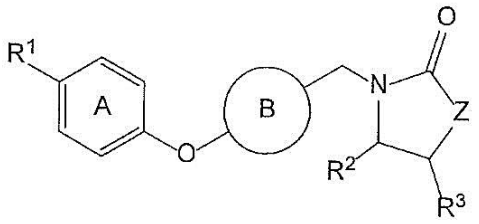
confined to the posterior horn of the spinal cord, particularly the second layer. In addition, in the single cell, the NMDA receptor containing the NR2B subunit is most highly expressed in postsynaptic density and expression thereof is also observed in the extrasynaptic region. This suggests that the NMDA receptor containing the NR2B subunit is functional widely in the brain and may be effective in the prophylaxis or treatment of central nervous system diseases.

[6] The present disclosure provides heterocyclic compounds, and pharmaceutical compositions comprising the same, that may have an antagonistic action on an NMDA receptor containing an NR2B subunit and may be useful as prophylactic or therapeutic agents for depression, bipolar disorder, migraine, pain, peripheral symptoms of dementia, or the like.

[6a] In an aspect, there is provided a compound of formula (I):



(I),

or a pharmacologically acceptable salt thereof, wherein:

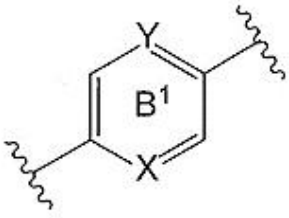
R^1 is chosen from halogens and C_{1-3} alkyl groups optionally substituted with at least one fluorine;

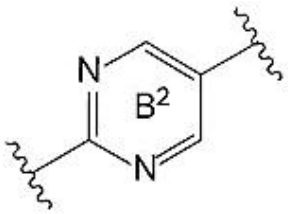
R^2 is chosen from C_{1-3} alkyl groups optionally substituted with at least one fluorine;

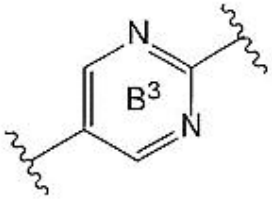
R^3 is chosen from hydrogen and hydroxy groups;

ring A is chosen from benzene groups optionally substituted with one to four halogens in addition to R^1 and -O-ring B;

ring B is chosen from groups of the following formulas:



, 

, and 

,

wherein:

X and Y are each independently chosen from carbon and nitrogen;

ring B^1 is chosen from benzene groups, pyridine groups, and pyrazine groups, each of which is optionally substituted with one to four halogens;

ring B^2 is chosen from pyrimidine groups optionally substituted with one or two halogens; and

ring B^3 is chosen from pyrimidine groups optionally substituted with one or two halogens; and

Z is chosen from CH_2, CF_2, O, and NH.

[6b] In another aspect, there is provided a crystalline (4S,5S)-1-({6-[4-(difluoromethyl)-2-fluorophenoxy]pyridin-3-yl}methyl)-4-hydroxy-5-methylpyrrolidine-2-one, characterized by a powder X-ray diffraction pattern comprising at least two peaks chosen from peaks at 8.5°±0.2°, 11.2°±0.2°, 13.5°±0.2°, 14.6°±0.2°, 14.9°±0.2°, 19.8°±0.2°, 21.5°±0.2°, and 22.5°±0.2° degrees two theta.

[6c] In another aspect, there is provided a crystalline (4S,5S)-1-({6-[4-(difluoromethyl)-2-fluorophenoxy]pyridin-3-yl}methyl)-4-hydroxy-5-methylpyrrolidine-2-one, characterized by a powder X-ray diffraction pattern comprising at least three peaks chosen from peaks at 8.5°±0.2°, 11.2°±0.2°, 13.5°±0.2°, 14.6°±0.2°, 14.9°±0.2°, 19.8°±0.2°, 21.5°±0.2°, and 22.5°±0.2° degrees two theta.

[6d] In another aspect, there is provided a crystalline (4S,5S)-1-({6-[4-(difluoromethyl)-2-fluorophenoxy]pyridin-3-yl}methyl)-4-hydroxy-5-methylpyrrolidine-2-one, characterized by a powder X-ray diffraction pattern comprising at least four peaks chosen from peaks at 8.5°±0.2°, 11.2°±0.2°, 13.5°±0.2°, 14.6°±0.2°, 14.9°±0.2°, 19.8°±0.2°, 21.5°±0.2°, and 22.5°±0.2° degrees two theta.

[6e] In another aspect, there is provided a crystalline (4S,5S)-1-({6-[4-(difluoromethyl)-2-fluorophenoxy]pyridin-3-yl}methyl)-4-hydroxy-5-methylpyrrolidine-2-one, characterized by a powder X-ray diffraction pattern comprising at least five peaks chosen from peaks at 8.5°±0.2°, 11.2°±0.2°, 13.5°±0.2°, 14.6°±0.2°, 14.9°±0.2°, 19.8°±0.2°, 21.5°±0.2°, and 22.5°±0.2° degrees two theta.

[6f] In another aspect, there is provided acrystalline (4S,5S)-1-({6-[4-(difluoromethyl)-2-fluorophenoxy]pyridin-3-yl}methyl)-4-hydroxy-5-methylpyrrolidine-2-one, characterized by a powder X-ray diffraction pattern comprising at least six peaks chosen from peaks at 8.5°±0.2°, 11.2°±0.2°, 13.5°±0.2°, 14.6°±0.2°, 14.9°±0.2°, 19.8°±0.2°, 21.5°±0.2°, and 22.5°±0.2° degrees two theta.

[6g] In another aspect, there is provided a crystalline (4S,5S)-1-({6-[4-(difluoromethyl)-2-fluorophenoxy]pyridin-3-yl}methyl)-4-hydroxy-5-methylpyrrolidine-2-one, characterized by a powder X-ray diffraction pattern comprising at least seven peaks chosen from peaks at 8.5°±0.2°,

11.2°±0.2°, 13.5°±0.2°, 14.6°±0.2°, 14.9°±0.2°, 19.8°±0.2°, 21.5°±0.2°, and 22.5°±0.2° degrees two theta.

[6h] In another aspect, there is provided a crystalline (4S,5S)-1-({6-[4-(difluoromethyl)-2-fluorophenoxy]pyridin-3-yl}methyl)-4-hydroxy-5-methylpyrrolidine-2-one, characterized by a powder X-ray diffraction pattern comprising peaks at 8.5°±0.2°, 11.2°±0.2°, 13.5°±0.2°, 14.6°±0.2°, 14.9°±0.2°, 19.8°±0.2°, 21.5°±0.2°, and 22.5°±0.2° degrees two theta.

[6i] In another aspect, there is provided a crystalline (4S,5S)-1-({6-[4-(difluoromethyl)-2-fluorophenoxy]pyridin-3-yl}methyl)-4-hydroxy-5-methylpyrrolidine-2-one, characterized by a powder X-ray diffraction pattern comprising at least two peaks chosen from peaks at 5.1°±0.2°, 10.3°±0.2°, 14.3°±0.2°, 16.5°±0.2°, 17.6°±0.2°, 22.3°±0.2°, and 25.2°±0.2° degrees two theta.

[6j] In another aspect, there is provided a crystalline (4S,5S)-1-({6-[4-(difluoromethyl)-2-fluorophenoxy]pyridin-3-yl}methyl)-4-hydroxy-5-methylpyrrolidine-2-one, characterized by a powder X-ray diffraction pattern comprising at least three peaks chosen from peaks at 5.1°±0.2°, 10.3°±0.2°, 14.3°±0.2°, 16.5°±0.2°, 17.6°±0.2°, 22.3°±0.2°, and 25.2°±0.2° degrees two theta.

[6k] In another aspect, there is provided a crystalline (4S,5S)-1-({6-[4-(difluoromethyl)-2-fluorophenoxy]pyridin-3-yl}methyl)-4-hydroxy-5-methylpyrrolidine-2-one, characterized by a powder X-ray diffraction pattern comprising at least four peaks chosen from peaks at 5.1°±0.2°, 10.3°±0.2°, 14.3°±0.2°, 16.5°±0.2°, 17.6°±0.2°, 22.3°±0.2°, and 25.2°±0.2° degrees two theta.

