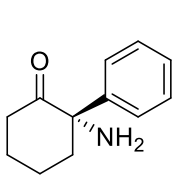
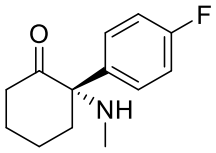
CLAIMS

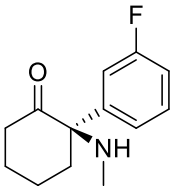
1. A substantially enantiomerically pure compound selected from the group consisting of:



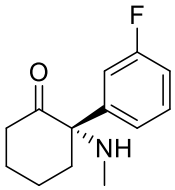
11S,



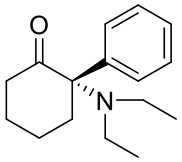
18S,



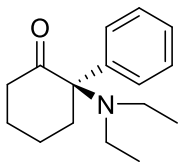
19R,



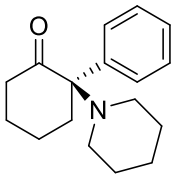
19S,



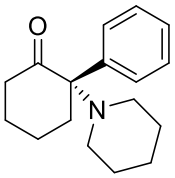
25S,



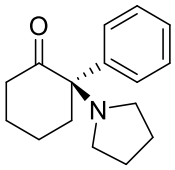
25R,



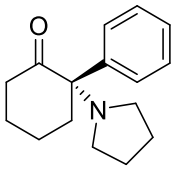
26R,



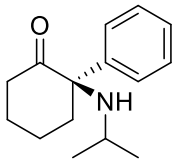
26S,



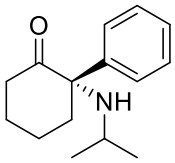
27R,



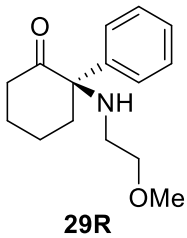
27S,



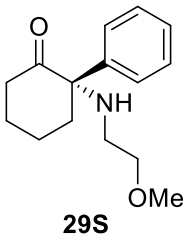
28R,



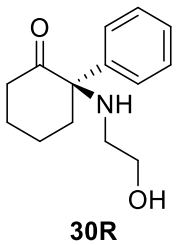
28S,



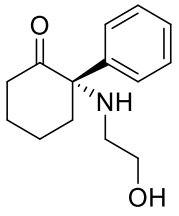
29R,



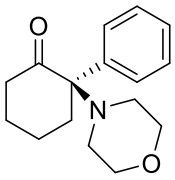
29S,



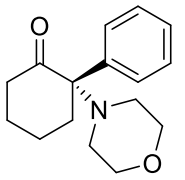
30R,



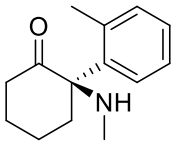
30S,



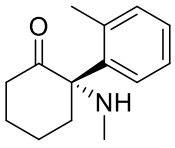
31R,



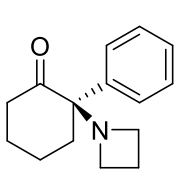
31S,



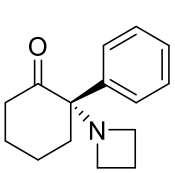
38R,



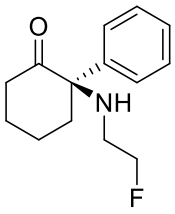
38S,



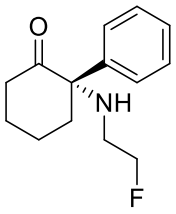
84R ,



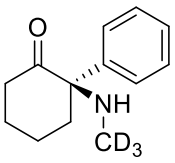
84S ,



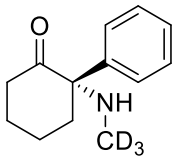
86R ,



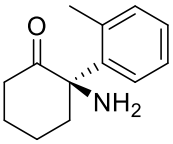
86S ,



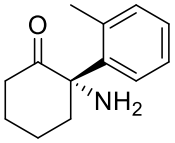
88R ,



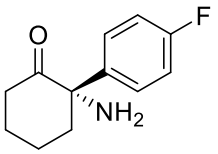
88S ,



114R ,



114S , and



117S

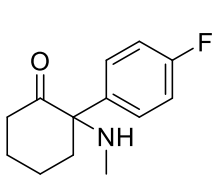
or a pharmaceutically acceptable salt thereof.

