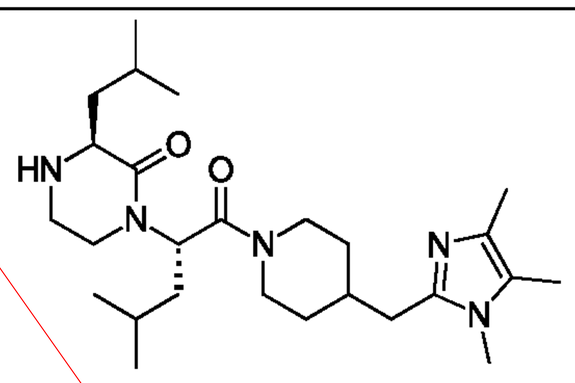
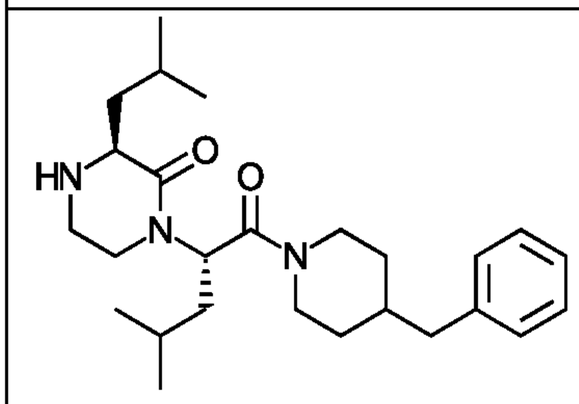
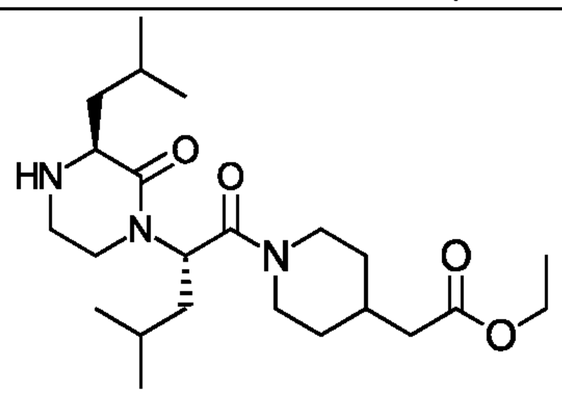
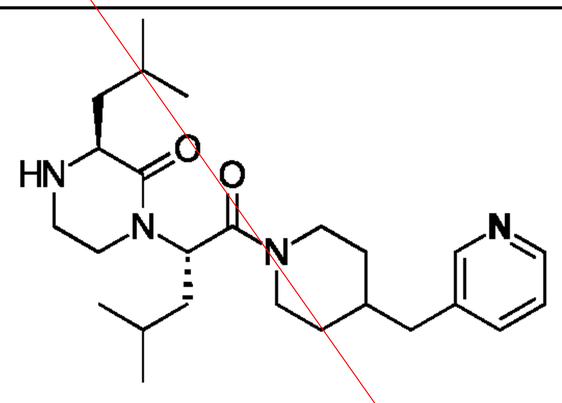
or a pharmaceutically acceptable salt, hydrate, solvate, or stereoisomer thereof, wherein n10 is 0, 1, 2, 3, 4, 5, 6, or 7, preferably 1, 2, or 3, and R^1, R^2, R^3, R^4, R^6, R^7, R^{10}, R^{12} and Y are as described herein.

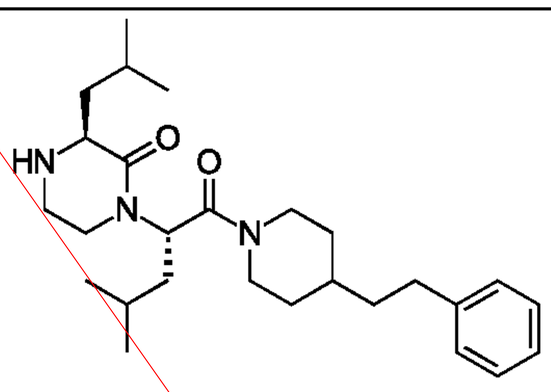
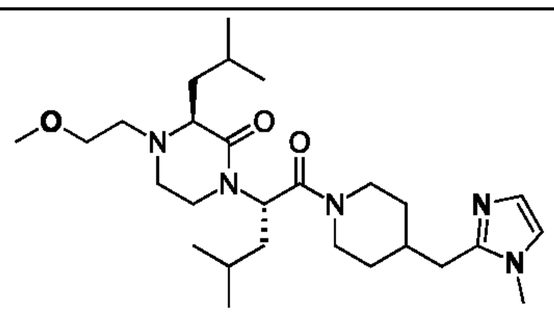
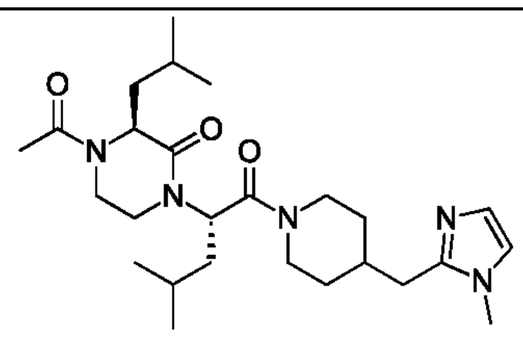
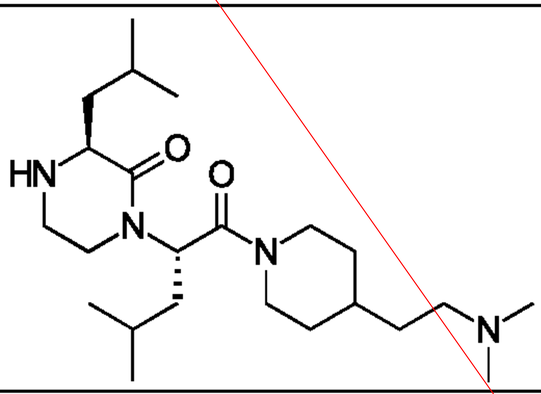
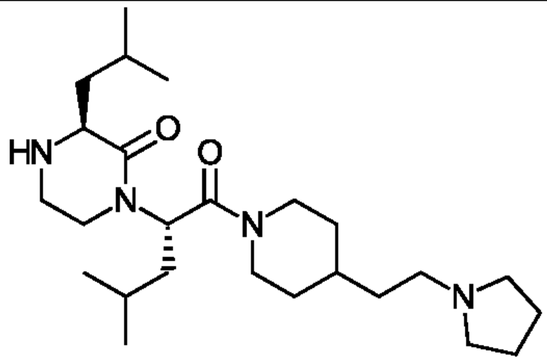
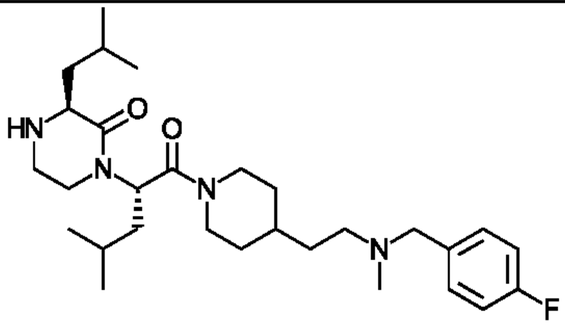
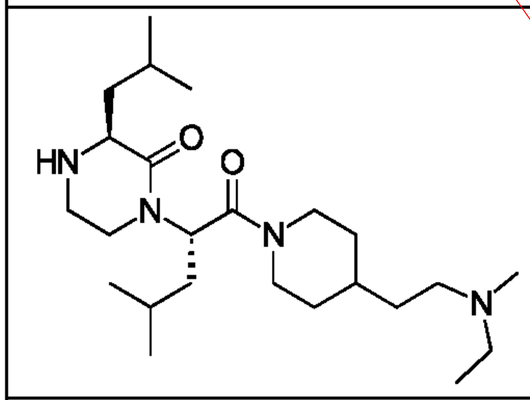
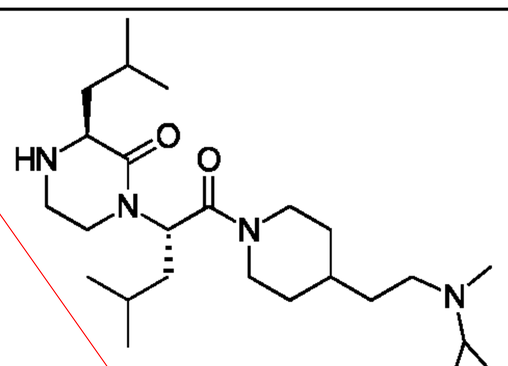
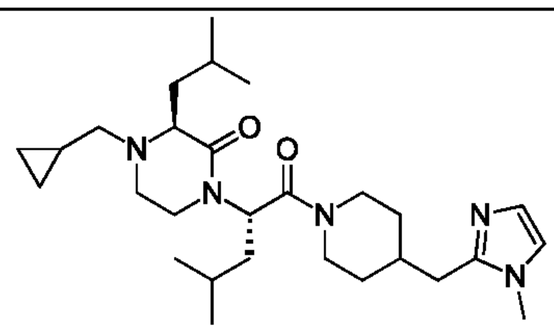
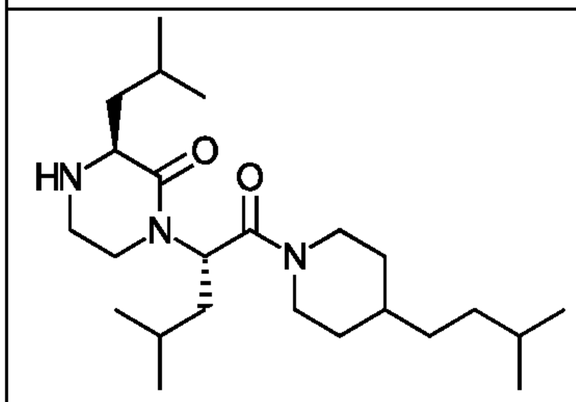
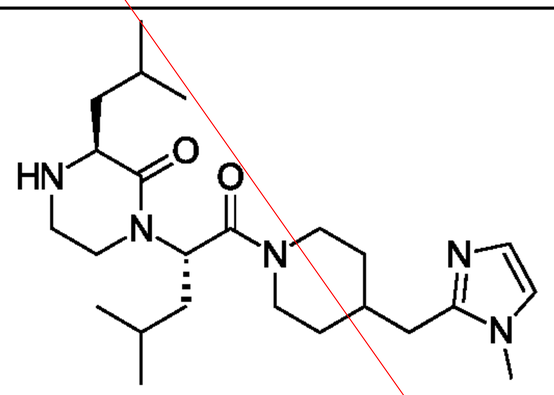
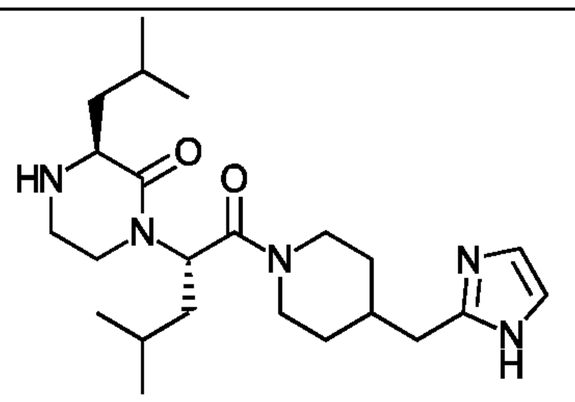
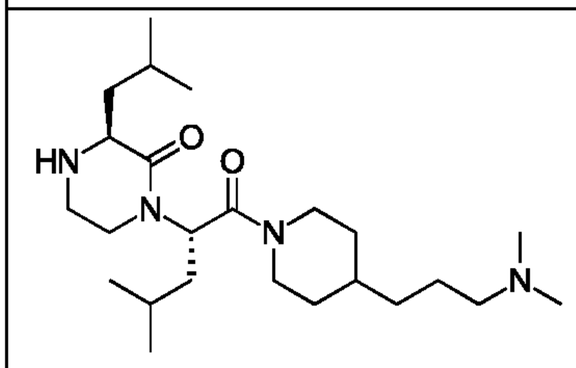
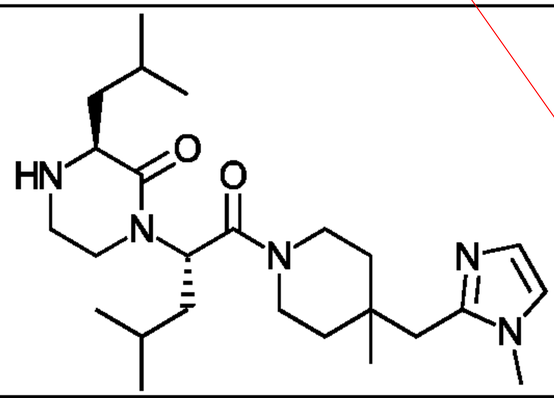
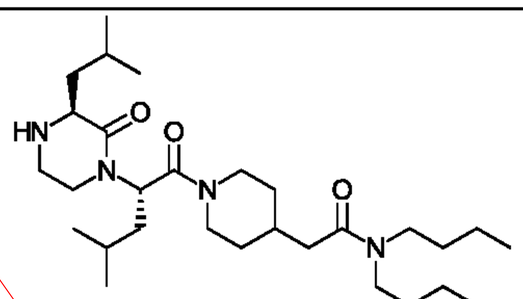
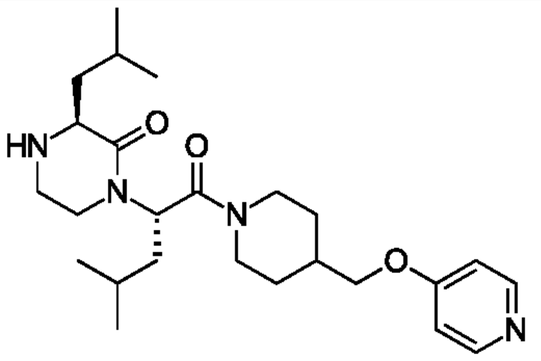
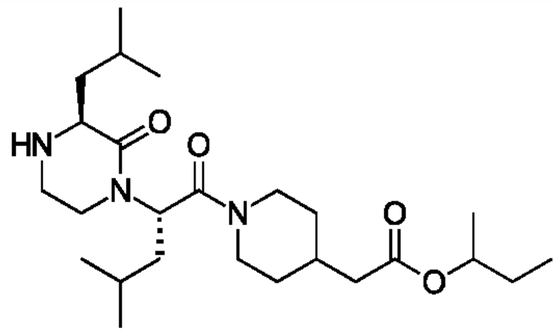
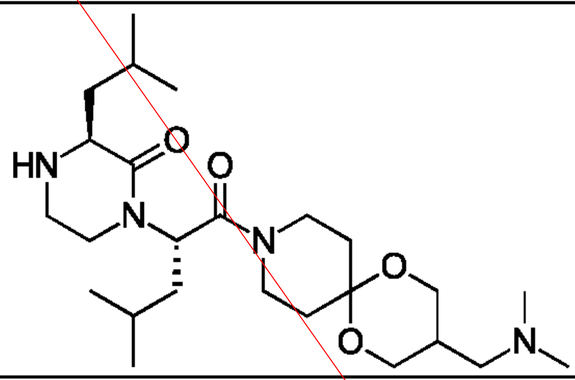
54. A compound selected from the group consisting of:

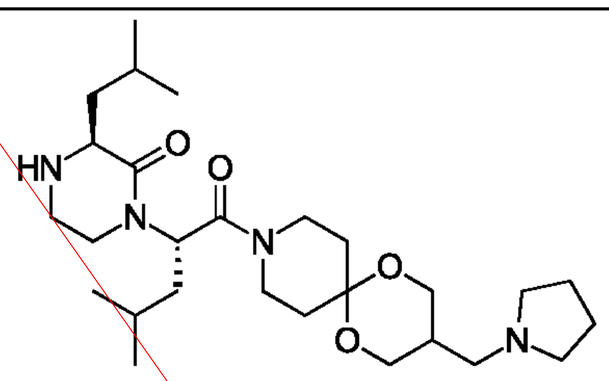
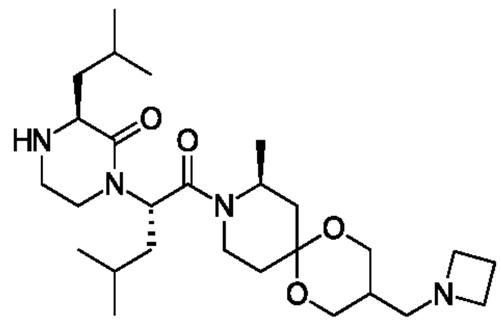
		
		
		

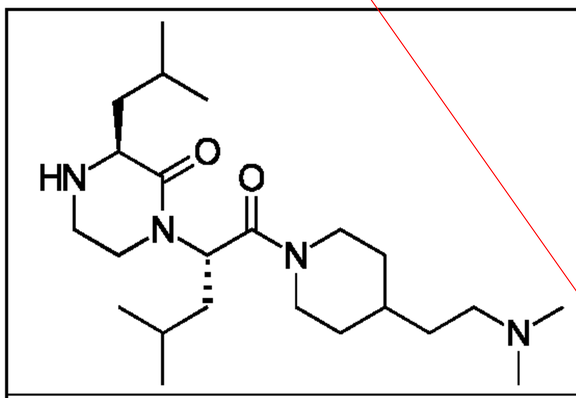
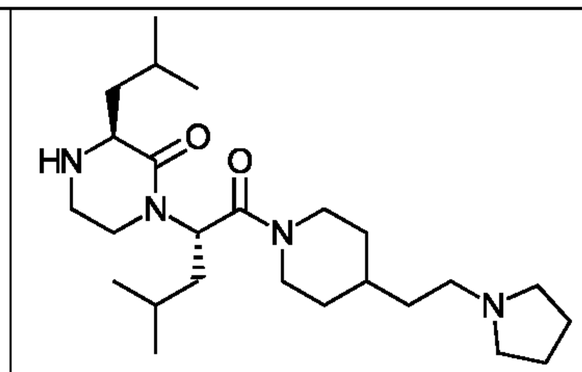
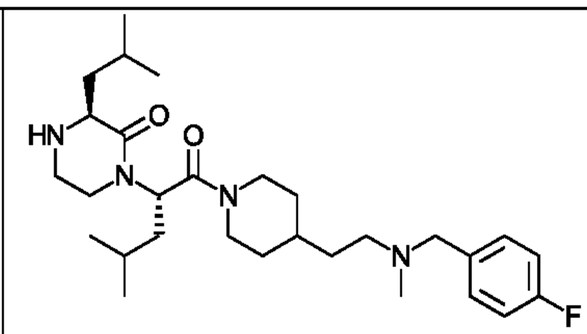
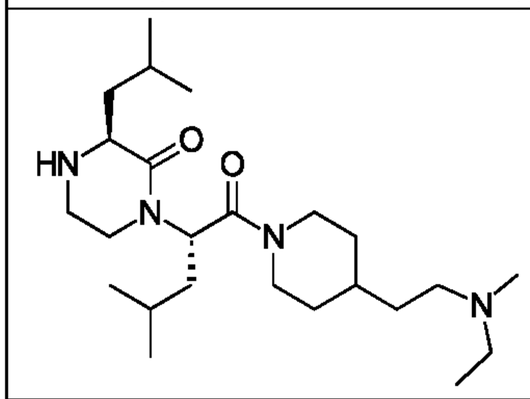
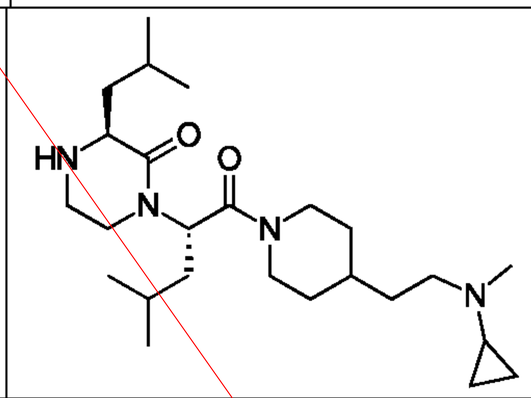
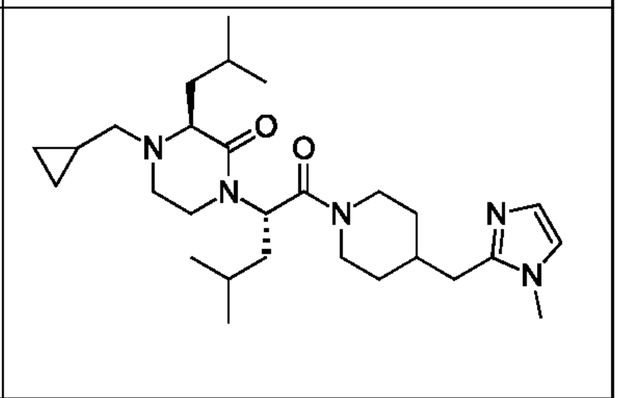
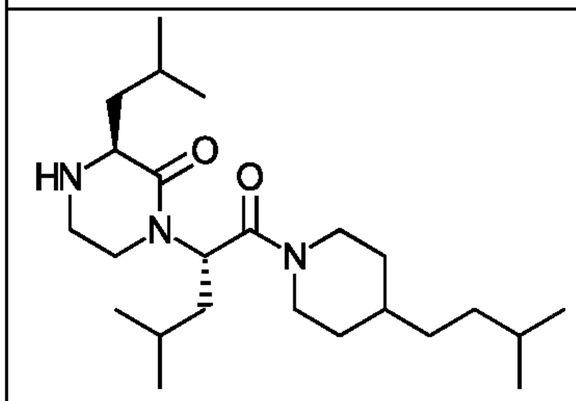
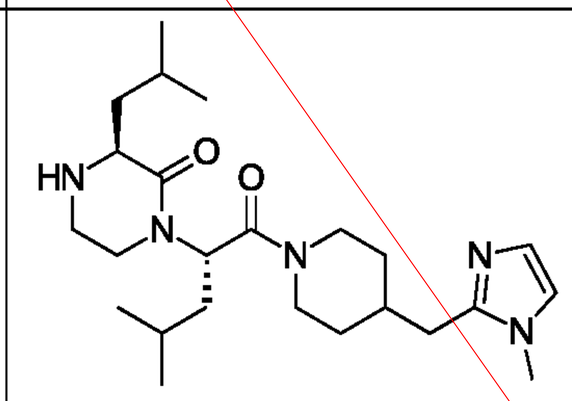
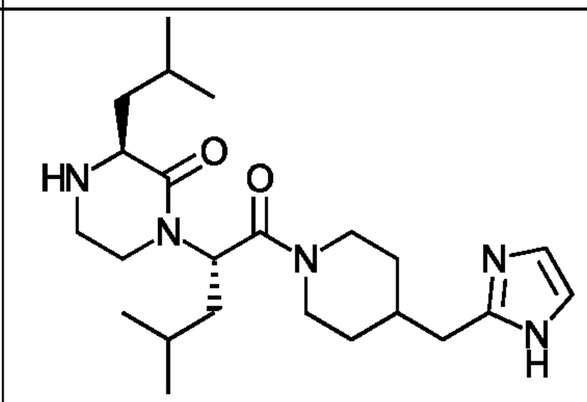
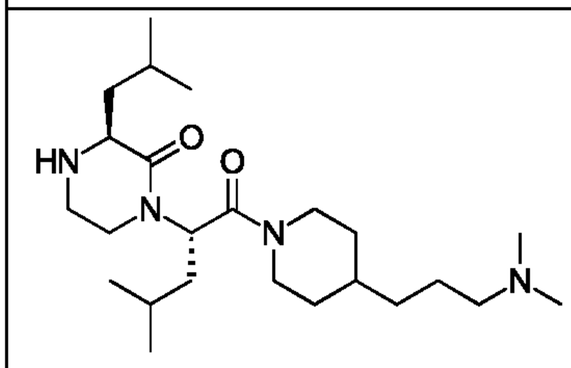
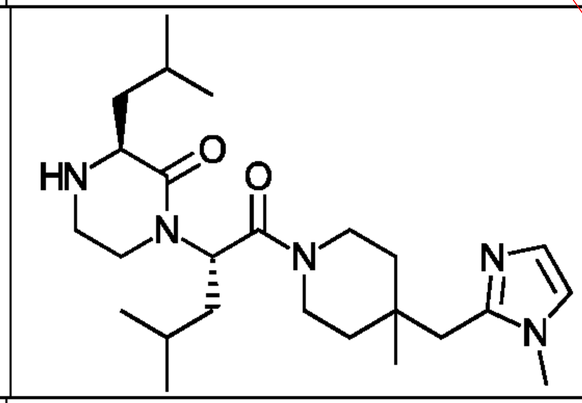
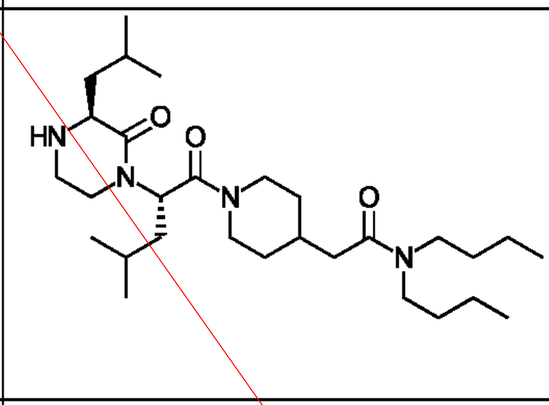
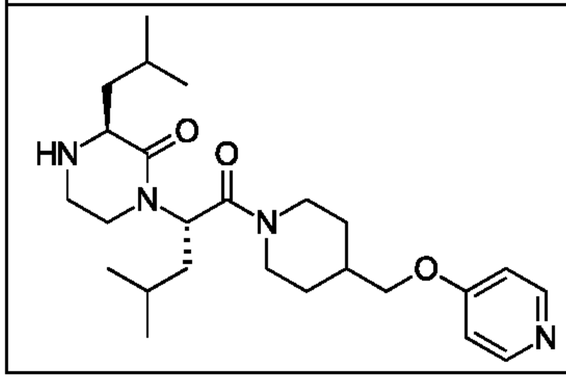
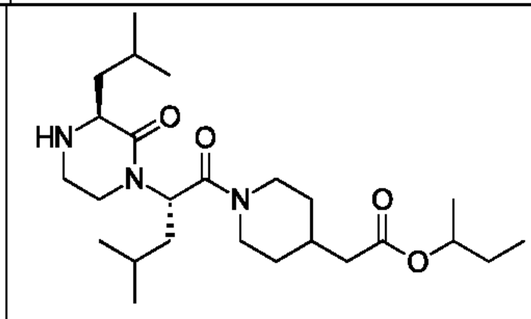
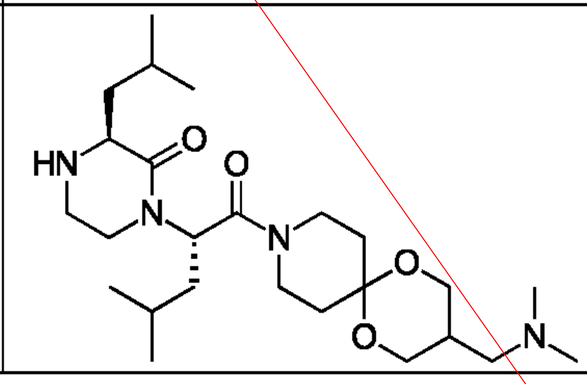
		