[6l] In another aspect, there is provided a crystalline (4S,5S)-1-({6-[4-(difluoromethyl)-2-fluorophenoxy]pyridin-3-yl}methyl)-4-hydroxy-5-methylpyrrolidine-2-one, characterized by a powder X-ray diffraction pattern comprising at least five peaks chosen from peaks at 5.1°±0.2°, 10.3°±0.2°, 14.3°±0.2°, 16.5°±0.2°, 17.6°±0.2°, 22.3°±0.2°, and 25.2°±0.2° degrees two theta.

[6m] In another aspect, there is provided a crystalline (4S,5S)-1-({6-[4-(difluoromethyl)-2-fluorophenoxy]pyridin-3-yl}methyl)-4-hydroxy-5-methylpyrrolidine-2-one, characterized by a powder X-ray diffraction pattern comprising at least six peaks chosen from peaks at 5.1°±0.2°, 10.3°±0.2°, 14.3°±0.2°, 16.5°±0.2°, 17.6°±0.2°, 22.3°±0.2°, and 25.2°±0.2° degrees two theta.

[6n] In another aspect, there is provided a crystalline (4S,5S)-1-({6-[4-(difluoromethyl)-2-fluorophenoxy]pyridin-3-yl}methyl)-4-hydroxy-5-methylpyrrolidine-2-one, characterized by a powder X-ray diffraction pattern comprising peaks at 5.1°±0.2°, 10.3°±0.2°, 14.3°±0.2°, 16.5°±0.2°, 17.6°±0.2°, 22.3°±0.2°, and 25.2°±0.2° degrees two theta.

[6o] In another aspect, there is provided a compound which is (5S)-1-{[2-(2,4-difluorophenoxy)pyrimidin-5-yl]methyl}-5-methylpyrrolidine-2-one, or a pharmacologically acceptable salt thereof.

[6p] In another aspect, there is provided a crystalline (5S)-1-{[2-(2,4-difluorophenoxy)pyrimidin-5-yl]methyl}-5-methylpyrrolidine-2-one characterized by a powder X-ray diffraction pattern comprising at least two peaks chosen from peaks at 7.4°±0.2°, 10.3°±0.2°,10.5°±0.2°, 14.5°±0.2°, 16.4°±0.2°, 17.8°±0.2°, 18.6°±0.2°, 19.5°±0.2°, 20.6°±0.2°, and 21.3°±0.2° degrees two theta.

[6q] In another aspect, there is provided a crystalline (5S)-1-{[2-(2,4-difluorophenoxy)pyrimidin-5-yl]methyl}-5-methylpyrrolidine-2-one characterized by a powder X-ray diffraction pattern comprising at least three peaks chosen from peaks at 7.4°±0.2°, 10.3°±0.2°,10.5°±0.2°, 14.5°±0.2°, 16.4°±0.2°, 17.8°±0.2°, 18.6°±0.2°, 19.5°±0.2°, 20.6°±0.2°, and 21.3°±0.2° degrees two theta.

[6r] In another aspect, there is provided a crystalline (5S)-1-{[2-(2,4-difluorophenoxy)pyrimidin-5-yl]methyl}-5-methylpyrrolidine-2-one characterized by a powder X-ray diffraction pattern comprising at least four peaks chosen from peaks at 7.4°±0.2°, 10.3°±0.2°,10.5°±0.2°, 14.5°±0.2°, 16.4°±0.2°, 17.8°±0.2°, 18.6°±0.2°, 19.5°±0.2°, 20.6°±0.2°, and 21.3°±0.2° degrees two theta.

[6s] In another aspect, there is provided a crystalline (5S)-1-{[2-(2,4-difluorophenoxy)pyrimidin-5-yl]methyl}-5-methylpyrrolidine-2-one characterized by a powder X-ray diffraction pattern comprising at least five peaks chosen from peaks at 7.4°±0.2°, 10.3°±0.2°,10.5°±0.2°, 14.5°±0.2°, 16.4°±0.2°, 17.8°±0.2°, 18.6°±0.2°, 19.5°±0.2°, 20.6°±0.2°, and 21.3°±0.2° degrees two theta.

[6t] In another aspect, there is provided a crystalline (5S)-1-{[2-(2,4-difluorophenoxy)pyrimidin-5-yl]methyl}-5-methylpyrrolidine-2-one characterized by a powder X-ray diffraction pattern comprising at least six peaks chosen from peaks at 7.4°±0.2°, 10.3°±0.2°,10.5°±0.2°, 14.5°±0.2°, 16.4°±0.2°, 17.8°±0.2°, 18.6°±0.2°, 19.5°±0.2°, 20.6°±0.2°, and 21.3°±0.2° degrees two theta.

[6u] In another aspect, there is provided a crystalline (5S)-1-{[2-(2,4-difluorophenoxy)pyrimidin-5-yl]methyl}-5-methylpyrrolidine-2-one characterized by a powder X-ray diffraction pattern comprising at least seven peaks chosen from peaks at 7.4°±0.2°, 10.3°±0.2°,10.5°±0.2°, 14.5°±0.2°, 16.4°±0.2°, 17.8°±0.2°, 18.6°±0.2°, 19.5°±0.2°, 20.6°±0.2°, and 21.3°±0.2° degrees two theta.

[6v] In another aspect, there is provided a crystalline (5S)-1-{[2-(2,4-difluorophenoxy)pyrimidin-5-yl]methyl}-5-methylpyrrolidine-2-one characterized by a powder X-ray diffraction pattern comprising at least eight peaks chosen from peaks at 7.4°±0.2°, 10.3°±0.2°,10.5°±0.2°, 14.5°±0.2°, 16.4°±0.2°, 17.8°±0.2°, 18.6°±0.2°, 19.5°±0.2°, 20.6°±0.2°, and 21.3°±0.2° degrees two theta.

[6w] In another aspect, there is provided a crystalline (5S)-1-{[2-(2,4-difluorophenoxy)pyrimidin-5-yl]methyl}-5-methylpyrrolidine-2-one characterized by a powder X-ray diffraction pattern comprising at least nine peaks chosen from peaks at 7.4°±0.2°, 10.3°±0.2°,10.5°±0.2°, 14.5°±0.2°, 16.4°±0.2°, 17.8°±0.2°, 18.6°±0.2°, 19.5°±0.2°, 20.6°±0.2°, and 21.3°±0.2° degrees two theta.

[6x] In another aspect, there is provided a crystalline (5S)-1-{[2-(2,4-difluorophenoxy)pyrimidin-5-yl]methyl}-5-methylpyrrolidine-2-one characterized by a powder X-ray diffraction pattern

comprising peaks at 7.4°±0.2°, 10.3°±0.2°,10.5°±0.2°, 14.5°±0.2°, 16.4°±0.2°, 17.8°±0.2°, 18.6°±0.2°, 19.5°±0.2°, 20.6°±0.2°, and 21.3°±0.2° degrees two theta.

[6y] In another aspect, there is provided a compound which is (4S)-3-{[2-(4-chloro-2-fluorophenoxy)pyrimidin-5-yl]methyl}-4-methyl-1,3-oxazolidine-2-one, or a pharmacologically acceptable salt thereof.

[6z] In another aspect, there is provided a crystalline (4S)-3-{[2-(4-chloro-2-fluorophenoxy)pyrimidin-5-yl]methyl}-4-methyl-1,3-oxazolidine-2-one characterized by a powder X-ray diffraction pattern comprising at least two peaks chosen from peaks at 5.4°±0.2°, 14.0°±0.2°,16.3°±0.2°, 17.4°±0.2°, 18.6°±0.2°, 20.3°±0.2°, 21.0°±0.2°, 21.8°±0.2°, and 24.5°±0.2° degrees two theta.

[6aa] In another aspect, there is provided a crystalline (4S)-3-{[2-(4-chloro-2-fluorophenoxy)pyrimidin-5-yl]methyl}-4-methyl-1,3-oxazolidine-2-one characterized by a powder X-ray diffraction pattern comprising at least three peaks chosen from peaks at 5.4°±0.2°, 14.0°±0.2°,16.3°±0.2°, 17.4°±0.2°, 18.6°±0.2°, 20.3°±0.2°, 21.0°±0.2°, 21.8°±0.2°, and 24.5°±0.2° degrees two theta.