2. The compound of claim 1 or pharmaceutically acceptable salt thereof, wherein the compound is at least 90% enantiomerically pure.

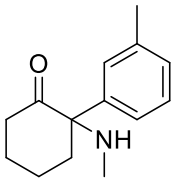
3.The compound of claim 1 or pharmaceutically acceptable salt thereof, wherein the compound is at least 95% enantiomerically pure.

4. The compound of claim 1 or pharmaceutically acceptable salt thereof, wherein the compound is at least 99% enantiomerically pure.

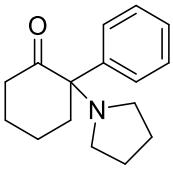
5. A compound selected from:



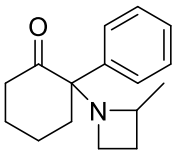
18rac ,



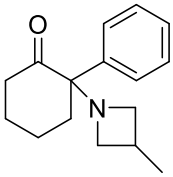
23rac ,



27rac ,



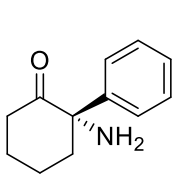
128mix , and

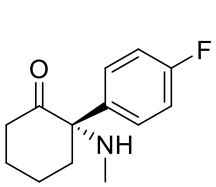


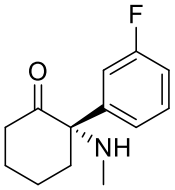
129rac ,

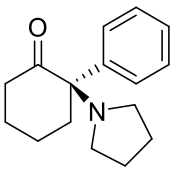
or pharmaceutically acceptable salt thereof.

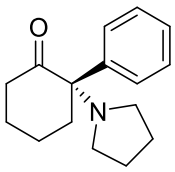
6. The compound of claim 1, wherein the compound is selected from:



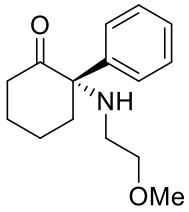
11S, 

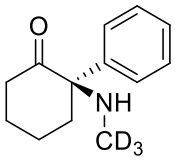
18S, 

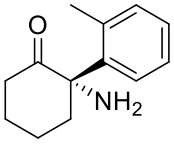
19S, 

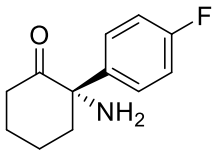
27R, 

27S,



29S, 

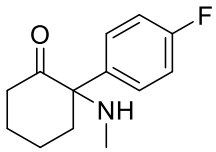
88R, 

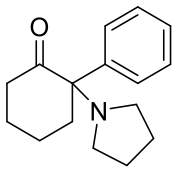
114S, and 

117S,

or a pharmaceutically acceptable salt thereof.

7. The compound of claim 5, wherein the compound is



18rac or 

27rac,

or a pharmaceutically acceptable salt thereof.

8. A pharmaceutical composition comprising a compound of claim 1 or a pharmaceutically acceptable salt thereof and a pharmaceutically acceptable excipient.

9. Use of the compound of claim 1 or a pharmaceutically acceptable salt thereof in the manufacture of a medicament for the treatment of depression, anxious depression, a mood disorder, an anxiety disorder, or a substance use disorder and any symptom or disorders associated therewith in a subject in need thereof, wherein an effective amount of the compound or a pharmaceutically acceptable salt thereof is to be administered to the subject in need thereof.