		
		
		

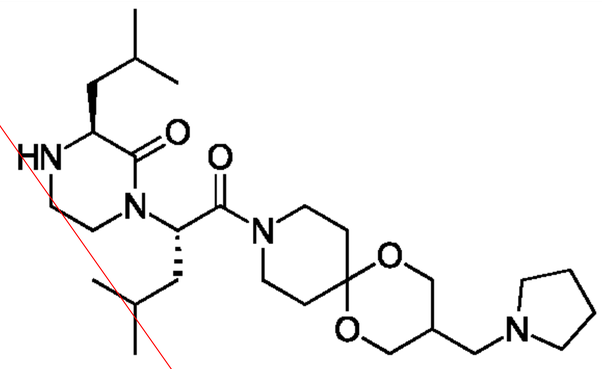
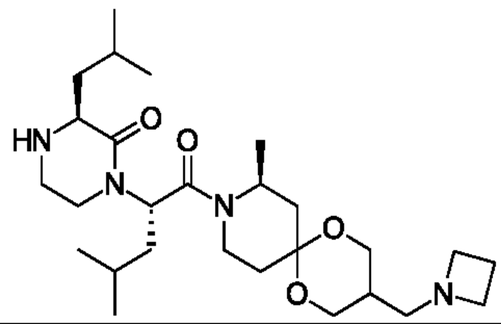
		
		
		
		
		

	and 	

55. A compound selected from the group consisting of:

	and 	

56. The compound according to any one of the previous claims, wherein the compound is selected from a compound of any one of Table 2 or Table 3.

57. A pharmaceutical composition comprising a compound according to any one of the previous claims and a pharmaceutically acceptable diluent, excipient or carrier.

58. The pharmaceutical composition according to claim 57, further comprising an additional pharmaceutically active agent.

59. The pharmaceutical composition according to claim 58, wherein the additional pharmaceutically active agent comprises an additional cancer therapy.

60. The compound according to any one of claims 1-56 or the pharmaceutical composition according to claim 57 or 58 for use as a medicament.

61. The compound according to any one of claims 1-56 or the or the pharmaceutical composition according to claim 57 or 58 for use in a method for preventing or treating cancer in a subject in need thereof.

62. The compound according to any one of claims 1-56 or the pharmaceutical composition according to claim 57 or 58 for the use in the manufacture of a medicament for the treatment of cancer in a subject in need thereof.

63. A method of treating cancer in a subject in need thereof, comprising administering to the subject a therapeutically effective amount of a composition comprising the compound of any one of claims 1-56 or the pharmaceutical composition of claim 57 or 58.

64. The method or composition for use according to any one of claims 61-63, wherein the cancer comprises a solid tumor or a liquid tumor.

65. The method or composition for use according to claim 64, wherein the solid tumor is a primary tumor or a metastatic tumor.

66. The method or composition for use according to claim 64, wherein the solid tumor is a carcinoma, a sarcoma, a myeloma, a germ cell tumor, a carcinoid tumor, a neuroendocrine tumor or a tumor of mixed type.

67. The method or composition for use according to claim 64, wherein the cancer comprises a lymphoma, a leukemia, a brain cancer, a nervous system cancer, a breast cancer, a cervical cancer, an ovarian cancer, a colorectal cancer, a stomach cancer, a gastric cancer, a kidney cancer, a liver cancer, a lung cancer, an oesophageal cancer, a pancreatic cancer, a prostate cancer, a colon cancer, a skin cancer or a head-and-neck cancer.

68. The method or composition for use according to claim 64, wherein the liquid tumor is a leukemia or a lymphoma.

69. The method of composition for use according to any one of claims 61-66, wherein the cancer is Stage I, Stage IIA, Stage IIB, Stage IIIA, Stage IIIB, Stage IIIC, or Stage IV cancer.

70. The method or composition for use according to any one of claims 61-69, wherein the subject is a mouse, a rat, a rabbit, a non-human primate or a human.

71. The method or composition for use according to claim 70, wherein the human is a child, an adolescent or an adult.

72. The method of composition for use according to any one of claims 61-71, wherein the compound or pharmaceutical composition is suitable for oral administration.

73. The method of composition for use according to any one of claims 61-71, wherein the compound or pharmaceutical composition is suitable for parenteral administration.

74. The method or composition for use according to claim 73, wherein the parenteral administration comprises subcutaneous administration, intravenous injection, intravenous infusion, intraperitoneal injection, intramuscular injection or intratumoral injection.

75. The method or composition for use according to any one of claims 61-74, wherein the method or use of the composition further comprises at least one additional cancer therapy.

76. The method or composition for use according to claim 75, wherein the at least one additional cancer therapy comprises a standard of care for the cancer.

77. The method or composition for use according to claim 75 or 76, wherein the at least one additional cancer therapy comprises surgical resection of the cancer, radiation therapy, or a combination thereof.

78. The method or composition for use according to claim 75, wherein the at least one additional cancer therapy comprises administration of at least one additional cancer therapeutic agent.

79. The method or composition for use according to claim 78, wherein the administration comprises simultaneous administration of the compound or pharmaceutical composition and the at least one additional cancer therapeutic agent.

80. The method or composition for use according to claim 79, wherein the compound or pharmaceutical composition and the at least one additional cancer therapeutic agent are in the same composition.

81. The method or composition for use according to claim 78, wherein the administration comprises administration in temporal proximity of the compound or pharmaceutical composition and the at least one additional cancer therapeutic agent.

82. The method or composition for use according to claim 78, wherein the administration comprises sequential administration of the compound or pharmaceutical composition and the at least one additional cancer therapeutic agent.

83. The method or composition for use according to any one of claims 78-82, wherein the at least one additional cancer therapeutic agent comprises a chemotherapeutic agent.

84. The method or composition for use according to claim 83, wherein the chemotherapeutic agent comprises a platinum compound, an alkylating agent, an antitumor antibiotic, a taxane, an antimetabolite, a nucleoside analog, a topoisomerase inhibitor, a hypomethylating agent, a proteasome inhibitor, an epipodophyllotoxin, a DNA synthesis inhibitor, a vinca alkaloid, a tyrosine kinase inhibitor, a nitrosourea, hexamethylmelamine, mitotane, an angiogenesis inhibitor, a steroid, a hormonal agent, an aromatase inhibitor, arsenic trioxide, tretinoin, a nonselective cyclooxygenase inhibitor, a selective cyclooxygenase-2 (COX-2) inhibitors, or a combination thereof.

85. The method or composition for use according to any one of claims 78-82, wherein the at least one additional cancer therapeutic agent comprises a biological agent.

86. The method or composition for use according to claim 85, wherein the biological agent comprises an antibody therapy, an adoptive cell therapy, an enzyme, a cytokine, a growth factor, an inhibitor of a growth factor, a gene therapy a cancer vaccine or a combination thereof.

87. The method or composition for use according to claim 86, wherein the antibody therapy comprises ituximab, cetuximab, obinutuzumab, ofatumumab, ibritumomab, brentuximab, bevacizumab, panitumumab, pembrolizumab, tositumomab, trastuzumab, alemtuzumab, gemtuzumab ozogamicin, bevacizumab, catumaxomab, denosumab, obinutuzumab, ofatumumab, ramucirumab, pertuzumab, ipilimumab, nivolumab, nimotuzumab, lambrolizumab, pidilizumab, siltuximab, tremelimumab.

88. The method or composition for use according to claim 86, wherein the adoptive cell therapy comprises a chimeric antigen receptor T cell (CAR-T) therapy.

89. The method or composition for use according to claim 88, wherein the adoptive cell therapy is autologous or allogeneic.

90. The method or composition for use according to any one of claims 78-82, wherein the at least one additional cancer therapeutic agent comprises an immune checkpoint inhibitor.

91. The method or composition for use according to claim 90, wherein the immune checkpoint inhibitor comprises nivolumab, pembrolizumab, atezolizumab, avelumab, durvalumab or ipilimumab.

92. The method or composition for use according to claim 86, wherein the antibody therapy comprises a VEGFA antibody.

93. The method or composition for use according to claim 92, wherein the VEGFA antibody comprises bevacizumab (Avastin®).

94. The method or composition for use according to any one of claims 61-93, wherein the method or use of the composition alleviates a sign or a symptom of the cancer.

95. The method or composition for use according to claim 94, wherein alleviating a sign or a symptom of the cancer comprises a reduction in tumor volume, a reduction in tumor size, a reduction in tumor number, a decrease in the rate of growth of a tumor or a combination thereof.

96. A kit, comprising the compound according to any one of claims 1-56 or the pharmaceutical composition according to claim 57 or 58 and instructions for use in treating cancer in a subject in need thereof.

97. The kit according to claim 96, further comprising at least one additional cancer therapeutic agent.

98. The kit according to claim 97, wherein the at least one additional cancer therapeutic agent comprises a chemotherapeutic agent.

99. The kit according to claim 98, wherein the chemotherapeutic agent comprises a platinum compound, an alkylating agent, an antitumor antibiotic, a taxane, an antimetabolite, a nucleoside analog, a topoisomerase inhibitor, a hypomethylating agent, a proteasome

inhibitor, an epipodophyllotoxin, a DNA synthesis inhibitor, a vinca alkaloid, a tyrosine kinase inhibitor, a nitrosourea, hexamethylmelamine, mitotane, an angiogenesis inhibitor, a steroid, a hormonal agent, an aromatase inhibitor, arsenic trioxide, tretinoin, a nonselective cyclooxygenase inhibitor, a selective cyclooxygenase-2 (COX-2) inhibitors, or a combination thereof.

100. The kit of claim according to claim 97, wherein the at least one additional cancer therapeutic agent comprises a biological agent.

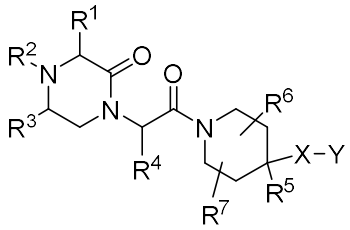
101. The kit according to claim 100, wherein biological agent comprises an antibody therapy, an adoptive cell therapy, an enzyme, a cytokine, a growth factor, an inhibitor of a growth factor, a gene therapy a cancer vaccine or a combination thereof.

102. The kit according to claim 97, wherein the at least one additional cancer therapeutic agent comprises an immune checkpoint inhibitor.

103. The kit according to claim 102, wherein the immune checkpoint inhibitor comprises nivolumab, pembrolizumab, atezolizumab, avelumab, durvalumab or ipilimumab.

CLAIMS

1. A compound of formula (Ia)



(Ia),

or a pharmaceutically acceptable salt, hydrate, solvate or stereoisomer thereof, wherein:

R^1 is selected from H, C_{1-7} alkyl, C_{2-7} alkenyl, C_{2-7} alkynyl, C_{3-7} cycloalkyl, C_{4-7} cycloalkenyl, and C_{1-3} alkyl substituted by cycloalkyl, aryl, or heteroaryl, wherein the cycloalkyl, aryl, or the heteroaryl is optionally substituted by halogen, C_{1-4} alkyl, or C_{3-5} cycloalkyl;

R^2 is selected from H, $C(O)R^{14}$, $C(O)NR^{15}R^{15}$, $C(O)OR^{15}$, C_{1-7} alkyl, C_{2-7} alkenyl, C_{2-7} alkynyl, C_{3-7} cycloalkyl, C_{4-7} cycloalkenyl, C_{1-5} alkyl-OR^8, C_{1-3} alkanediyl-O-C_{1-3} alkanediyl-O-C_{1-3} alkanediyl, C_{1-5} alkyl-$NHCOR^{13}$, and C_{1-3} alkyl substituted by cycloalkyl, aryl, or heteroaryl, wherein the cycloalkyl, aryl, or the heteroaryl is optionally substituted by halogen, C_{1-4} alkyl, or C_{3-5} cycloalkyl; with the proviso that when R^2 is $C(O)NR^{15}R^{15}$, both R^{15} can form a ring wherein the ring contains the N of $NR^{15}R^{15}$ and optionally one further heteroatom selected from O and N, wherein if the one further heteroatom is N, the ring is optionally substituted by R^8;

R^3 and R^7 are each independently selected from H, C_{1-7} alkyl, C_{2-7} alkenyl, C_{2-7} alkynyl, C_{3-7} cycloalkyl, and C_{4-7} cycloalkenyl, wherein the alkyl, alkenyl, alkynyl, cycloalkyl, or cycloalkenyl is optionally substituted by halogen, OR^8, or NR^8R^{11}; or R^3 and R^7 are each independently C_{1-3} alkyl substituted by aryl or heteroaryl, wherein the aryl or the heteroaryl is optionally substituted by halogen, C_{1-4} alkyl, or C_{3-5} cycloalkyl;