[6ab] In another aspect, there is provided a crystalline (4S)-3-{[2-(4-chloro-2-fluorophenoxy)pyrimidin-5-yl]methyl}-4-methyl-1,3-oxazolidine-2-one characterized by a powder X-ray diffraction pattern comprising at least four peaks chosen from peaks at 5.4°±0.2°, 14.0°±0.2°,16.3°±0.2°, 17.4°±0.2°, 18.6°±0.2°, 20.3°±0.2°, 21.0°±0.2°, 21.8°±0.2°, and 24.5°±0.2° degrees two theta.

[6ac] In another aspect, there is provided a crystalline (4S)-3-{[2-(4-chloro-2-fluorophenoxy)pyrimidin-5-yl]methyl}-4-methyl-1,3-oxazolidine-2-one characterized by a powder X-ray diffraction pattern comprising at least five peaks chosen from peaks at 5.4°±0.2°, 14.0°±0.2°,16.3°±0.2°, 17.4°±0.2°, 18.6°±0.2°, 20.3°±0.2°, 21.0°±0.2°, 21.8°±0.2°, and 24.5°±0.2° degrees two theta.

[6ad] In another aspect, there is provided a crystalline (4S)-3-{[2-(4-chloro-2-fluorophenoxy)pyrimidin-5-yl]methyl}-4-methyl-1,3-oxazolidine-2-one characterized by a powder X-ray diffraction pattern comprising at least six peaks chosen from peaks at 5.4°±0.2°, 14.0°±0.2°,16.3°±0.2°, 17.4°±0.2°, 18.6°±0.2°, 20.3°±0.2°, 21.0°±0.2°, 21.8°±0.2°, and 24.5°±0.2° degrees two theta.

[6ae] In another aspect, there is provided a crystalline (4S)-3-{[2-(4-chloro-2-fluorophenoxy)pyrimidin-5-yl]methyl}-4-methyl-1,3-oxazolidine-2-one characterized by a powder X-ray diffraction pattern comprising at least seven peaks chosen from peaks at 5.4°±0.2°,

14.0°±0.2°,16.3°±0.2°, 17.4°±0.2°, 18.6°±0.2°, 20.3°±0.2°, 21.0°±0.2°, 21.8°±0.2°, and 24.5°±0.2° degrees two theta.

[6af] In another aspect, there is provided acrystalline (4S)-3-{[2-(4-chloro-2-fluorophenoxy)pyrimidin-5-yl]methyl}-4-methyl-1,3-oxazolidine-2-one characterized by a powder X-ray diffraction pattern comprising at least eight peaks chosen from peaks at 5.4°±0.2°, 14.0°±0.2°,16.3°±0.2°, 17.4°±0.2°, 18.6°±0.2°, 20.3°±0.2°, 21.0°±0.2°, 21.8°±0.2°, and 24.5°±0.2° degrees two theta.

[6ag] In another aspect, there is provided a crystalline (4S)-3-{[2-(4-chloro-2-fluorophenoxy)pyrimidin-5-yl]methyl}-4-methyl-1,3-oxazolidine-2-one characterized by a powder X-ray diffraction pattern comprising peaks at 5.4°±0.2°, 14.0°±0.2°,16.3°±0.2°, 17.4°±0.2°, 18.6°±0.2°, 20.3°±0.2°, 21.0°±0.2°, 21.8°±0.2°, and 24.5°±0.2° degrees two theta.

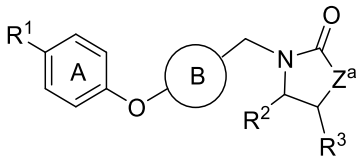
[6ah] In another aspect, there is provided a pharmaceutical composition comprising at least one entity chosen from compounds as defined above, and pharmacologically acceptable salts thereof, or crystalline forms as defined above; and a pharmacologically acceptable carrier.

[6ai] In another aspect, there is provide the compound as defined above or a pharmacologically acceptable salt thereof, or the crystalline form as defined above, for use in prevention or treatment of depression, bipolar disorder, migraine, pain, or peripheral symptoms of dementia.

[6aj] In another aspect, there is provided the use of at least one entity chosen from compounds as defined above, and pharmacologically acceptable salts thereof, and crystalline forms as defined above, and pharmacologically acceptable salts thereof, in the manufacture of a medicament for antagonizing an NMDA receptor containing an NR2B subunit in a mammal.

[6ak] In another aspect, there is provided the use of at least one entity chosen from compounds or pharmacologically acceptable salt thereof as defined above, or of at least one crystalline form chosen from crystalline forms as defined above, in the manufacture of a prophylactic or therapeutic agent for the treatment of depression, bipolar disorder, migraine, pain, or peripheral symptoms of dementia.

[6al] In another aspect, there is provided a process for preparing a compound of Formula (Ia), or a pharmacologically acceptable salt thereof,



(Ia),

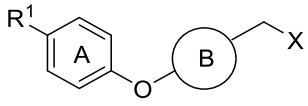
wherein

Z^a is CH_2, CF_2 or O; and

R^1, R^2, R^3, ring A and ring B are as defined above,

comprising:

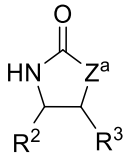
subjecting compound (7)



(7)

wherein X is chosen from halogens,

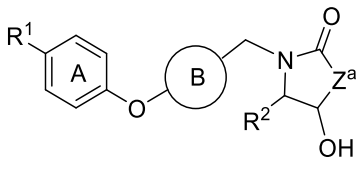
to an alkylation reaction together with compound (8)



(8)

to provide the compound of Formula (Ia).

[6am] In another aspect, there is provided a process for preparing a compound of Formula (Ib), or a pharmacologically acceptable salt thereof,



(Ib),

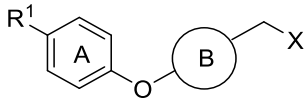
wherein

Z^a is CH_2, CF_2 or O; and

R^1, R^2, ring A and ring B are as defined above,

comprising:

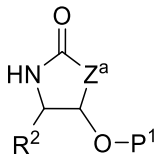
(i) subjecting compound (7)



(7)

wherein X is chosen from halogens,

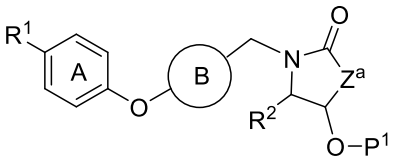
to an alkylation reaction together with compound (9)



(9),

wherein P^1 is an alcoholic hydroxyl protecting group,

to provide compound (10)

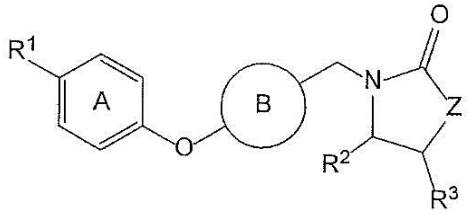


(10); and

(ii) deprotecting compound (10)

to provide the compound of Formula (Ib).

[7] Disclosed herein are: [1] A compound of formula (I):



(I),

or a salt thereof (which may be abbreviated herein as "compound (I)"), wherein:

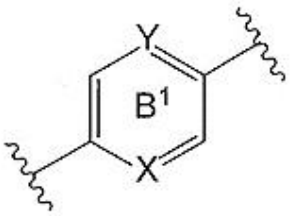
R^1 is chosen from halogens and C_{1-3} alkyl groups optionally substituted with at least one fluorine;

R^2 is chosen from C_{1-3} alkyl groups optionally substituted with at least one fluorine;

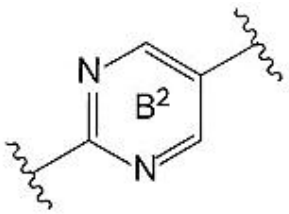
R^3 is chosen from hydrogen and hydroxy groups;

ring A is chosen from optionally substituted benzene groups;

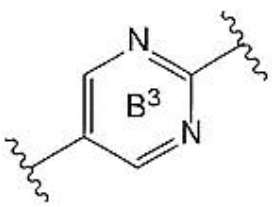
ring B is chosen from groups of the following formulas:



,



, and



,

wherein:

X and Y are each independently chosen from carbon and nitrogen;