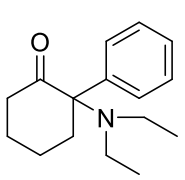
10. Use of the compound of claim 1 or a pharmaceutically acceptable salt thereof in the manufacture of a medicament for the treatment of depression or anxious depression in a subject in need thereof, wherein an effective amount of the compound or a pharmaceutically acceptable salt thereof is to be administered to the subject in need thereof.

11. A pharmaceutical composition comprising the compound of claim 5 or a pharmaceutically acceptable salt thereof and a pharmaceutically acceptable excipient.

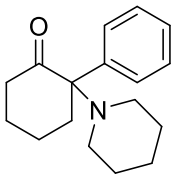
12. Use of the compound of claim 5 or a pharmaceutically acceptable salt thereof in the manufacture of a medicament for the treatment of depression, anxious depression, a mood disorder, an anxiety disorder, or a substance use disorder and any symptom or disorders associated therewith in a subject in need thereof, wherein an effective amount of the compound or a pharmaceutically acceptable salt thereof is to be administered to the subject in need thereof.

13. Use of the compound of claim 5 or a pharmaceutically acceptable salt thereof in the manufacture of a medicament for the treatment of depression or anxious depression in a subject in need thereof, wherein an effective amount of the compound or a pharmaceutically acceptable salt thereof is to be administered to the subject in need thereof.

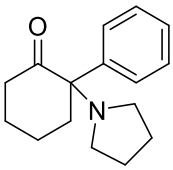
14. A composition comprising an enantiomeric mixture of a compound selected from the group consisting of:



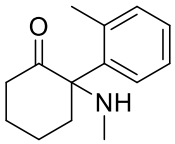
25,



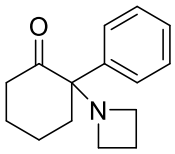
26,



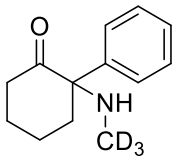
27,



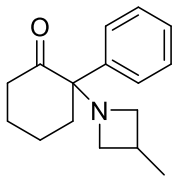
38,



84,



88,

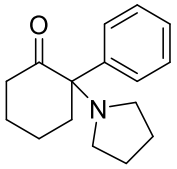


129

and

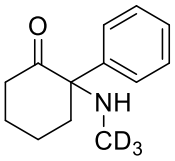
or a pharmaceutically acceptable salt thereof, wherein the enantiomeric mixture has a significantly greater amount of the enantiomer having the lower binding affinity at the NMDA receptor MK-801 site.

15. The composition of claim 14, wherein the compound is selected from the group consisting of:



27

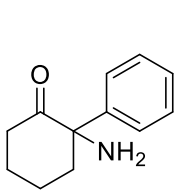
and



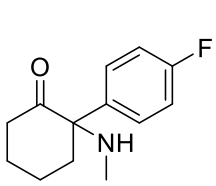
88,

or a pharmaceutically acceptable salt thereof.

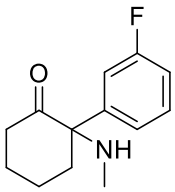
16. A composition comprising an enantiomeric mixture of a compound selected from the group consisting of:



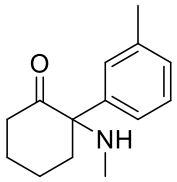
11,



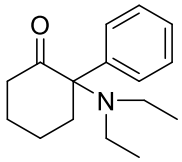
18,



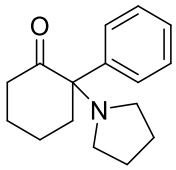
19,



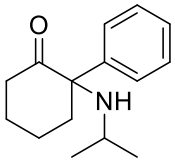
23,



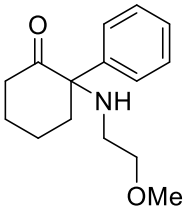
25,



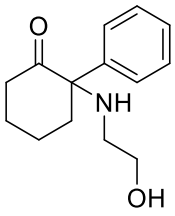
27,



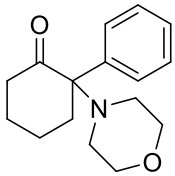
28,



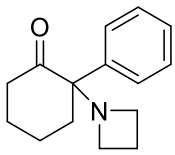
29,



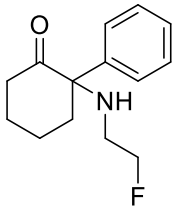
30,



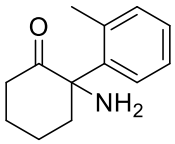
31,



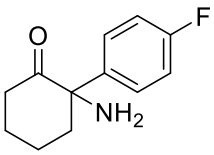
84,



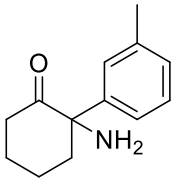
86,



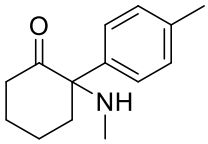
114,



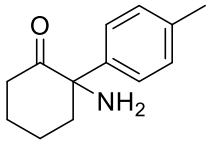
117,



118,



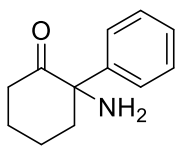
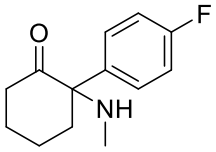
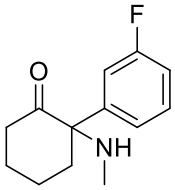
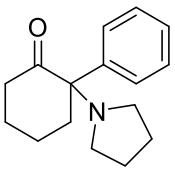
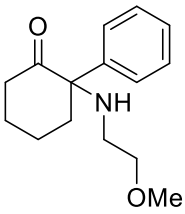
119, and



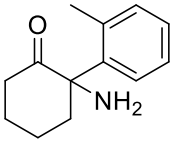
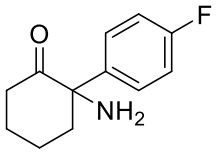
120,

or a pharmaceutically acceptable salt thereof, wherein the enantiomeric mixture has a significantly greater amount of the enantiomer having the higher binding affinity at the NMDA receptor MK-801 site.

17. The composition of claim 16, wherein the compound is selected from the group consisting of:

, ,  ,  ,  ,  ,  ,

11 **18** **19** **27** **29**

114 , and **117** ,

or a pharmaceutically acceptable salt thereof.

18. Use of the composition of claim 14 or a pharmaceutically acceptable salt thereof in the manufacture of a medicament for the treatment of depression, anxious depression, a mood disorder, an anxiety disorder, or a substance use disorder and any symptom or disorders associated therewith in a subject in need thereof, wherein an effective amount of the composition or a pharmaceutically acceptable salt thereof is to be administered to the subject in need thereof.

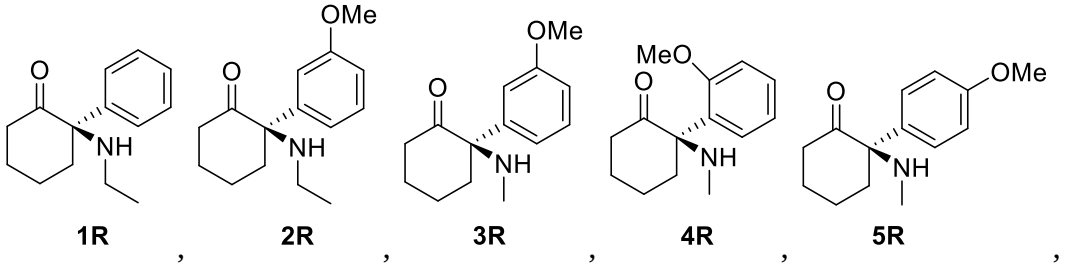
19. Use of the composition of claim 14 or a pharmaceutically acceptable salt thereof in the manufacture of a medicament for the treatment of depression or anxious depression in a subject in need thereof, wherein an effective amount of the composition or a pharmaceutically acceptable salt thereof is to be administered to the subject in need thereof.