R^4 is selected from C_{1-7} alkyl, C_{2-7} alkenyl, C_{2-7} alkynyl, C_{3-7} cycloalkyl, C_{4-7} cycloalkenyl, and C_{1-3} alkyl substituted by cycloalkyl, aryl, or heteroaryl, wherein the cycloalkyl, aryl, or the heteroaryl is optionally substituted by halogen, C_{1-4} alkyl, or C_{3-5} cycloalkyl;

R^5 is selected from H, C_{1-7} alkyl, C_{2-7} alkenyl, C_{2-7} alkynyl, C_{3-7} cycloalkyl, C_{4-7} cycloalkenyl, OR^8, C_{1-3} alkyl-OR^8, and SR^8; and wherein R^5 can form a ring with any part of X or Y, wherein the ring optionally contains a carbonyl group;

R^6 is selected from H, C_{1-7} alkyl, C_{2-7} alkenyl, C_{2-7} alkynyl, C_{3-7} cycloalkyl, and C_{4-7} cycloalkenyl, wherein the alkyl, alkenyl, alkynyl, cycloalkyl, or cycloalkenyl is optionally substituted by halogen, OR^8, or NR^8R^{11}; or R^6 is C_{1-3} alkyl substituted by $C(O)NR^8R^{11}$; or R^6 is C_{1-3} alkyl substituted by aryl or heteroaryl, wherein the aryl or the heteroaryl is optionally substituted by halogen, C_{1-4} alkyl, or C_{3-5} cycloalkyl; and wherein R^6 can form a ring with any part of X; or R^6 is imidazolidinone;

R^8 and R^{11} are each independently selected from H, C_{1-7} alkyl, C_{2-7} alkenyl, C_{2-7} alkynyl, C_{3-7} cycloalkyl, and C_{4-7} cycloalkenyl;

X is selected from a bond, C_{1-7} alkanediyl, C_{2-7} alkenediyl, C_{2-7} alkynediyl, C_{3-9} cycloalkanediyl, C_{4-6} cycloalkenediyl, -O-, C_{1-3} alkanediyl-O-, -O-C_{1-7} alkanediyl, -O-C_{3-9} cycloalkanediyl, C_{1-3} alkanediyl-O-C_{1-7} alkanediyl, C_{1-7} heteroalkanediyl, and -S-C_{1-7} alkanediyl; and wherein X can form a ring or a polycyclic system with any part of R^5, R^6, or Y, wherein the ring optionally contains a carbonyl group;

Y is selected from H, $C(O)NR^{10}R^{12}$, $C(O)OR^{10}$, $R^{10}NC(O)NR^{10}R^{12}$, $OC(O)R^{10}$, $OC(O)NR^{10}R^{12}$, $S(O)_nR^8$ wherein n is 0, 1 or 2, $SO_2NR^{10}R^{12}$, $NR^{10}SO_2R^{10}$, $NR^{10}R^{12}$, $HNCOR^8$, CN, C_{3-7}-cycloalkyl optionally containing a heteroatom in the ring selected from O and N, wherein if the heteroatom is N it is optionally substituted by R^8, S-aryl, O-aryl, S-heteroaryl, and O-heteroaryl, wherein the S-aryl, O-aryl, S-heteroaryl, or O-heteroaryl is optionally substituted by one or more R^9 or R^{14}; or Y is aryl or heteroaryl, wherein the aryl or heteroaryl is optionally substituted by one or more of R^8; and wherein Y can form a ring with any part of X or R^5, wherein the ring optionally contains a carbonyl group; with the proviso that when Y is $C(O)NR^{10}R^{12}$ or $NR^{10}R^{12}$, R^{10} and R^{12} can form a ring wherein the ring contains the N of $NR^{10}R^{12}$ and optionally one further heteroatom selected from O and N, wherein if the one further heteroatom is N, the ring is optionally substituted by R^8;

R^9 is selected from H, halogen, C_{1-5} alkyl, C_{2-5} alkenyl, C_{2-5} alkynyl, C_{3-5} cycloalkyl, C_{1-5} alkyl-OR^8, C_{1-5} alkyl-SR^8, C_{1-5} alkyl-NR^8R^{11}, C_{1-5} alkyl-$C(O)OR^8$, C_{1-5} alkyl-$C(O)NR^8R^{11}$, C_{1-5} alkyl-$C(O)R^{10}$, CN, $C(O)R^8$, $C(O)NR^8R^{11}$, $C(O)OR^8$, $NR^8C(O)NR^8R^{11}$, $OC(O)NR^8R^{11}$, $SO_2NR^8R^{11}$, $NR^8SO_2R^8$, OR^8, NR^8R^{11}, and $S(O)_nR^8$ wherein n is 0, 1 or 2;

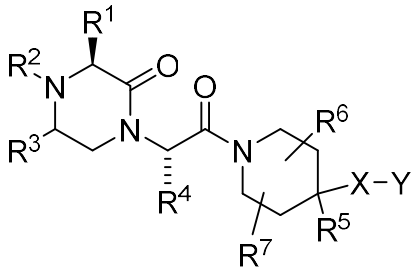
R^{10} and R^{12} are each independently selected from H, C_{1-7} alkyl, C_{2-7} alkenyl, C_{2-7} alkynyl, C_{3-7} cycloalkyl, C_{4-7} cycloalkenyl, C_{1-3} alkanediyl-O-C_{1-3} alkanediyl-O-C_{1-3} alkanediyl, C_{1-3} alkyl-aryl, and C_{1-3} alkyl-heteroaryl, wherein the alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, alkanediyl, aryl, or heteroaryl is optionally substituted by halogen, OR^8, or NR^8R^{11};

R^{13} is C_{1-5} alkyl substituted by a bicyclic ring optionally containing at least one heteroatom and a carbonyl group;

R^{14} is selected from H, C_{1-7} alkyl, C_{2-7} alkenyl, C_{2-7} alkynyl, C_{3-7} cycloalkyl, C_{4-7} cycloalkenyl, and C_{1-3} alkyl substituted by aryl or heteroaryl, wherein the aryl or the heteroaryl is optionally substituted by halogen, C_{1-4} alkyl, or C_{3-5} cycloalkyl; and

each R^{15} is independently selected from H, C_{1-7} alkyl, C_{2-7} alkenyl, C_{2-7} alkynyl, C_{3-7} cycloalkyl, C_{4-7} cycloalkenyl, OR^8, and C_{1-3} alkyl-OR^8.

2. The compound of claim 1, wherein the compound is of formula (I)



(I)

or a pharmaceutically acceptable salt, hydrate, solvate or stereoisomer thereof, wherein:

R^1 is selected from H, C_{1-7} alkyl, C_{2-7} alkenyl, C_{2-7} alkynyl, C_{3-7} cycloalkyl, C_{4-7} cycloalkenyl, and C_{1-3} alkyl substituted by aryl or heteroaryl, wherein the aryl or the heteroaryl is optionally substituted by halogen, C_{1-4} alkyl, or C_{3-5} cycloalkyl;

R^2 is selected from H, $C(O)R^{14}$, $C(O)NR^{15}R^{15}$, $C(O)OR^{15}$, C_{1-7} alkyl, C_{2-7} alkenyl, C_{2-7} alkynyl, C_{3-7} cycloalkyl, C_{4-7} cycloalkenyl, C_{1-5} alkyl-OR^8, C_{1-3} alkanediyl-O-C_{1-3} alkanediyl-O-C_{1-3} alkanediyl, C_{1-5} alkyl-$NHCOR^{13}$, and C_{1-3} alkyl substituted by aryl or heteroaryl, wherein the aryl or the heteroaryl is optionally substituted by halogen, C_{1-4} alkyl, or C_{3-5} cycloalkyl; with the proviso that when R^2 is $C(O)NR^{15}R^{15}$, both R^{15} can form a ring wherein the ring contains the N of $NR^{15}R^{15}$ and optionally one further heteroatom selected from O and N, wherein if the one further heteroatom is N, the ring is optionally substituted by R^8;

R^3 and R^7 are each independently selected from H, C_{1-7} alkyl, C_{2-7} alkenyl, C_{2-7} alkynyl, C_{3-7} cycloalkyl, and C_{4-7} cycloalkenyl, wherein the alkyl, alkenyl, alkynyl, cycloalkyl, or cycloalkenyl is optionally substituted by halogen, OR^8, or NR^8R^{11}; or R^3 and R^7 are each independently C_{1-3} alkyl substituted by aryl or heteroaryl, wherein the aryl or the heteroaryl is optionally substituted by halogen, C_{1-4} alkyl, or C_{3-5} cycloalkyl;

R^4 is selected from C_{1-7} alkyl, C_{2-7} alkenyl, C_{2-7} alkynyl, C_{3-7} cycloalkyl, C_{4-7} cycloalkenyl, and C_{1-3} alkyl substituted by aryl or heteroaryl, wherein the aryl or the heteroaryl is optionally substituted by halogen, C_{1-4} alkyl, or C_{3-5} cycloalkyl;

R^5 is selected from H, C_{1-7} alkyl, C_{2-7} alkenyl, C_{2-7} alkynyl, C_{3-7} cycloalkyl, C_{4-7} cycloalkenyl, OR^8, C_{1-3} alkyl-OR^8, and SR^8; and wherein R^5 can form a ring with any part of X or Y, wherein the ring optionally contains a carbonyl group;

R^6 is selected from H, C_{1-7} alkyl, C_{2-7} alkenyl, C_{2-7} alkynyl, C_{3-7} cycloalkyl, and C_{4-7} cycloalkenyl, wherein the alkyl, alkenyl, alkynyl, cycloalkyl, or cycloalkenyl is optionally substituted by halogen, OR^8, or NR^8R^{11}; or R^6 is C_{1-3} alkyl substituted by $C(O)NR^8R^{11}$; or R^6 is C_{1-3} alkyl substituted by aryl or heteroaryl, wherein the aryl or the heteroaryl is optionally substituted by halogen, C_{1-4} alkyl, or C_{3-5} cycloalkyl; or R^6 is imidazolidinone;

R^8 and R^{11} are each independently selected from H, C_{1-7} alkyl, C_{2-7} alkenyl, C_{2-7} alkynyl, C_{3-7} cycloalkyl, and C_{4-7} cycloalkenyl;

X is selected from a bond, C_{1-7} alkanediyl, C_{2-7} alkenediyl, C_{2-7} alkynediyl, C_{3-6} cycloalkanediyl, C_{4-6} cycloalkenediyl, -O-, C_{1-3} alkanediyl-O-, -O-C_{1-7} alkanediyl, C_{1-3} alkanediyl-O-C_{1-7} alkanediyl, C_{1-7} heteroalkanediyl, and -S-C_{1-7} alkanediyl; and wherein X can form a ring with any part of R^5 or Y, wherein the ring optionally contains a carbonyl group;

Y is selected from H, $C(O)NR^{10}R^{12}$, $C(O)OR^{10}$, $R^{10}NC(O)NR^{10}R^{12}$, $OC(O)R^{10}$, $OC(O)NR^{10}R^{12}$, $S(O)_nR^8$ wherein n is 0, 1 or 2, $SO_2NR^{10}R^{12}$, $NR^{10}SO_2R^{10}$, $NR^{10}R^{12}$, $HNCOR^8$, CN, C_{3-7}-cycloalkyl optionally containing a heteroatom in the ring selected from O and N, wherein if the heteroatom is N it is optionally substituted by R^8, S-aryl, O-aryl, S-heteroaryl, and O-heteroaryl, wherein the S-aryl, O-aryl, S-heteroaryl, or O-heteroaryl is optionally substituted by one or more R^9 or R^{14}; or Y is aryl or heteroaryl, wherein the aryl or heteroaryl is optionally substituted by one or more of R^8; and wherein Y can form a ring with any part of X or R^5, wherein the ring optionally contains a carbonyl group; with the proviso that when Y is $C(O)NR^{10}R^{12}$ or $NR^{10}R^{12}$, R^{10} and R^{12} can form a ring wherein the ring contains the N of $NR^{10}R^{12}$ and optionally one further heteroatom selected from O and N, wherein if the one further heteroatom is N, the ring is optionally substituted by R^8;

R^9 is selected from H, halogen, C_{1-5} alkyl, C_{2-5} alkenyl, C_{2-5} alkynyl, C_{3-5} cycloalkyl, C_{1-5} alkyl-OR^8, C_{1-5} alkyl-SR^8, C_{1-5} alkyl-NR^8R^{11}, C_{1-5} alkyl-$C(O)OR^8$, C_{1-5} alkyl-$C(O)NR^8R^{11}$, C_{1-5} alkyl-$C(O)R^{10}$, CN, $C(O)R^8$, $C(O)NR^8R^{11}$, $C(O)OR^8$, $NR^8C(O)NR^8R^{11}$, $OC(O)NR^8R^{11}$, $SO_2NR^8R^{11}$, $NR^8SO_2R^8$, OR^8, NR^8R^{11}, and $S(O)_nR^8$ wherein n is 0, 1 or 2;

R^{10} and R^{12} are each independently selected from H, C_{1-7} alkyl, C_{2-7} alkenyl, C_{2-7} alkynyl, C_{3-7} cycloalkyl, C_{4-7} cycloalkenyl, C_{1-3} alkanediyl-O-C_{1-3} alkanediyl-O-C_{1-3} alkanediyl, C_{1-3} alkyl-aryl, and C_{1-3} alkyl-heteroaryl, wherein the alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, alkanediyl, aryl, or heteroaryl is optionally substituted by halogen, OR^8, or NR^8R^{11};

R^{13} is C_{1-5} alkyl substituted by a bicyclic ring optionally containing at least one heteroatom and a carbonyl group;

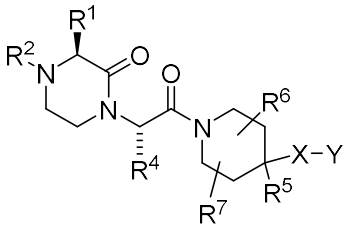
R^{14} is selected from H, C_{1-7} alkyl, C_{2-7} alkenyl, C_{2-7} alkynyl, C_{3-7} cycloalkyl, C_{4-7} cycloalkenyl, and C_{1-3} alkyl substituted by aryl or heteroaryl, wherein the aryl or the heteroaryl is optionally substituted by halogen, C_{1-4} alkyl, or C_{3-5} cycloalkyl; and

each R^{15} is independently selected from H, C_{1-7} alkyl, C_{2-7} alkenyl, C_{2-7} alkynyl, C_{3-7} cycloalkyl, C_{4-7} cycloalkenyl, OR^8, and C_{1-3} alkyl-OR^8.