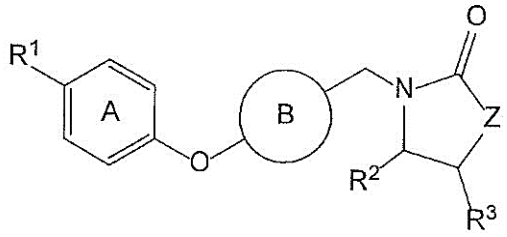
ring B^1 is chosen from optionally substituted benzene groups, optionally substituted pyridine groups, and optionally substituted pyrazine groups;

ring B^2 is chosen from optionally substituted pyrimidine groups; and

ring B^3 is chosen from optionally substituted pyrimidine groups; and

What is claimed is:

1. A compound of formula (I):



(I),

or a pharmacologically acceptable salt thereof, wherein:

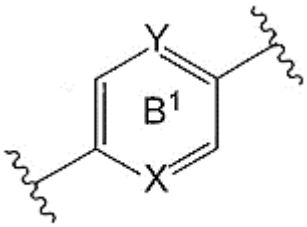
R^1 is chosen from halogens and C_{1-3} alkyl groups optionally substituted with at least one fluorine;

R^2 is chosen from C_{1-3} alkyl groups optionally substituted with at least one fluorine;

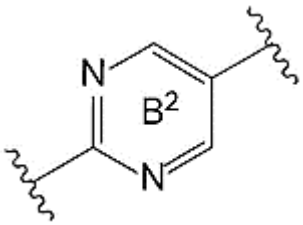
R^3 is chosen from hydrogen and hydroxy groups;

ring A is chosen from benzene groups optionally substituted with one to four halogens in addition to R^1 and -O-ring B;

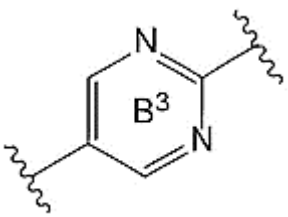
ring B is chosen from groups of the following formulas:



,



, and



,

wherein:

X and Y are each independently chosen from carbon and nitrogen;

ring B^1 is chosen from benzene groups, pyridine groups, and pyrazine groups, each of which is optionally substituted with one to four halogens;

ring B^2 is chosen from pyrimidine groups optionally substituted with one or two halogens; and

ring B^3 is chosen from pyrimidine groups optionally substituted with one or two halogens; and

Z is chosen from CH_2, CF_2, O, and NH.

2. The compound according to claim 1, or a pharmacologically acceptable salt thereof, wherein:

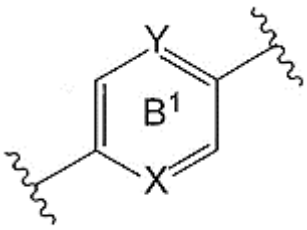
R^1 is chosen from halogens and C_{1-3} alkyl groups optionally substituted with one to three fluorines;

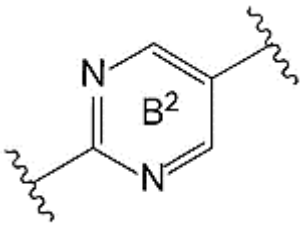
R^2 is chosen from C_{1-3} alkyl groups optionally substituted with one to three fluorine;

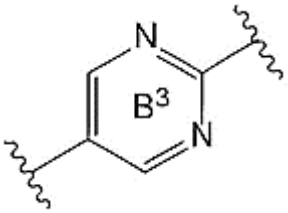
R^3 is chosen from hydrogen and hydroxyl groups;

ring A is chosen from benzene groups optionally substituted with one to four halogens;

ring B is chosen from groups of the following formulas:



, 

, and 

,

wherein

X and Y are each independently chosen from carbon and nitrogen;

ring B^1 is chosen from an unsubstituted benzene group, unsubstituted pyridine groups, and an unsubstituted pyrazine group;

ring B^2 is an unsubstituted pyrimidine group; and

ring B^3 is an unsubstituted pyrimidine group; and

Z is chosen from CH_2, CF_2, O, and NH.

3. The compound according to claim 1, or a pharmacologically acceptable salt thereof, wherein:

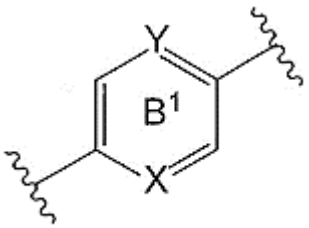
R^1 is chosen from halogens and C_{1-3} alkyl groups optionally substituted with one or two fluorines;

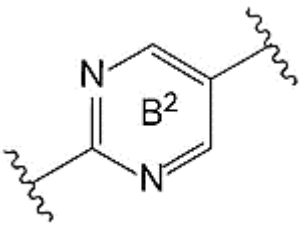
R^2 is chosen from unsubstituted C_{1-3} alkyl groups;

R^3 is chosen from hydrogen and hydroxyl groups;

ring A is chosen from benzene groups optionally substituted with one or two halogens;

ring B is chosen from groups of the following formulas:



and 

,

wherein:

one of X and Y is carbon and the other is nitrogen;

ring B^1 is chosen from unsubstituted pyridine groups; and

ring B^2 is an unsubstituted pyrimidine group; and

Z is CH_2 or O.

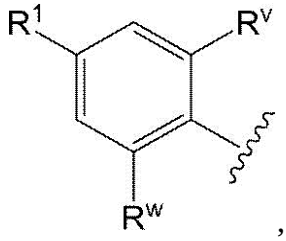
4. The compound according to claim 1, or a pharmacologically acceptable salt thereof, wherein:

R^1 is chosen from halogens and C_{1-3} alkyl groups optionally substituted with one or two fluorines;

R^2 is chosen from unsubstituted C_{1-3} alkyl groups;

R^3 is chosen from hydrogen and hydroxyl groups;

ring A is chosen from groups of the formula:



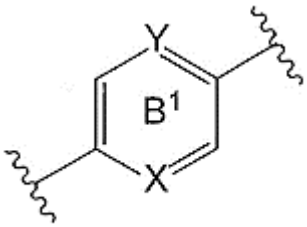
,

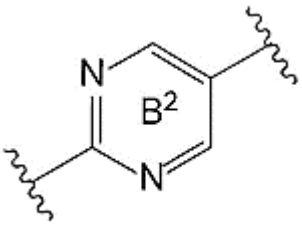
wherein:

R^v is chosen from halogens; and

R^w is chosen from hydrogen and halogens;

ring B is chosen from groups of the following formulas:



and


,

wherein:

one of X and Y is carbon and the other is nitrogen;

ring B^1 is chosen from unsubstituted pyridine groups; and

ring B^2 is an unsubstituted pyrimidine group; and

Z is CH_2 or O.

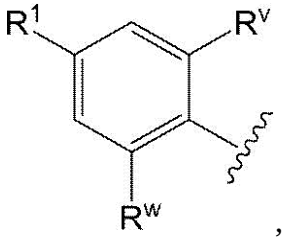
5. The compound according to claim 1, or a pharmacologically acceptable salt thereof, wherein:

R^1 is chosen from halogens and C_{1-3} alkyl groups optionally substituted with one to three fluorines;

R^2 is chosen from unsubstituted C_{1-3} alkyl groups;

R^3 is chosen from hydrogen and hydroxyl groups;

ring A is chosen from groups of the formula:



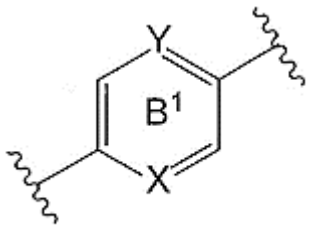
,

wherein:

R^v is chosen from halogens; and

R^w is chosen from hydrogen and halogens;

ring B is chosen from groups of the following formulas:



,

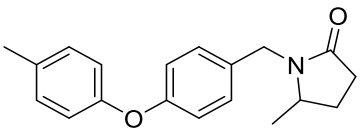
wherein:

X is a nitrogen atom and Y is a carbon atom; and

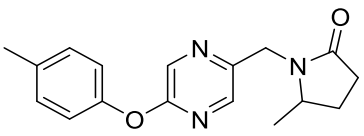
ring B^1 is unsubstituted; and

Z is CH_2.