20. Use of the composition of claim 16 or a pharmaceutically acceptable salt thereof in the manufacture of a medicament for the treatment of depression, anxious depression, a mood disorder, an anxiety disorder, or a substance use disorder and any symptom or disorders associated therewith in a subject in need thereof, wherein an effective amount of the

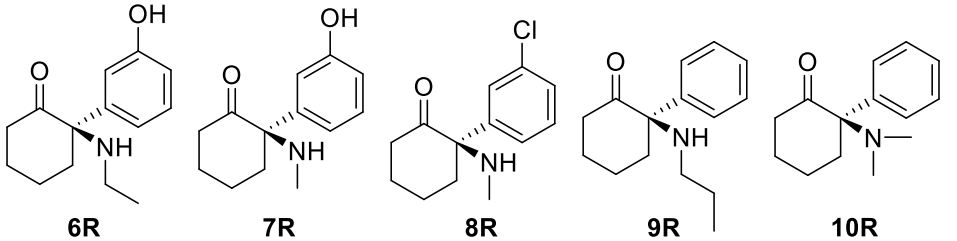
composition or a pharmaceutically acceptable salt thereof is to be administered to the subject in need thereof.

21. Use of the composition of claim 16 or a pharmaceutically acceptable salt thereof in the manufacture of a medicament for the treatment of depression or anxious depression in a subject in need thereof, wherein an effective amount of the composition or a pharmaceutically acceptable salt thereof is to be administered to the subject in need thereof.

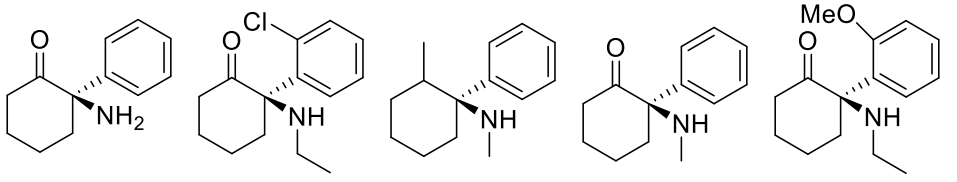
22. Use of a composition comprising a substantially enantiomerically pure compound selected from the group consisting of:



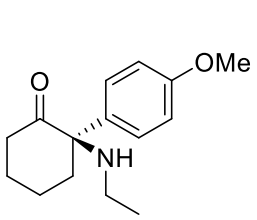
1R , **2R** , **3R** , **4R** , **5R** ,



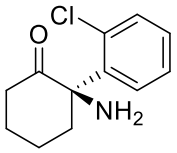
6R , **7R** , **8R** , **9R** , **10R** ,



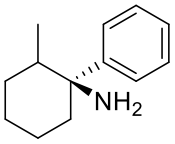
11R , **12R** , **13S** , **14R** , **55R** ,