3. The compound of claim 1, wherein (1) R^1 is selected from C_{1-7} alkyl, C_{2-7} alkenyl, C_{2-7} alkynyl, C_{3-7} cycloalkyl, C_{4-7} cycloalkenyl, and C_{1-3} alkyl substituted by aryl or heteroaryl, wherein the aryl or the heteroaryl is optionally substituted by halogen, C_{1-4} alkyl, or C_{3-5} cycloalkyl; (2) R^2 is selected from H, C(O)R^{14}, C(O)OR^{15}, C_{1-7} alkyl, C_{3-7} cycloalkyl, C_{1-3} alkanediyl-O-C_{1-3} alkanediyl-O-C_{1-3} alkanediyl, C_{1-5} alkyl-OR^8, C_{1-5} alkyl-NHCOR^{13}, and C_{1-3} alkyl substituted by aryl, wherein the aryl is optionally substituted by halogen, C_{1-4} alkyl, or C_{3-5} cycloalkyl; (3) R^3 and R^7 are each independently selected from H, C_{1-7} alkyl, C_{2-7} alkenyl, C_{2-7} alkynyl, C_{3-7} cycloalkyl, and C_{4-7} cycloalkenyl; and/or (4) R^4 is selected from C_{1-7} alkyl, C_{3-7} cycloalkyl, and C_{1-3} alkyl substituted by aryl or heteroaryl, wherein the aryl or the heteroaryl is optionally substituted by halogen, C_{1-4} alkyl, or C_{3-5} cycloalkyl.

4. The compound of claim 1, wherein (1) R^1 is selected from C_{3-7} alkyl, C_{3-7} cycloalkyl, and C_{1-3} alkyl substituted by aryl or heteroaryl; (2) R^2 is selected from H and C(O)R^{14}, wherein R^{14} is C_{1-7} alkyl; or R^2 is C_{1-7} alkyl, C_{3-7} cycloalkyl, C_{1-5} alkyl-OR^8, or C_{1-5} alkyl-NHCOR^{13}, wherein R^{13} is pentylamino-5-oxopentyl-7-thia-2.4-diazabicyclo[3.3.0]octan-3-one; or R^2 is C_{1-3} alkyl substituted by aryl, wherein the aryl is optionally substituted by halogen, C_{1-4} alkyl, or C_{3-5} cycloalkyl; (3) R^3 and R^7 are H; and/or (4) R^4 is selected from C_{3-7} alkyl, C_{3-7} cycloalkyl, and C_{1-3} alkyl substituted by aryl or heteroaryl.

5. The compound of claim 1, wherein the compound is of any one of Formulae (IIa), (IIb), (IIc), (IIIa), (IIIb), (IIIc), (IIId), (IVa), (IVb), (IVc), or (IVd):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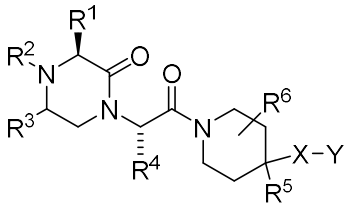
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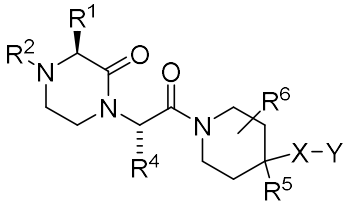
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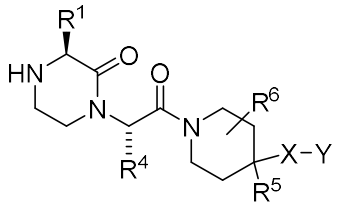
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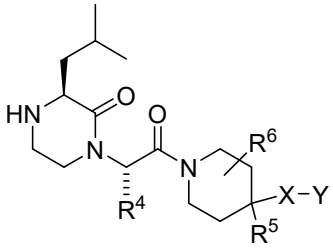
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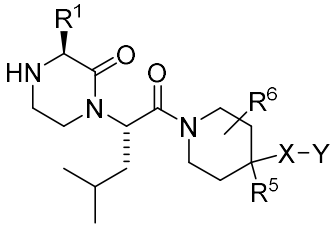
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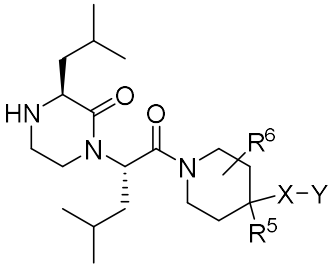
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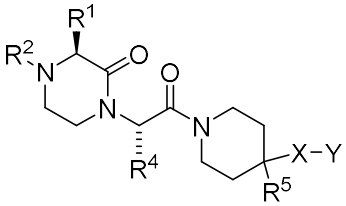
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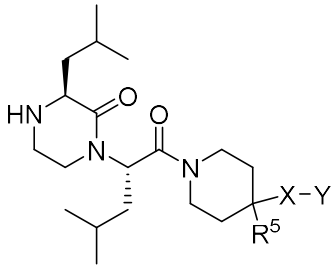
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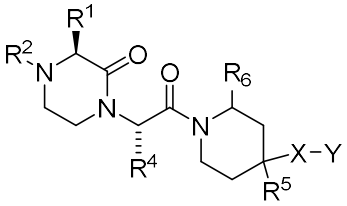
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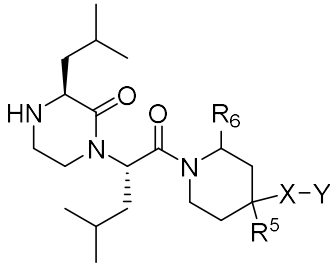

(IVd);

or a pharmaceutically acceptable salt, hydrate, solvate or stereoisomer thereof.

6. The compound of claim 1, wherein (1) R^5 is selected from H, C_{1-7} alkyl, OR^8, and SR^8; and wherein C_{1-7} alkyl, OR^8, or SR^8 of R^5 can form a ring with any part of X or Y, wherein the ring optionally contains a carbonyl group and/or (2) R^6 is selected from H, C_{1-7} alkyl, C_{2-7} alkenyl, C_{2-7} alkynyl, C_{3-7} cycloalkyl, and C_{4-7} cycloalkenyl; or R^6 is imidazolidinone.

7. The compound of claim 1, wherein (1) R^8 and R^{11} are each independently selected from H, C_{1-7} alkyl, C_{2-7} alkenyl, and C_{3-7} cycloalkyl; (2) R^9 is selected from H, C_{1-5} alkyl, halogen, C_{1-5} alkyl-NR^8R^{11}, C_{1-5} alkyl-$C(O)OR^8$, C_{1-5} alkyl-$C(O)NR^8R^{11}$, CN, $C(O)R^8$, $C(O)NR^8R^{11}$, $C(O)OR^8$, and OR^8; (3) R^{10} and R^{12} are each independently selected from H, C_{1-7} alkyl, C_{2-7} alkenyl, C_{3-7} cycloalkyl, C_{4-7} cycloalkenyl, C_{1-3} alkanediyl-O-C_{1-3} alkanediyl-O-C_{1-3} alkanediyl, C_{1-3} alkyl-aryl, and C_{1-3} alkyl-heteroaryl, wherein the alkyl, alkenyl, cycloalkyl, cycloalkenyl, alkanediyl, aryl, or heteroaryl is optionally substituted by halogen or OR^8; (4) R^{14} is selected from C_{1-7} alkyl, C_{3-7} cycloalkyl, and C_{1-3} alkyl substituted by aryl or heteroaryl, wherein the aryl or the heteroaryl is optionally substituted by halogen, C_{1-4} alkyl, or C_{3-5} cycloalkyl; and/or (5) each R^{15} is independently selected from H, C_{1-7} alkyl, and C_{3-7} cycloalkyl.

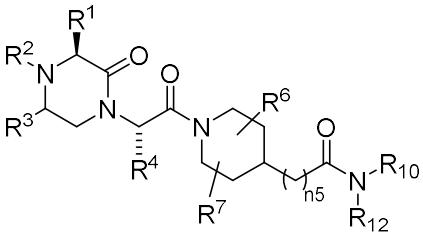
8. The compound of claim 1, wherein (1) R^{14} is C_{1-7} alkyl and/or (2) each R^{15} is independently selected from H and C_{1-7} alkyl.

9. The compound of claim 1, wherein (1) X is selected from a bond, C_{1-7} alkanediyl, -O-, C_{1-3} alkanediyl-O-, -O-C_{1-7} alkanediyl, C_{1-3} alkanediyl-O-C_{1-7} alkanediyl, C_{1-7} heteroalkanediyl, and -S-C_{1-7} alkanediyl; and wherein X can form a ring with any part of R^5 or Y, wherein the ring optionally contains a carbonyl group; (2) X is selected from a bond and C_{1-7} alkanediyl, and wherein C_{1-7} alkanediyl of X can form a ring with any part of Y; or (3) X is selected from a bond, -O-C_{1-7} alkanediyl, -S-C_{1-7} alkanediyl, and C_{1-7} alkanediyl, wherein –O-C_{1-7} alkanediyl, -S-C_{1-7} alkanediyl, or C_{1-7} alkanediyl of X can form a ring with any part of R^5, wherein the ring optionally contains a carbonyl group.

10. The compound of claim 1, wherein (1) Y is selected from H, $C(O)NR^{10}R^{12}$, $C(O)OR^{10}$, $NR^{10}R^{12}$, CN, C_{3-7}-cycloalkyl optionally containing a heteroatom in the ring selected from O and N, wherein if the heteroatom is N the ring is optionally substituted by R^8, S-aryl, O-aryl, S-heteroaryl, and O-heteroaryl wherein the S-aryl, O-aryl, S-heteroaryl, or

O-heteroaryl is optionally substituted by one or more R^9 or R^{14}; or Y is aryl or heteroaryl, wherein the aryl or heteroaryl is optionally substituted by one or more of R^8; and wherein when Y is $C(O)NR^{10}R^{12}$ or $NR^{10}R^{12}$, Y can form a ring with any part of X or R^5, wherein the ring optionally contains a carbonyl group; with the proviso that when Y is $C(O)NR^{10}R^{12}$ or $NR^{10}R^{12}$, R^{10} and R^{12} can form a ring wherein the ring contains the N of $NR^{10}R^{12}$ and optionally one further heteroatom selected from O and N, wherein if the one further heteroatom is N, the ring is optionally substituted by R^8; (2) Y is selected from H, $C(O)NR^{10}R^{12}$, $C(O)OR^{10}$, $NR^{10}R^{12}$, CN, C_{3-7}-cycloalkyl optionally containing a heteroatom in the ring selected from O and N, wherein if the heteroatom is N the ring is optionally substituted by R^8, S-aryl, O-aryl, S-heteroaryl, and O-heteroaryl, wherein the S-aryl, O-aryl, S-heteroaryl, or O-heteroaryl is optionally substituted by one or more R^9 or R^{14}; or Y is aryl or heteroaryl wherein the aryl or heteroaryl is optionally substituted by one or more of R^8; and wherein Y can form a ring with any part of X or R^5, wherein the ring optionally contains a carbonyl group; with the proviso that when Y is $C(O)NR^{10}R^{12}$ or $NR^{10}R^{12}$, R^{10} and R^{12} can form a ring wherein the ring contains the N of $NR^{10}R^{12}$ and optionally one further heteroatom selected from O and N, wherein if the one further heteroatom is N, the ring is optionally substituted by R^8; (3) Y is selected from $C(O)NR^{10}R^{12}$, $NR^{10}R^{12}$, C_{3-7}-cycloalkyl optionally containing a heteroatom in the ring selected from O and N, wherein if the heteroatom is N it is optionally substituted by R^8, S-aryl, O-aryl, S-heteroaryl, and O-heteroaryl, wherein the S-aryl, O-aryl, S-heteroaryl, or O-heteroaryl is optionally substituted by one or more R^9 or R^{14}; or Y is heteroaryl wherein the heteroaryl is optionally substituted by one or more of R^8; and wherein Y can form a ring with any part of X or R^5, wherein the ring optionally contains a carbonyl group; with the proviso that when Y is $C(O)NR^{10}R^{12}$ or $NR^{10}R^{12}$, R^{10} and R^{12} can form a ring wherein the ring contains the N of $NR^{10}R^{12}$ and optionally one further heteroatom selected from O and N, wherein if the one further heteroatom is N, the ring is optionally substituted by R^8; or (4) Y is selected from $NR^{10}R^{12}$ and C_{3-7}-cycloalkyl optionally containing a heteroatom in the ring selected from O and N, wherein if the heteroatom is N the ring is optionally substituted by R^8; and wherein Y can form a ring with any part of X or R^5; with the proviso that when Y is $NR^{10}R^{12}$, R^{10} and R^{12} can form a ring wherein the ring contains the N of $NR^{10}R^{12}$ and optionally one further heteroatom selected from O and N, wherein if the one further heteroatom is N, the ring is optionally substituted by R^8.