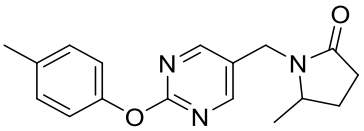
6. The compound according to claim 1, or a pharmacologically acceptable salt thereof, which is a compound selected from the following compounds, or pharmacologically acceptable salts thereof:

IUPAC Name	Structure
5-methyl-1-{[4-(4-methylphenoxy)phenyl]methyl}pyrrolidin-2-one	

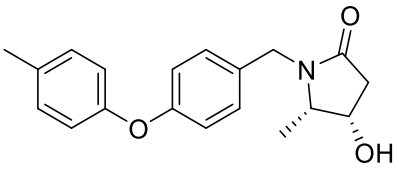
5-methyl-1-{[5-(4-methylphenoxy)pyrazin-2-yl]methyl}pyrrolidin-2-one



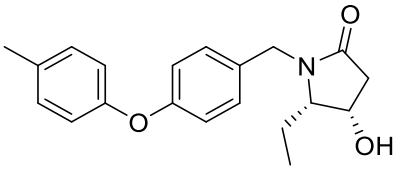
5-methyl-1-{[2-(4-methylphenoxy)pyrimidin-5-yl]methyl}pyrrolidin-2-one



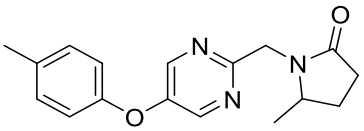
(4S,5S)-4-hydroxy-5-methyl-1-{[4-(4-methylphenoxy)phenyl]methyl}pyrrolidin-2-one



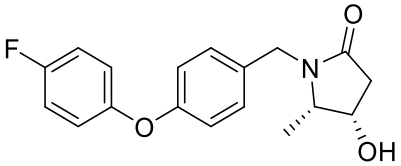
(4S,5S)-5-ethyl-4-hydroxy-1-{[4-(4-methylphenoxy)phenyl]methyl}pyrrolidin-2-one



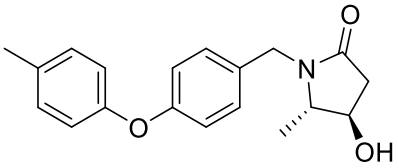
5-methyl-1-{[5-(4-methylphenoxy)pyrimidin-2-yl]methyl}pyrrolidin-2-one



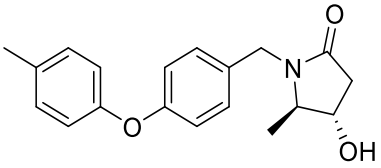
(4S,5S)-1-{[4-(4-fluorophenoxy)phenyl]methyl}-4-hydroxy-5-methylpyrrolidin-2-one



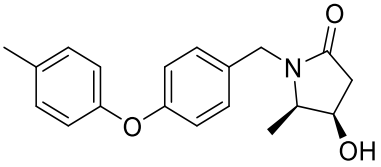
(4R,5S)-4-hydroxy-5-methyl-1-{[4-(4-methylphenoxy)phenyl]methyl}pyrrolidin-2-one



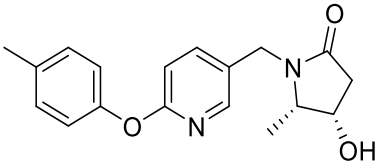
(4S,5R)-4-hydroxy-5-methyl-1-{[4-(4-methylphenoxy)phenyl]methyl}pyrrolidin-2-one



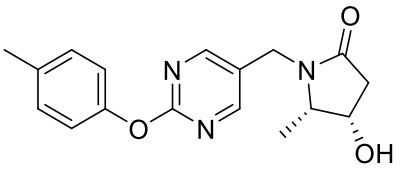
(4R,5R)-4-hydroxy-5-methyl-1-{[4-(4-methylphenoxy)phenyl]methyl}pyrrolidin-2-one



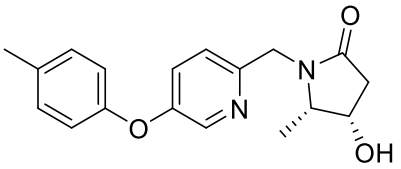
(4S,5S)-4-hydroxy-5-methyl-1-{[6-(4-methylphenoxy)pyridin-3-yl]methyl}pyrrolidin-2-one



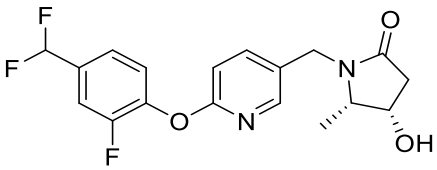
(4S,5S)-4-hydroxy-5-methyl-1-{[2-(4-methylphenoxy)pyrimidin-5-yl]methyl}pyrrolidin-2-one



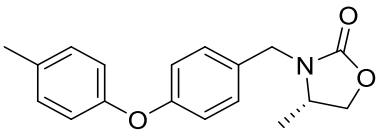
(4S,5S)-4-hydroxy-5-methyl-1-{[5-(4-methylphenoxy)pyridin-2-yl]methyl}pyrrolidin-2-one



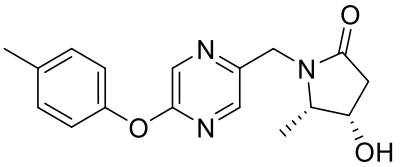
(4S,5S)-1-({6-[4-(difluoromethyl)-2-fluorophenoxy]pyridin-3-yl}methyl)-4-hydroxy-5-methylpyrrolidin-2-one



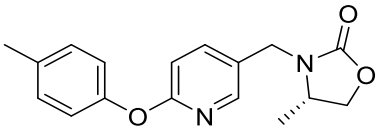
(4S)-4-methyl-3-{[4-(4-methylphenoxy)phenyl]methyl}-1,3-oxazolidin-2-one



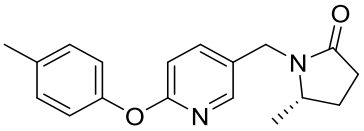
(4S,5S)-4-hydroxy-5-methyl-1-{[5-(4-methylphenoxy)pyrazin-2-yl]methyl}pyrrolidin-2-one



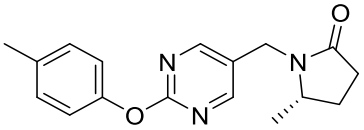
(4S)-4-methyl-3-{[6-(4-methylphenoxy)pyridin-3-yl]methyl}-1,3-oxazolidin-2-one



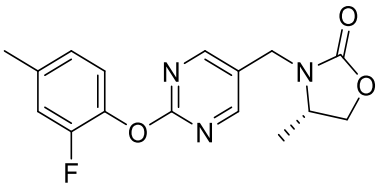
(5S)-5-methyl-1-{[6-(4-methylphenoxy)pyridin-3-yl]methyl}pyrrolidin-2-one



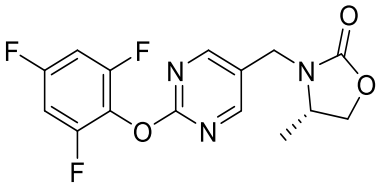
(5S)-5-methyl-1-{[2-(4-methylphenoxy)pyrimidin-5-yl]methyl}pyrrolidin-2-one



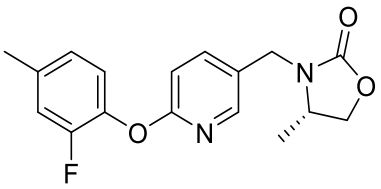
(4S)-3-{[2-(2-fluoro-4-methylphenoxy)pyrimidin-5-yl]methyl}-4-methyl-1,3-oxazolidin-2-one



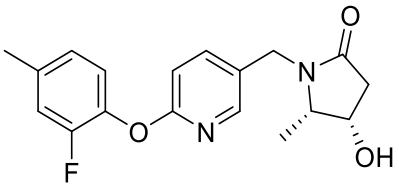
(4S)-4-methyl-3-{[2-(2,4,6-trifluorophenoxy)pyrimidin-5-yl]methyl}-1,3-oxazolidin-2-one