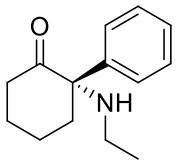
56R ,



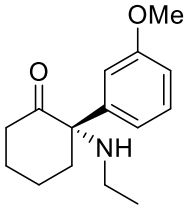
78R ,



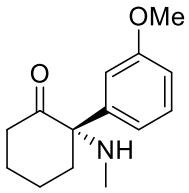
141S ,



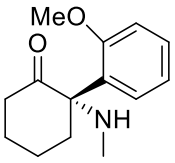
1S ,



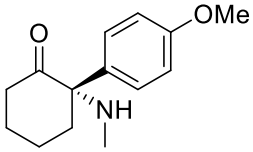
2S ,



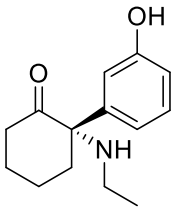
3S ,



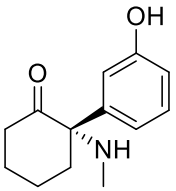
4S ,



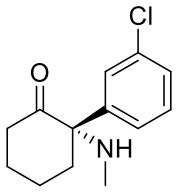
5S ,



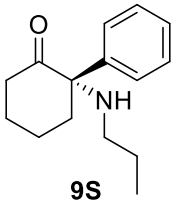
6S ,



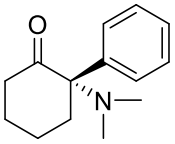
7S ,



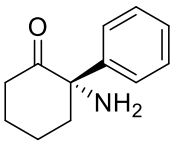
8S ,



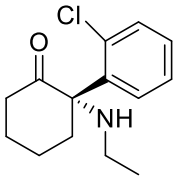
9S ,



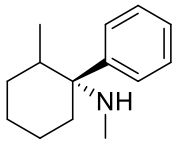
10S ,



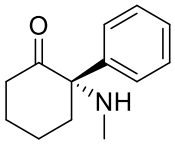
11S ,



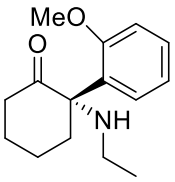
12S ,



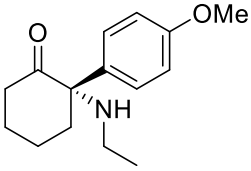
13R ,



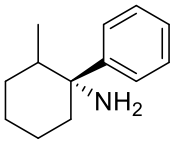
14S ,



55S ,



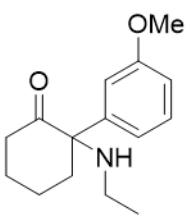
56S , and



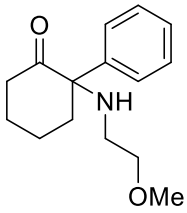
141R ,

or a pharmaceutically acceptable salt thereof in the manufacture of a medicament for the treatment of depression, anxious depression, a mood disorder, an anxiety disorder, or a substance use disorder and any symptom or disorders associated therewith in a subject in need thereof, wherein an effective amount of the composition is to be administered to the subject in need thereof.

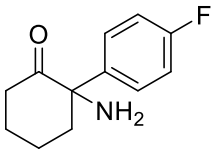
23. Use of a composition comprising a compound selected from the group consisting of:



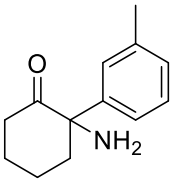
2rac,



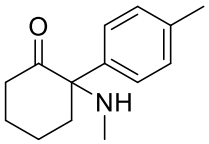
29rac,



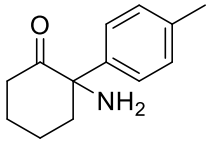
117rac,



118rac,



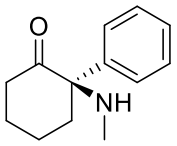
119rac, and



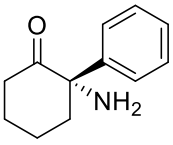
120rac.

or a pharmaceutically acceptable salt thereof in the manufacture of a medicament for the treatment of depression, anxious depression, a mood disorder, an anxiety disorder, or a substance use disorder and any symptom or disorders associated therewith in a subject in need thereof, wherein an effective amount of the composition is to be administered to the subject in need thereof.

24. The use of claim 22, wherein the compound is selected from the group consisting of:



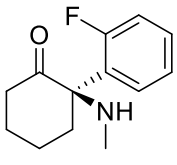
14R and



11S,

or a pharmaceutically acceptable salt thereof.

25. A substantially enantiomerically pure compound of the formula:



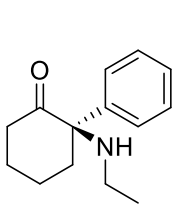
35R

or a pharmaceutically acceptable salt thereof.