11. The compound of claim 1, wherein the compound is of any one of Formulae (Va), (Vb), (Vc), (Vd), (VIa), (VIb), (VIc), (VId), (VIIa), (VIIb), (VIIc), (VIId), (VIIe), or (VIIf):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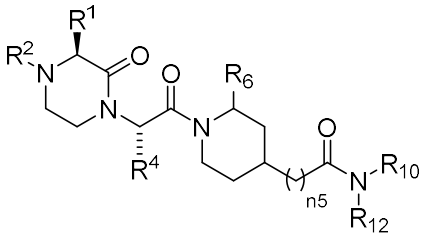
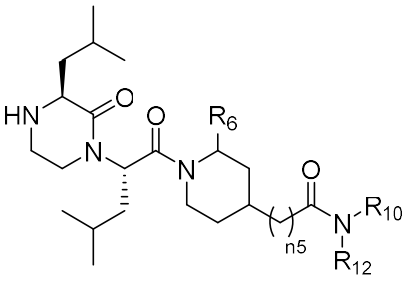

(Vb);

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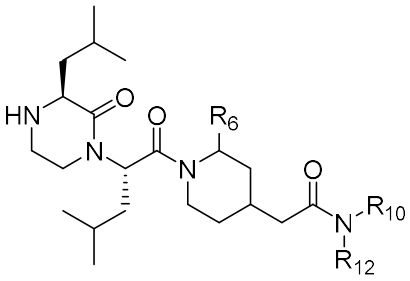
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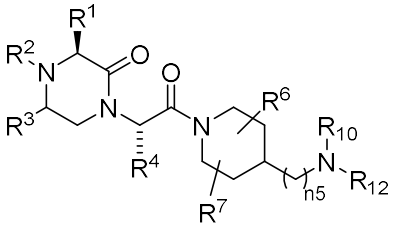
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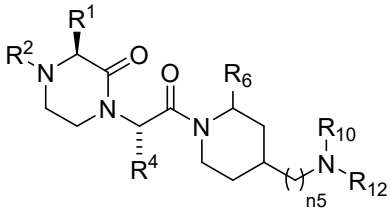
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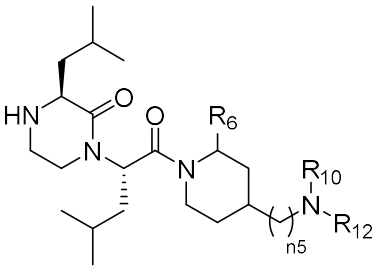
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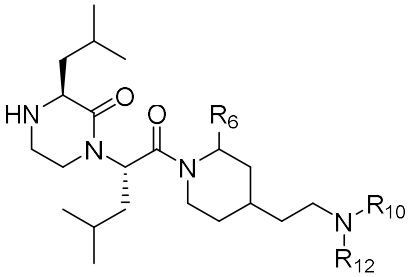
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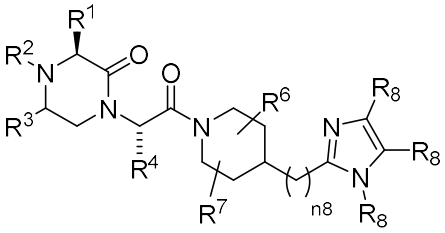
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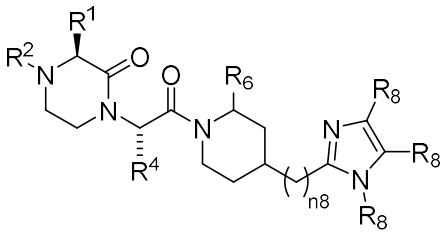
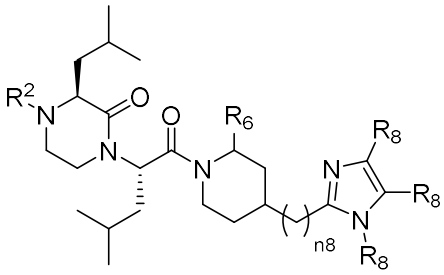

(VIIb);



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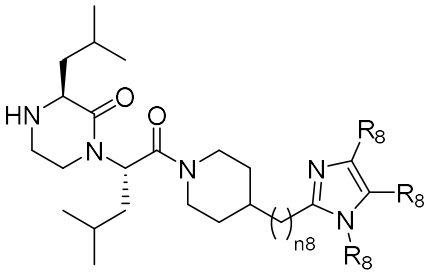

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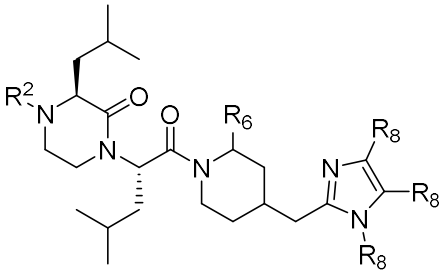
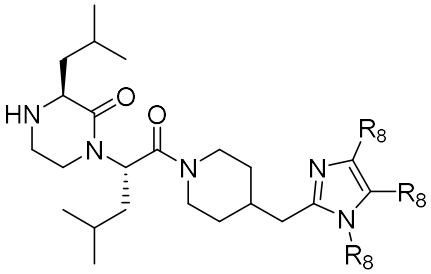


(VIIe); or


(VIIf);

or a pharmaceutically acceptable salt, hydrate, solvate or stereoisomer thereof, wherein n5 is 0, 1, 2, 3, 4, 5, 6, or 7 and n8 is 0, 1, 2, 3, 4, 5, 6, or 7.

12. The compound of claim 1, wherein (1a) R^5 is selected from H and C_{1-7} alkyl; wherein C_{1-7} alkyl of R^5 can form a ring with any part of Y; (1b) R^5 is selected from C_{1-7} alkyl, OR^8, and SR^8; wherein C_{1-7} alkyl, OR^8, or SR^8 of R^5 can form a ring with any part of X; or (1c) R^5 is OR^8, wherein R^8 of OR^8 is C_{1-7} alkyl, and wherein OR^8 of R^5 can form a ring with any part of X;

wherein (2a) X is selected from a bond and C_{1-7} alkanediyl, wherein C_{1-7} alkanediyl of X can form a ring with any part of Y; (2b) X is selected from –O-C_{1-7} alkanediyl, -S-C_{1-7} alkanediyl, and C_{1-7} alkanediyl, and wherein –O-C_{1-7} alkanediyl, -S-C_{1-7} alkanediyl, or C_{1-7} alkanediyl of X can form a ring with any part of R^5; or (2c) X is –O-C_{1-7} alkanediyl, wherein –O-C_{1-7} alkanediyl of X can form a ring with any part of R^5;

wherein (3a) Y is selected from $NR^{10}R^{12}$ and C_{3-7}-cycloalkyl optionally containing a heteroatom in the ring wherein the heteroatom is N and is optionally substituted by R^8, wherein R^8 is C_{1-7} alkyl; and wherein Y can form a ring with any part of C_{1-7} alkanediyl of X or with any part of C_{1-7} alkyl of R^5; with the proviso that when Y is $NR^{10}R^{12}$, R^{10} and R^{12} can form a ring wherein the ring contains the N of $NR^{10}R^{12}$ and optionally one further heteroatom selected from O and N, wherein if the one further heteroatom is N, the ring is optionally substituted by R^8; (3b) Y is $NR^{10}R^{12}$ wherein R^{10} and R^{12} can form a ring wherein the ring contains the N of $NR^{10}R^{12}$ and optionally one further heteroatom selected from O and N, wherein if the one further heteroatom is N, the ring is optionally substituted by R^8; or (3c) Y

is $NR^{10}R^{12}$ wherein R^{10} and R^{12} can form a ring wherein the ring contains the N of $NR^{10}R^{12}$ and four or five carbon atoms; and

wherein R^{10} and R^{12} are each independently selected from H, C_{1-7} alkyl, C_{3-7} cycloalkyl, and C_{1-3} alkyl-aryl, wherein the alkyl, cycloalkyl, or aryl is optionally substituted by halogen.

13. The compound of claim 1, wherein (1) Y is aryl or heteroaryl, wherein the aryl or heteroaryl is optionally substituted by one or more of R^8; or Y is S-heteroaryl, wherein the S-heteroaryl is optionally substituted by one or more R^{14}; (2) Y is $C(O)NR^{10}R^{12}$; wherein R^{10} and R^{12} can form a ring wherein the ring contains the N of $NR^{10}R^{12}$ and optionally one further heteroatom selected from O and N, wherein if the one further heteroatom is N, the ring is optionally substituted by R^8; (3) Y is selected from S-aryl, O-aryl, S-heteroaryl, and O-heteroaryl, wherein the S-aryl, O-aryl, S-heteroaryl, or O-heteroaryl is optionally substituted by one or more R^9 or R^{14}; (4) Y is $C(O)OR^{10}$; (5) Y is H; or (6) Y is CN.

14. The compound of claim 1,

wherein R^5 is selected from H and C_{1-7} alkyl;

X is selected from a bond and C_{1-7} alkanediyl;

Y is (1) heteroaryl, wherein the heteroaryl is optionally substituted by one or more of R^8; or Y is S-heteroaryl, wherein the S-heteroaryl is optionally substituted by one or more R^{14}; (2) $C(O)NR^{10}R^{12}$; wherein R^{10} and R^{12} can form a ring wherein the ring contains the N of $NR^{10}R^{12}$ and optionally one further heteroatom selected from O and N, wherein if the one further heteroatom is N, the ring is optionally substituted by R^8; wherein R^{10} and R^{12} are each independently selected from H, C_{1-7} alkyl, C_{2-7} alkenyl, C_{3-7} cycloalkyl, and C_{1-3} alkyl-aryl; (3) Y is selected from O-aryl and O-heteroaryl, wherein the O-aryl or O-heteroaryl is optionally substituted by one or more R^9; wherein R^9 is selected from H, C_{1-5} alkyl, halogen, C_{1-5} alkyl-NR^8R^{11}, C_{1-5} alkyl-$C(O)OR^8$, C_{1-5} alkyl-$C(O)NR^8R^{11}$, CN, $C(O)R^8$, $C(O)NR^8R^{11}$, $C(O)OR^8$, and OR^8; or (4) Y is $C(O)OR^{10}$; wherein R^{10} is selected from H, C_{1-7} alkyl, C_{2-7} alkenyl, C_{3-7} cycloalkyl, C_{4-7} cycloalkenyl, C_{1-3} alkanediyl-O-C_{1-3} alkanediyl-O-C_{1-3} alkanediyl, C_{1-3} alkyl-aryl, and C_{1-3} alkyl-heteroaryl, wherein the alkyl, alkenyl, cycloalkyl, cycloalkenyl, alkanediyl, aryl, or heteroaryl is optionally substituted by OR^8.

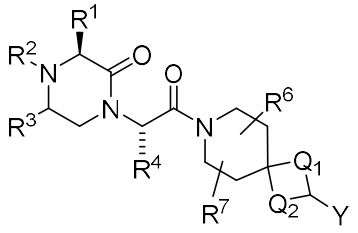
15. The compound of claim 1, wherein

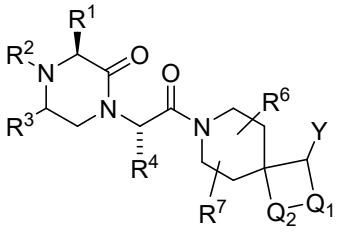
R^5 is C_{1-7} alkyl or H;

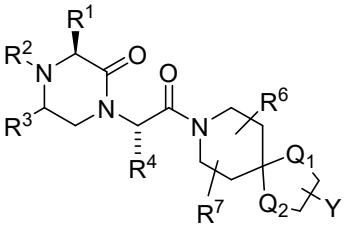
X is a bond or C_{1-7} alkanediyl; and

Y is H or CN.