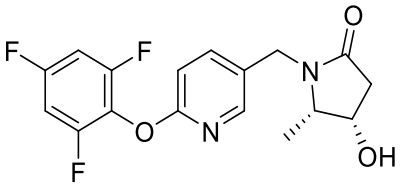
(4S)-3-{[6-(2-fluoro-4-methylphenoxy)pyridin-3-yl]methyl}-4-methyl-1,3-oxazolidin-2-one



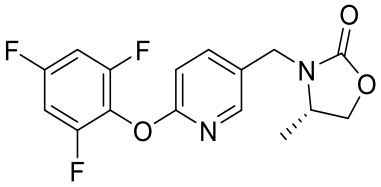
(4S,5S)-1-{[6-(2-fluoro-4-methylphenoxy)pyridin-3-yl]methyl}-4-hydroxy-5-methylpyrrolidin-2-one



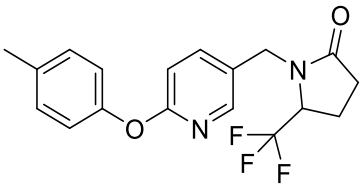
(4S,5S)-4-hydroxy-5-methyl-1-{[6-(2,4,6-trifluorophenoxy)pyridin-3-yl]methyl}pyrrolidin-2-one



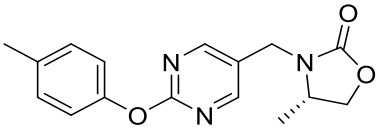
(4S)-4-methyl-3-{[6-(2,4,6-trifluorophenoxy)pyridin-3-yl]methyl}-1,3-oxazolidin-2-one



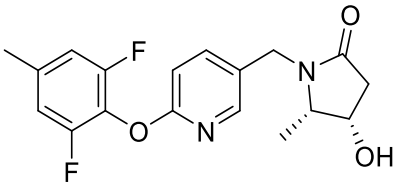
1-{[6-(4-methylphenoxy)pyridin-3-yl]methyl}-5-(trifluoromethyl)pyrrolidin-2-one



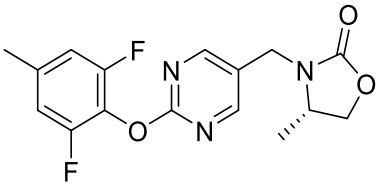
(4S)-4-methyl-3-{[2-(4-methylphenoxy)pyrimidin-5-yl]methyl}-1,3-oxazolidin-2-one



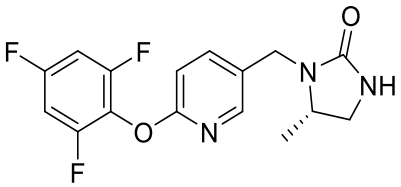
(4S,5S)-1-{[6-(2,6-difluoro-4-methylphenoxy)pyridin-3-yl]methyl}-4-hydroxy-5-methyl pyrrolidin-2-one



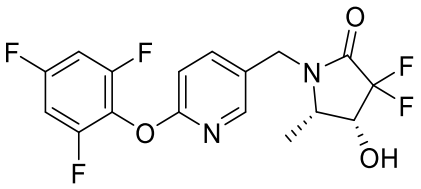
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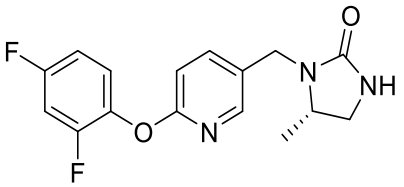
(5S)-5-methyl-1-{[6-(2,4,6-trifluorophenoxy)pyridin-3-yl]methyl}imidazolidin-2-one



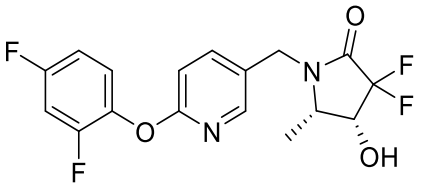
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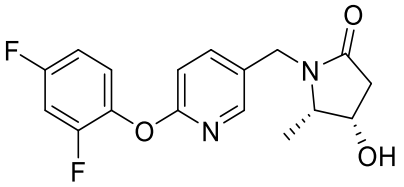
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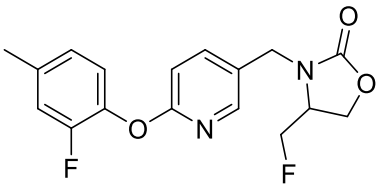
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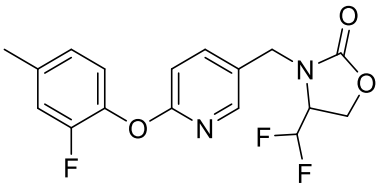
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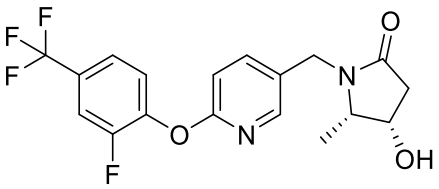
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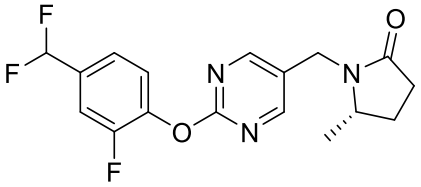
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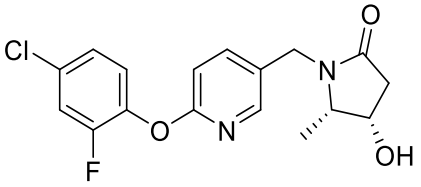
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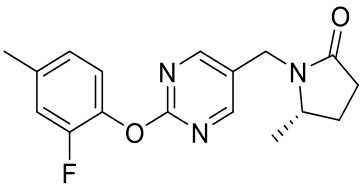
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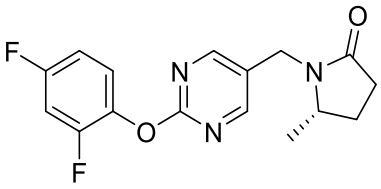
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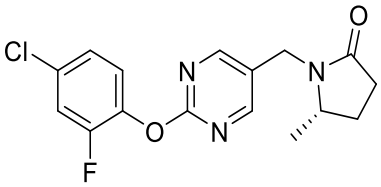
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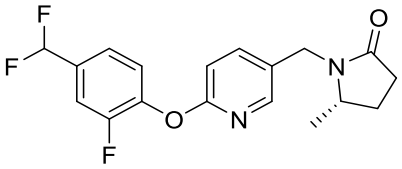
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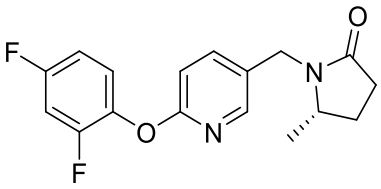
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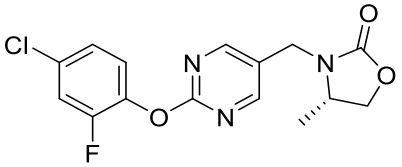
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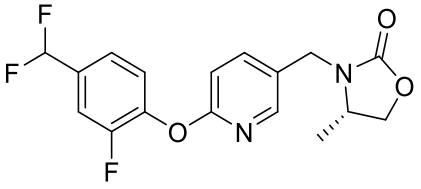
(5S)-1-{[6-(2,4-difluorophenoxy)pyridin-3-yl]methyl}-5-methylpyrrolidin-2-one



(4S)-3-{[2-(4-chloro-2-fluorophenoxy)pyrimidin-5-yl]methyl}-4-methyl-1,3-oxazolidin-2-one



(4S)-3-({6-[4-(difluoromethyl)-2-fluorophenoxy]pyridin-3-yl}methyl)-4-methyl-1,3-oxazolidin-2-one



.

7. A compound which is (4S,5S)-1-({6-[4-(difluoromethyl)-2-fluorophenoxy]pyridin-3-yl}methyl)-4-hydroxy-5-methylpyrrolidine-2-one, or a pharmacologically acceptable salt thereof.

8. Crystalline (4S,5S)-1-({6-[4-(difluoromethyl)-2-fluorophenoxy]pyridin-3-yl}methyl)-4-hydroxy-5-methylpyrrolidine-2-one, characterized by a powder X-ray diffraction pattern comprising at least two peaks chosen from peaks at 8.5°±0.2°, 11.2°±0.2°, 13.5°±0.2°, 14.6°±0.2°, 14.9°±0.2°, 19.8°±0.2°, 21.5°±0.2°, and 22.5°±0.2° degrees two theta.