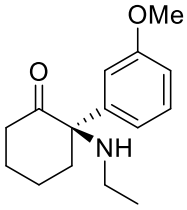
26. Use of the substantially enantiomerically pure compound of claim 25 or a pharmaceutically acceptable salt thereof in the manufacture of a medicament for the treatment of depression, anxious depression, a mood disorder, an anxiety disorder, or a substance use disorder and any symptom or disorders associated therewith in a subject in need thereof, wherein an effective amount of the substantially enantiomerically pure compound of claim 25 or a pharmaceutically acceptable salt thereof is to be administered to the subject in need thereof.

27. Use of the substantially enantiomerically pure compound of claim 25 or a pharmaceutically acceptable salt thereof in the manufacture of a medicament for the treatment of depression or anxious depression in a subject in need thereof, wherein an effective amount of the substantially enantiomerically pure compound or a pharmaceutically acceptable salt thereof is to be administered to the subject in need thereof.

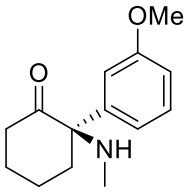
28. The compound of claim 1 or a pharmaceutically acceptable salt thereof,
the compound of claim 5 or a pharmaceutically acceptable salt thereof,
the composition of claim 14 or a pharmaceutically acceptable salt thereof,
the composition of claim 16 or a pharmaceutically acceptable salt thereof,
a composition comprising a substantially enantiomerically pure compound selected from the group consisting of:



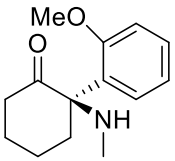
1R ,



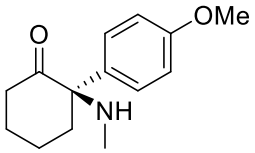
2R ,



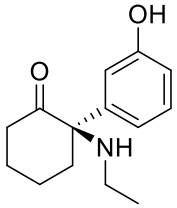
3R ,



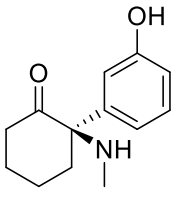
4R ,



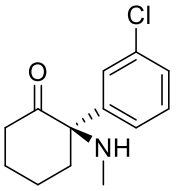
5R ,



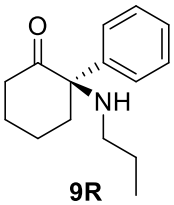
6R ,



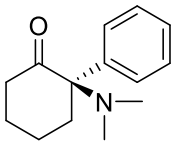
7R ,



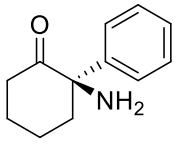
8R ,



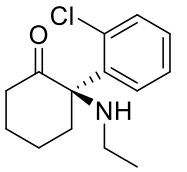
9R ,



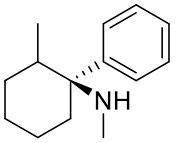
10R ,



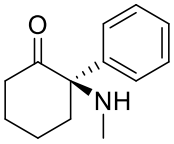
11R ,



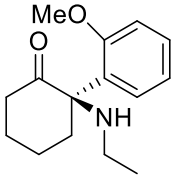
12R ,



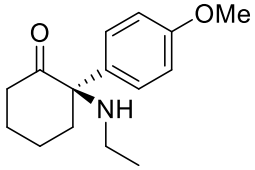
13S ,



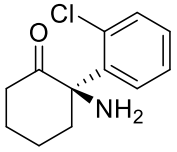
14R ,



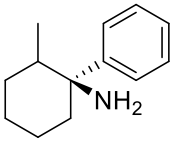
55R ,



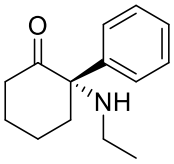
56R ,



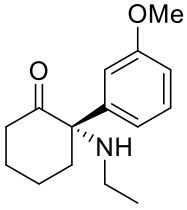
78R ,



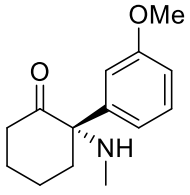
141S ,



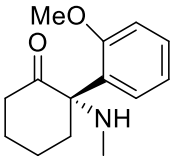
1S ,



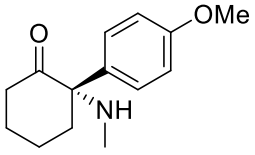
2S ,



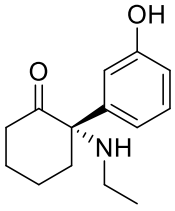
3S ,



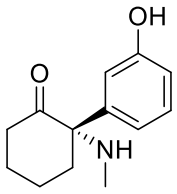
4S ,



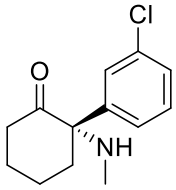
5S ,



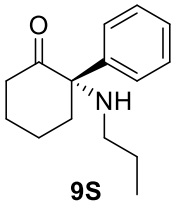
6S ,



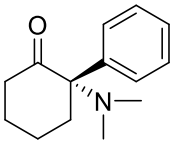
7S ,



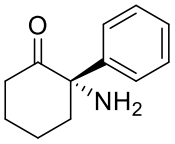
8S ,



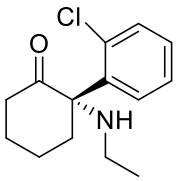
9S ,



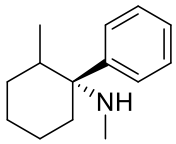
10S ,



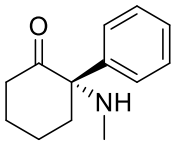
11S ,



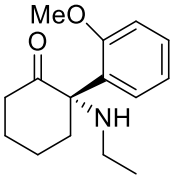
12S ,



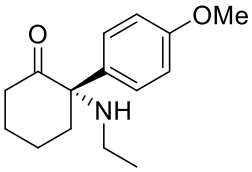
13R ,



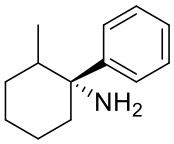
14S ,



55S ,



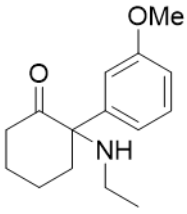
56S , and



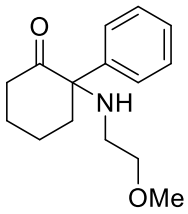
141R ,

or a pharmaceutically acceptable salt thereof,

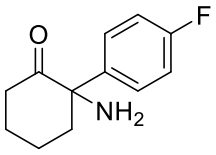
a composition comprising a compound selected from the group consisting of:



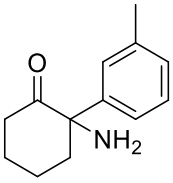
2rac ,



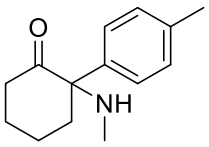
29rac ,



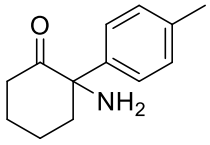
117rac ,



118rac ,



119rac , and



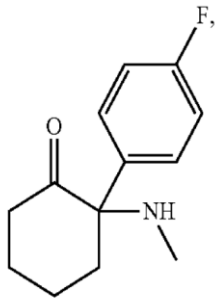
120rac .

or a pharmaceutically acceptable salt thereof, or

the substantially enantiomerically pure compound of claim 25 or a pharmaceutically acceptable salt thereof,

for use in therapy.

29. A compound represented by:



or a pharmaceutically acceptable salt thereof.

30. A pharmaceutical composition comprising a compound of claim 29 and a pharmaceutically acceptable excipient.