16. The compound of claim 1, wherein the compound is of any one of Formulae (VIIIa), (VIIIb), (VIIIc), (VIIId), (VIIIe), (VIIIf), (VIIIg), (VIIIh), (VIIIi), (VIIIj), (VIIIk), (VIIIl) (IXa), (IXb), (IXc), or (IXd):


(VIIIa);


(VIIIb);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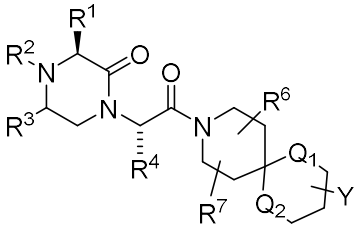
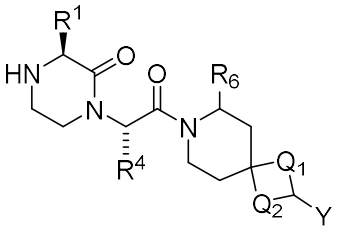

(VIIId);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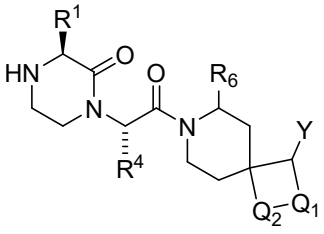
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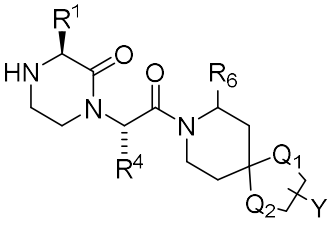
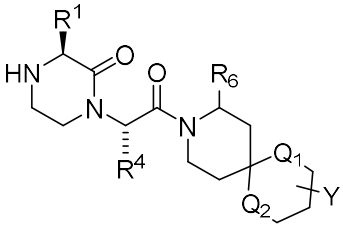
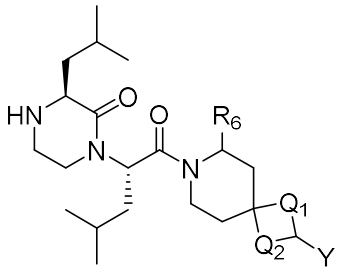
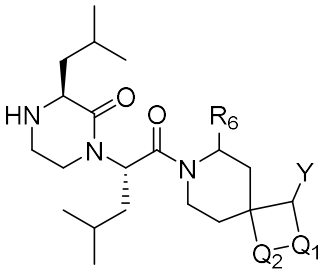
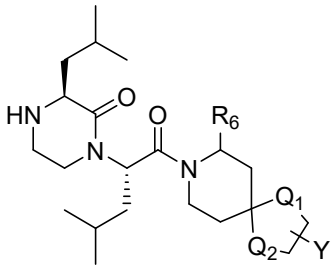
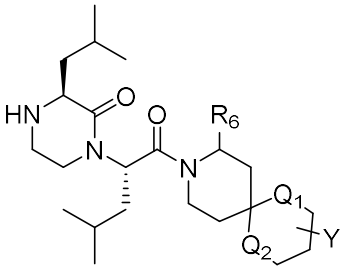

(VIIIg);

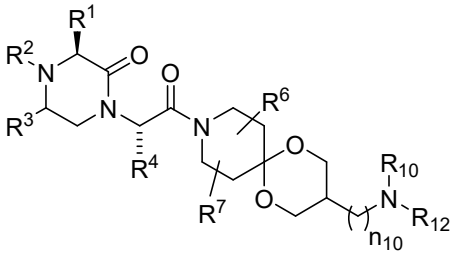

(VIIIh);

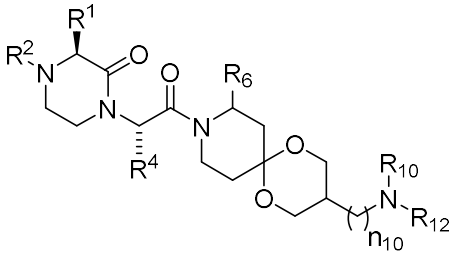
 (VIIIi);

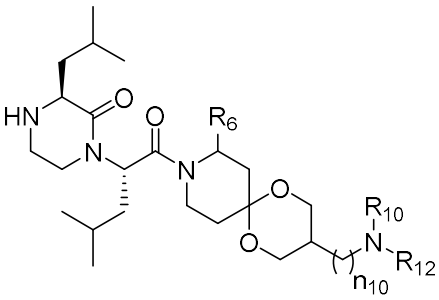
 (VIIIj);

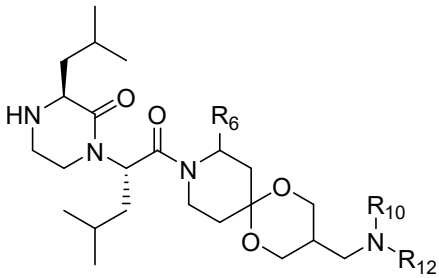
 (VIIIk);

 (VIIIl);

 (IXa);

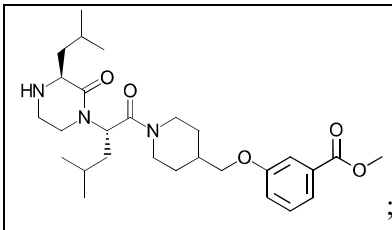
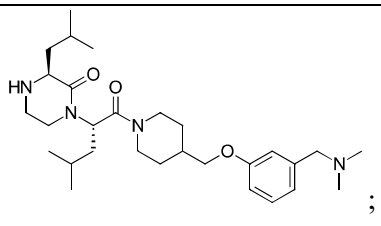
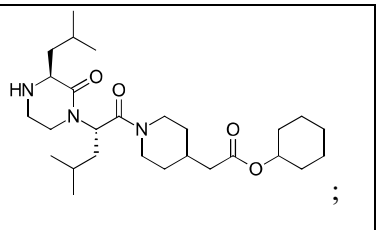
 (IXb);

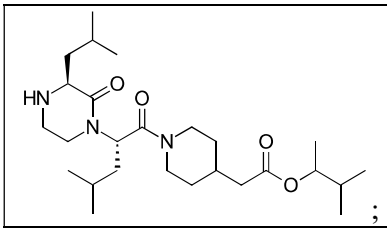
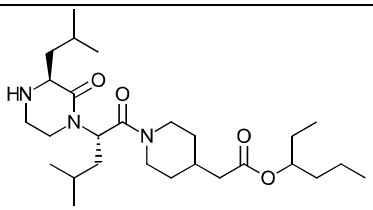
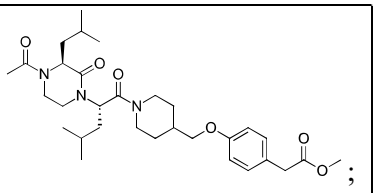
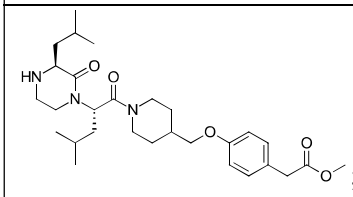
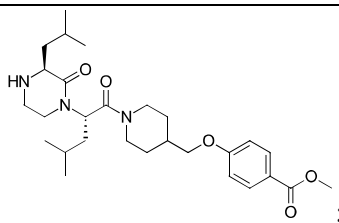
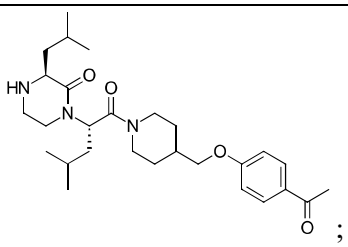
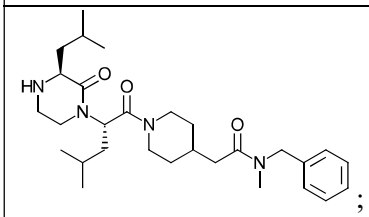
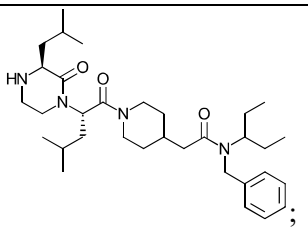
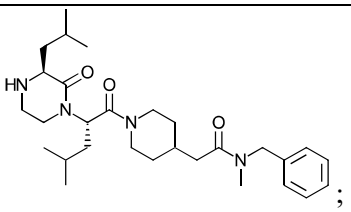
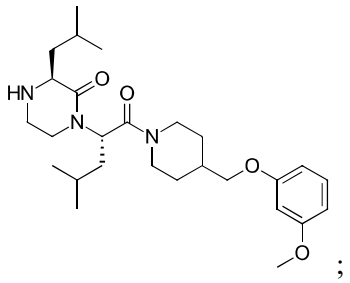
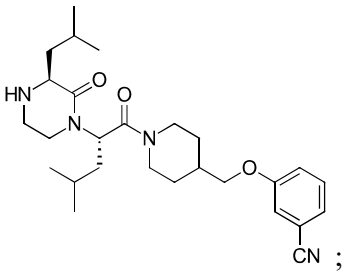
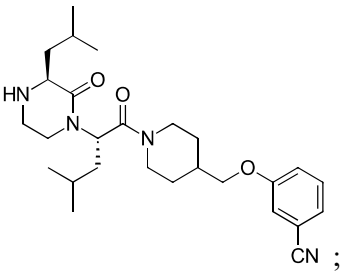
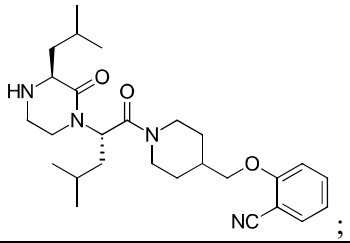
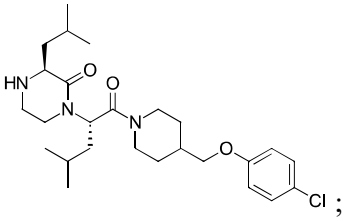
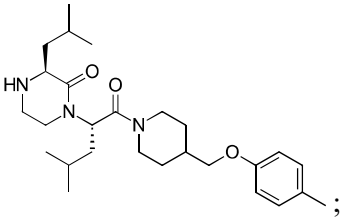
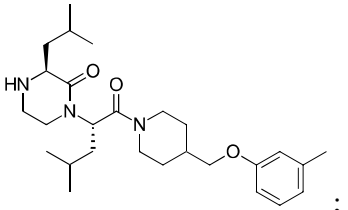
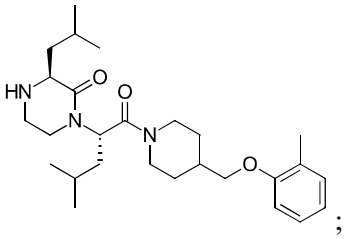
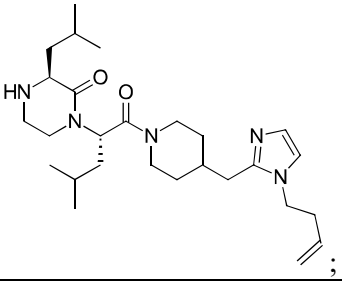
 (IXc); or

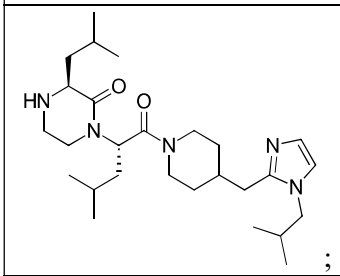
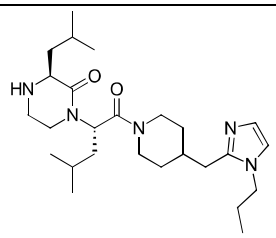
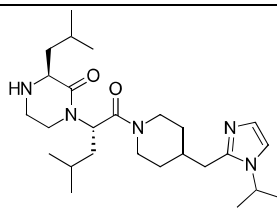
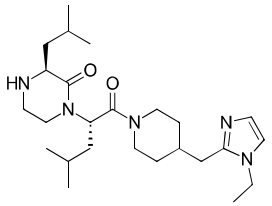
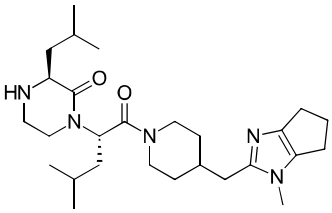
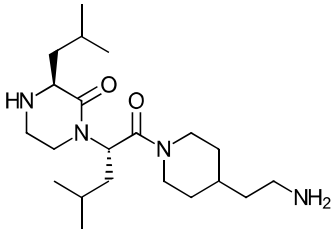
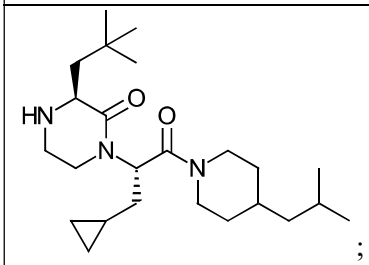
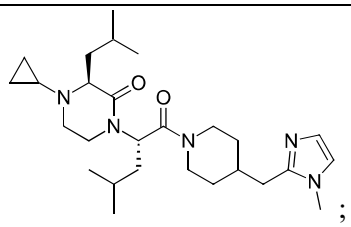
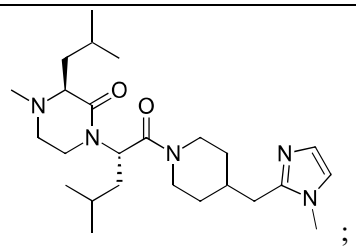
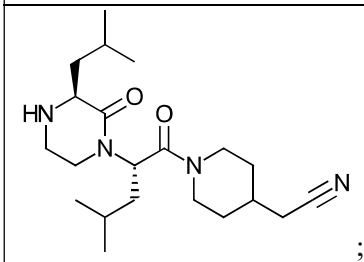
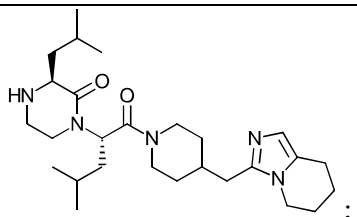
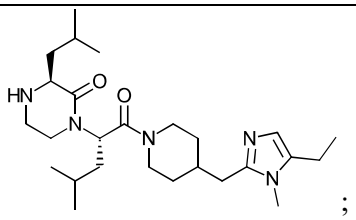
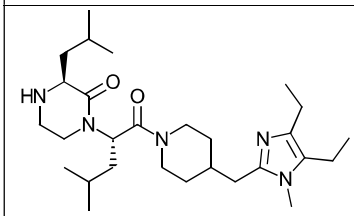
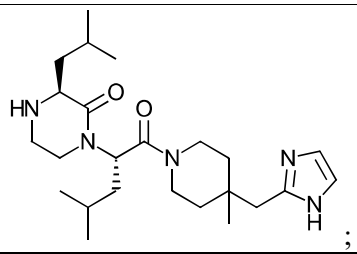
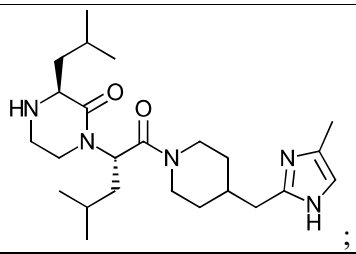
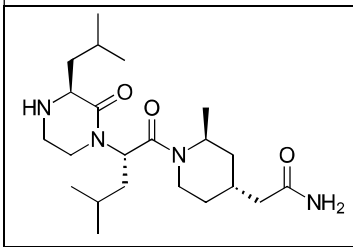
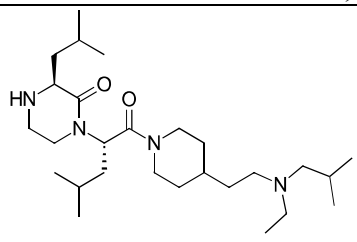
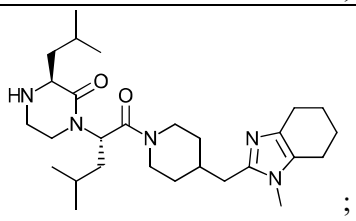
 (IXd);