9. Crystalline (4S,5S)-1-({6-[4-(difluoromethyl)-2-fluorophenoxy]pyridin-3-yl}methyl)-4-hydroxy-5-methylpyrrolidine-2-one, characterized by a powder X-ray diffraction pattern comprising at least three peaks chosen from peaks at 8.5°±0.2°, 11.2°±0.2°, 13.5°±0.2°, 14.6°±0.2°, 14.9°±0.2°, 19.8°±0.2°, 21.5°±0.2°, and 22.5°±0.2° degrees two theta.

10. Crystalline (4S,5S)-1-({6-[4-(difluoromethyl)-2-fluorophenoxy]pyridin-3-yl}methyl)-4-hydroxy-5-methylpyrrolidine-2-one, characterized by a powder X-ray diffraction pattern comprising at least four peaks chosen from peaks at 8.5°±0.2°, 11.2°±0.2°, 13.5°±0.2°, 14.6°±0.2°, 14.9°±0.2°, 19.8°±0.2°, 21.5°±0.2°, and 22.5°±0.2° degrees two theta.

11. Crystalline (4S,5S)-1-({6-[4-(difluoromethyl)-2-fluorophenoxy]pyridin-3-yl}methyl)-4-hydroxy-5-methylpyrrolidine-2-one, characterized by a powder X-ray diffraction pattern comprising at least five peaks chosen from peaks at 8.5°±0.2°, 11.2°±0.2°, 13.5°±0.2°, 14.6°±0.2°, 14.9°±0.2°, 19.8°±0.2°, 21.5°±0.2°, and 22.5°±0.2° degrees two theta.

12. Crystalline (4S,5S)-1-({6-[4-(difluoromethyl)-2-fluorophenoxy]pyridin-3-yl}methyl)-4-hydroxy-5-methylpyrrolidine-2-one, characterized by a powder X-ray diffraction pattern comprising at least six peaks chosen from peaks at 8.5°±0.2°, 11.2°±0.2°, 13.5°±0.2°, 14.6°±0.2°, 14.9°±0.2°, 19.8°±0.2°, 21.5°±0.2°, and 22.5°±0.2° degrees two theta.

13. Crystalline (4S,5S)-1-({6-[4-(difluoromethyl)-2-fluorophenoxy]pyridin-3-yl}methyl)-4-hydroxy-5-methylpyrrolidine-2-one, characterized by a powder X-ray diffraction pattern comprising at least seven peaks chosen from peaks at 8.5°±0.2°, 11.2°±0.2°, 13.5°±0.2°, 14.6°±0.2°, 14.9°±0.2°, 19.8°±0.2°, 21.5°±0.2°, and 22.5°±0.2° degrees two theta.

14. Crystalline (4S,5S)-1-({6-[4-(difluoromethyl)-2-fluorophenoxy]pyridin-3-yl}methyl)-4-hydroxy-5-methylpyrrolidine-2-one, characterized by a powder X-ray diffraction pattern comprising peaks at 8.5°±0.2°, 11.2°±0.2°, 13.5°±0.2°, 14.6°±0.2°, 14.9°±0.2°, 19.8°±0.2°, 21.5°±0.2°, and 22.5°±0.2° degrees two theta.

15. Crystalline (4S,5S)-1-({6-[4-(difluoromethyl)-2-fluorophenoxy]pyridin-3-yl}methyl)-4-hydroxy-5-methylpyrrolidine-2-one, characterized by a powder X-ray diffraction pattern

comprising at least two peaks chosen from peaks at 5.1°±0.2°, 10.3°±0.2°, 14.3°±0.2°, 16.5°±0.2°, 17.6°±0.2°, 22.3°±0.2°, and 25.2°±0.2° degrees two theta.

16. Crystalline (4S,5S)-1-({6-[4-(difluoromethyl)-2-fluorophenoxy]pyridin-3-yl}methyl)-4-hydroxy-5-methylpyrrolidine-2-one, characterized by a powder X-ray diffraction pattern comprising at least three peaks chosen from peaks at 5.1°±0.2°, 10.3°±0.2°, 14.3°±0.2°, 16.5°±0.2°, 17.6°±0.2°, 22.3°±0.2°, and 25.2°±0.2° degrees two theta.

17. Crystalline (4S,5S)-1-({6-[4-(difluoromethyl)-2-fluorophenoxy]pyridin-3-yl}methyl)-4-hydroxy-5-methylpyrrolidine-2-one, characterized by a powder X-ray diffraction pattern comprising at least four peaks chosen from peaks at 5.1°±0.2°, 10.3°±0.2°, 14.3°±0.2°, 16.5°±0.2°, 17.6°±0.2°, 22.3°±0.2°, and 25.2°±0.2° degrees two theta.

18. Crystalline (4S,5S)-1-({6-[4-(difluoromethyl)-2-fluorophenoxy]pyridin-3-yl}methyl)-4-hydroxy-5-methylpyrrolidine-2-one, characterized by a powder X-ray diffraction pattern comprising at least five peaks chosen from peaks at 5.1°±0.2°, 10.3°±0.2°, 14.3°±0.2°, 16.5°±0.2°, 17.6°±0.2°, 22.3°±0.2°, and 25.2°±0.2° degrees two theta.

19. Crystalline (4S,5S)-1-({6-[4-(difluoromethyl)-2-fluorophenoxy]pyridin-3-yl}methyl)-4-hydroxy-5-methylpyrrolidine-2-one, characterized by a powder X-ray diffraction pattern comprising at least six peaks chosen from peaks at 5.1°±0.2°, 10.3°±0.2°, 14.3°±0.2°, 16.5°±0.2°, 17.6°±0.2°, 22.3°±0.2°, and 25.2°±0.2° degrees two theta.

20. Crystalline (4S,5S)-1-({6-[4-(difluoromethyl)-2-fluorophenoxy]pyridin-3-yl}methyl)-4-hydroxy-5-methylpyrrolidine-2-one, characterized by a powder X-ray diffraction pattern comprising peaks at 5.1°±0.2°, 10.3°±0.2°, 14.3°±0.2°, 16.5°±0.2°, 17.6°±0.2°, 22.3°±0.2°, and 25.2°±0.2° degrees two theta.

21. A compound which is (5S)-1-{[2-(2,4-difluorophenoxy)pyrimidin-5-yl]methyl}-5-methylpyrrolidine-2-one, or a pharmacologically acceptable salt thereof.

22. Crystalline (5S)-1-{[2-(2,4-difluorophenoxy)pyrimidin-5-yl]methyl}-5-methylpyrrolidine-2-one characterized by a powder X-ray diffraction pattern comprising at least two peaks chosen

from peaks at 7.4°±0.2°, 10.3°±0.2°,10.5°±0.2°, 14.5°±0.2°, 16.4°±0.2°, 17.8°±0.2°, 18.6°±0.2°, 19.5°±0.2°, 20.6°±0.2°, and 21.3°±0.2° degrees two theta.

23. Crystalline (5S)-1-{[2-(2,4-difluorophenoxy)pyrimidin-5-yl]methyl}-5-methylpyrrolidine-2-one characterized by a powder X-ray diffraction pattern comprising at least three peaks chosen from peaks at 7.4°±0.2°, 10.3°±0.2°,10.5°±0.2°, 14.5°±0.2°, 16.4°±0.2°, 17.8°±0.2°, 18.6°±0.2°, 19.5°±0.2°, 20.6°±0.2°, and 21.3°±0.2° degrees two theta.

24. Crystalline (5S)-1-{[2-(2,4-difluorophenoxy)pyrimidin-5-yl]methyl}-5-methylpyrrolidine-2-one characterized by a powder X-ray diffraction pattern comprising at least four peaks chosen from peaks at 7.4°±0.2°, 10.3°±0.2°,10.5°±0.2°, 14.5°±0.2°, 16.4°±0.2°, 17.8°±0.2°, 18.6°±0.2°, 19.5°±0.2°, 20.6°±0.2°, and 21.3°±0.2° degrees two theta.