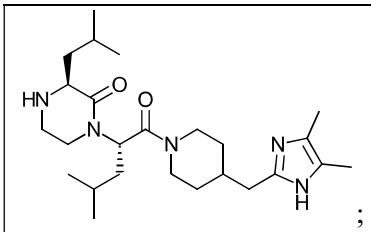
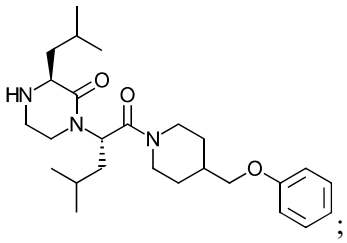
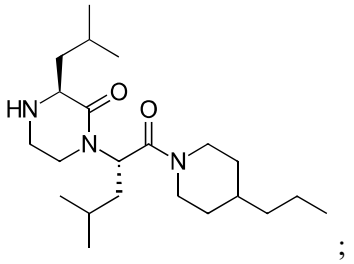
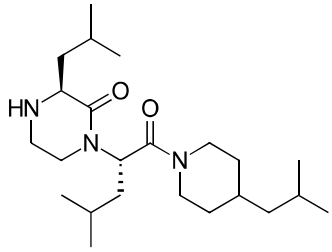
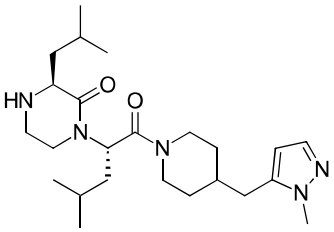
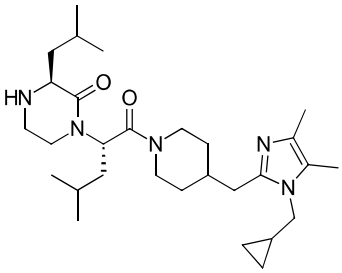
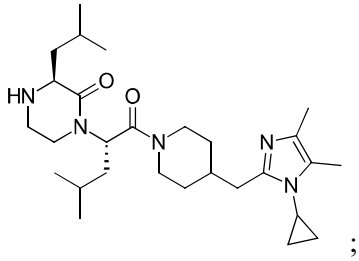
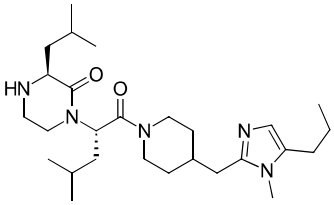
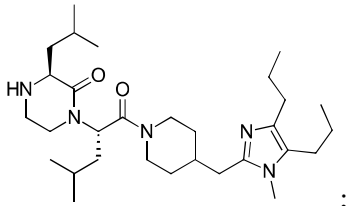
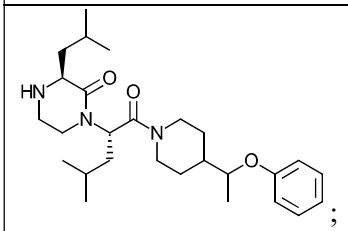
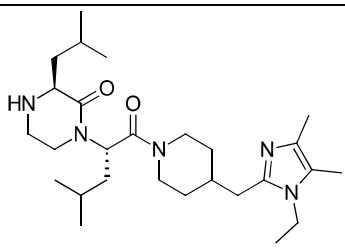
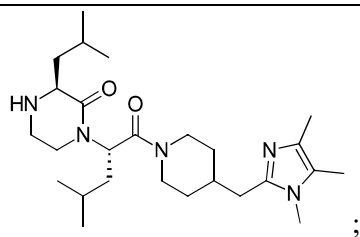
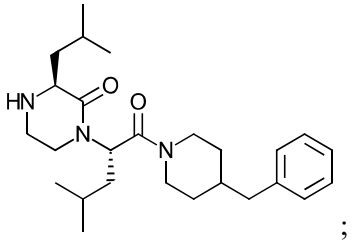
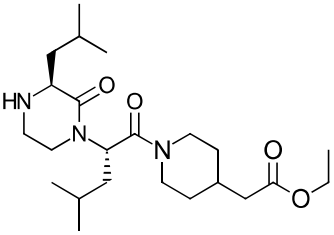
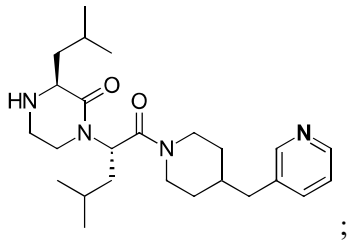
or a pharmaceutically acceptable salt, hydrate, solvate, or stereoisomer thereof, wherein Q_1 and Q_2 are each independently O, S, NR^8, or CR^8 and n_{10} is 0, 1, 2, 3, 4, 5, 6, or 7.

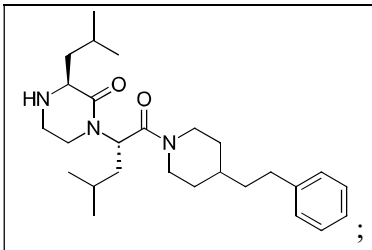
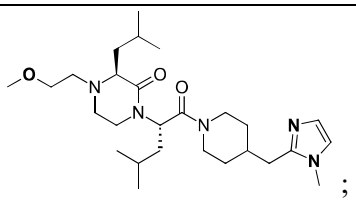
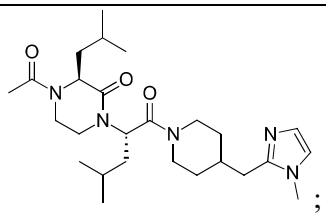
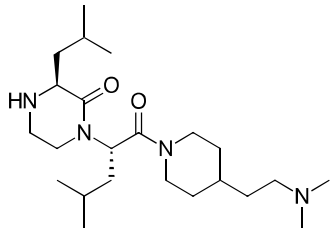
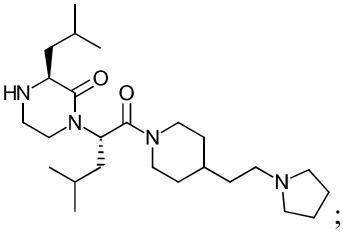
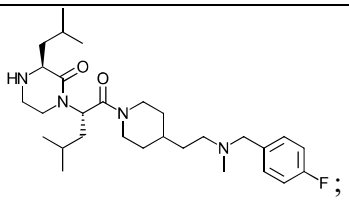
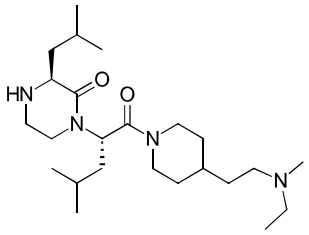
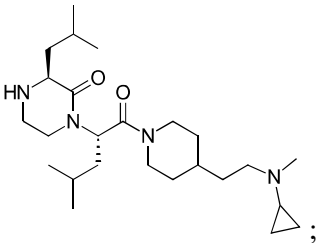
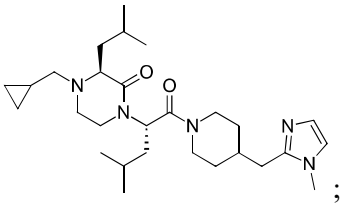
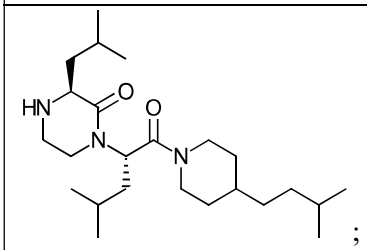
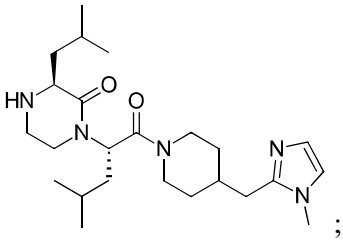
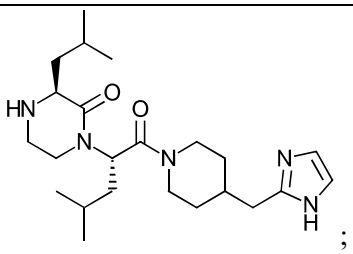
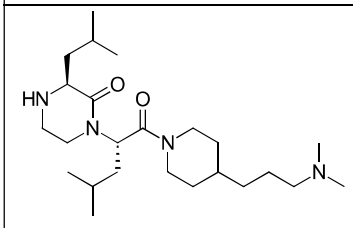
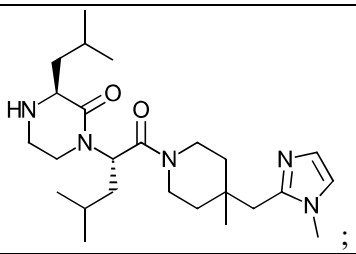
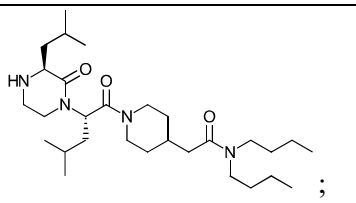
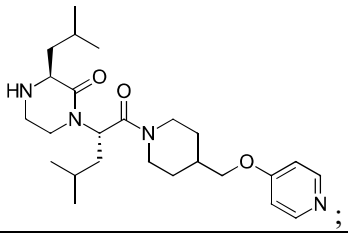
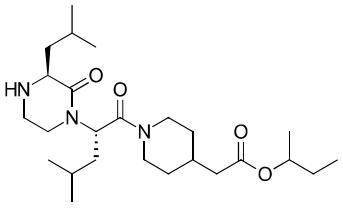
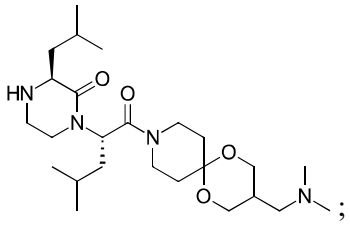
17. A compound selected from the group consisting of:

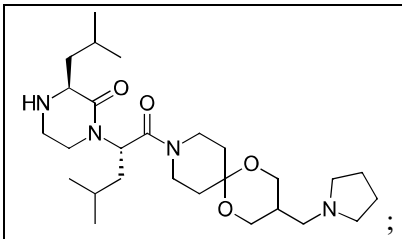
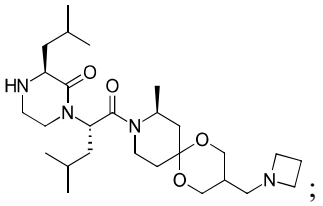
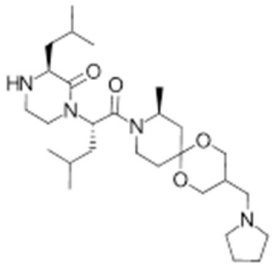
 ;	 ;	 ;

 ;	 ;	 ;
 ;	 ;	 ;
 ;	 ;	 ;
 ;	 CN ;	 CN ;
 NC ;	 Cl ;	 ;
 ;	 ;	 ;

 ;	 ;	 ;
 ;	 ;	 ;
 ;	 ;	 ;
 ;	 ;	 ;
 ;	 ;	 ;
 ;	 ;	 ;

 ;	 ;	 ;
 ;	 ;	 ;
 ;	 ;	 ;
 ;	 ;	 ;
 ;	 ;	 ;

 ;	 ;	 and .

18. A pharmaceutical composition comprising a compound of claim 1 and a pharmaceutically acceptable diluent, excipient or carrier.

19. A compound of any one of claims 1 to 17 for use in therapy, wherein a therapeutically effective amount of the compound or a pharmaceutically effective salt, hydrate, solvate, or stereoisomer thereof is to be administered to a subject.

20. Use of a compound of any one of claims 1 to 17 in the manufacture of a medicament for the treatment of cancer in a subject, wherein a therapeutically effective amount of the compound or a pharmaceutically effective salt, hydrate, solvate, or stereoisomer thereof is to be administered to the subject.

21. Use of a compound of any one of claims 1 to 17 in the manufacture of a pharmaceutical composition for the treatment of cancer in a subject, a therapeutically effective amount of the compound or a pharmaceutically effective salt, hydrate, solvate, or stereoisomer thereof is to be administered to the subject.