25. Crystalline (5S)-1-{[2-(2,4-difluorophenoxy)pyrimidin-5-yl]methyl}-5-methylpyrrolidine-2-one characterized by a powder X-ray diffraction pattern comprising at least five peaks chosen from peaks at 7.4°±0.2°, 10.3°±0.2°,10.5°±0.2°, 14.5°±0.2°, 16.4°±0.2°, 17.8°±0.2°, 18.6°±0.2°, 19.5°±0.2°, 20.6°±0.2°, and 21.3°±0.2° degrees two theta.

26. Crystalline (5S)-1-{[2-(2,4-difluorophenoxy)pyrimidin-5-yl]methyl}-5-methylpyrrolidine-2-one characterized by a powder X-ray diffraction pattern comprising at least six peaks chosen from peaks at 7.4°±0.2°, 10.3°±0.2°,10.5°±0.2°, 14.5°±0.2°, 16.4°±0.2°, 17.8°±0.2°, 18.6°±0.2°, 19.5°±0.2°, 20.6°±0.2°, and 21.3°±0.2° degrees two theta.

27. Crystalline (5S)-1-{[2-(2,4-difluorophenoxy)pyrimidin-5-yl]methyl}-5-methylpyrrolidine-2-one characterized by a powder X-ray diffraction pattern comprising at least seven peaks chosen from peaks at 7.4°±0.2°, 10.3°±0.2°,10.5°±0.2°, 14.5°±0.2°, 16.4°±0.2°, 17.8°±0.2°, 18.6°±0.2°, 19.5°±0.2°, 20.6°±0.2°, and 21.3°±0.2° degrees two theta.

28. Crystalline (5S)-1-{[2-(2,4-difluorophenoxy)pyrimidin-5-yl]methyl}-5-methylpyrrolidine-2-one characterized by a powder X-ray diffraction pattern comprising at least eight peaks chosen from peaks at 7.4°±0.2°, 10.3°±0.2°,10.5°±0.2°, 14.5°±0.2°, 16.4°±0.2°, 17.8°±0.2°, 18.6°±0.2°, 19.5°±0.2°, 20.6°±0.2°, and 21.3°±0.2° degrees two theta.

29. Crystalline (5S)-1-{[2-(2,4-difluorophenoxy)pyrimidin-5-yl]methyl}-5-methylpyrrolidine-2-one characterized by a powder X-ray diffraction pattern comprising at least nine peaks chosen from peaks at 7.4°±0.2°, 10.3°±0.2°,10.5°±0.2°, 14.5°±0.2°, 16.4°±0.2°, 17.8°±0.2°, 18.6°±0.2°, 19.5°±0.2°, 20.6°±0.2°, and 21.3°±0.2° degrees two theta.

30. Crystalline (5S)-1-{[2-(2,4-difluorophenoxy)pyrimidin-5-yl]methyl}-5-methylpyrrolidine-2-one characterized by a powder X-ray diffraction pattern comprising peaks at 7.4°±0.2°, 10.3°±0.2°,10.5°±0.2°, 14.5°±0.2°, 16.4°±0.2°, 17.8°±0.2°, 18.6°±0.2°, 19.5°±0.2°, 20.6°±0.2°, and 21.3°±0.2° degrees two theta.

31. A compound which is (4S)-3-{[2-(4-chloro-2-fluorophenoxy)pyrimidin-5-yl]methyl}-4-methyl-1,3-oxazolidine-2-one, or a pharmacologically acceptable salt thereof.

32. Crystalline (4S)-3-{[2-(4-chloro-2-fluorophenoxy)pyrimidin-5-yl]methyl}-4-methyl-1,3-oxazolidine-2-one characterized by a powder X-ray diffraction pattern comprising at least two peaks chosen from peaks at 5.4°±0.2°, 14.0°±0.2°,16.3°±0.2°, 17.4°±0.2°, 18.6°±0.2°, 20.3°±0.2°, 21.0°±0.2°, 21.8°±0.2°, and 24.5°±0.2° degrees two theta.

33. Crystalline (4S)-3-{[2-(4-chloro-2-fluorophenoxy)pyrimidin-5-yl]methyl}-4-methyl-1,3-oxazolidine-2-one characterized by a powder X-ray diffraction pattern comprising at least three peaks chosen from peaks at 5.4°±0.2°, 14.0°±0.2°,16.3°±0.2°, 17.4°±0.2°, 18.6°±0.2°, 20.3°±0.2°, 21.0°±0.2°, 21.8°±0.2°, and 24.5°±0.2° degrees two theta.

34. Crystalline (4S)-3-{[2-(4-chloro-2-fluorophenoxy)pyrimidin-5-yl]methyl}-4-methyl-1,3-oxazolidine-2-one characterized by a powder X-ray diffraction pattern comprising at least four peaks chosen from peaks at 5.4°±0.2°, 14.0°±0.2°,16.3°±0.2°, 17.4°±0.2°, 18.6°±0.2°, 20.3°±0.2°, 21.0°±0.2°, 21.8°±0.2°, and 24.5°±0.2° degrees two theta.

35. Crystalline (4S)-3-{[2-(4-chloro-2-fluorophenoxy)pyrimidin-5-yl]methyl}-4-methyl-1,3-oxazolidine-2-one characterized by a powder X-ray diffraction pattern comprising at least five peaks chosen from peaks at 5.4°±0.2°, 14.0°±0.2°,16.3°±0.2°, 17.4°±0.2°, 18.6°±0.2°, 20.3°±0.2°, 21.0°±0.2°, 21.8°±0.2°, and 24.5°±0.2° degrees two theta.

36. Crystalline (4S)-3-{[2-(4-chloro-2-fluorophenoxy)pyrimidin-5-yl]methyl}-4-methyl-1,3-oxazolidine-2-one characterized by a powder X-ray diffraction pattern comprising at least six peaks chosen from peaks at 5.4°±0.2°, 14.0°±0.2°,16.3°±0.2°, 17.4°±0.2°, 18.6°±0.2°, 20.3°±0.2°, 21.0°±0.2°, 21.8°±0.2°, and 24.5°±0.2° degrees two theta.

37. Crystalline (4S)-3-{[2-(4-chloro-2-fluorophenoxy)pyrimidin-5-yl]methyl}-4-methyl-1,3-oxazolidine-2-one characterized by a powder X-ray diffraction pattern comprising at least seven peaks chosen from peaks at 5.4°±0.2°, 14.0°±0.2°,16.3°±0.2°, 17.4°±0.2°, 18.6°±0.2°, 20.3°±0.2°, 21.0°±0.2°, 21.8°±0.2°, and 24.5°±0.2° degrees two theta.

38. Crystalline (4S)-3-{[2-(4-chloro-2-fluorophenoxy)pyrimidin-5-yl]methyl}-4-methyl-1,3-oxazolidine-2-one characterized by a powder X-ray diffraction pattern comprising at least eight peaks chosen from peaks at 5.4°±0.2°, 14.0°±0.2°,16.3°±0.2°, 17.4°±0.2°, 18.6°±0.2°, 20.3°±0.2°, 21.0°±0.2°, 21.8°±0.2°, and 24.5°±0.2° degrees two theta.

39. Crystalline (4S)-3-{[2-(4-chloro-2-fluorophenoxy)pyrimidin-5-yl]methyl}-4-methyl-1,3-oxazolidine-2-one characterized by a powder X-ray diffraction pattern comprising peaks at 5.4°±0.2°, 14.0°±0.2°,16.3°±0.2°, 17.4°±0.2°, 18.6°±0.2°, 20.3°±0.2°, 21.0°±0.2°, 21.8°±0.2°, and 24.5°±0.2° degrees two theta.

40. A pharmaceutical composition comprising at least one entity chosen from compounds according to any one of claims 1-7, 21, and 31, and pharmacologically acceptable salts thereof, or crystalline forms according to any one of claims 8-20, 22-30, and 32-39; and a pharmacologically acceptable carrier.

41. The pharmaceutical composition according to claim 40, wherein the at least one entity is an antagonist of an NMDA receptor containing an NR2B subunit.

42. The pharmaceutical composition according to claim 40, wherein the at least one entity is a prophylactic or therapeutic agent for depression, bipolar disorder, migraine, pain, or peripheral symptoms of dementia.

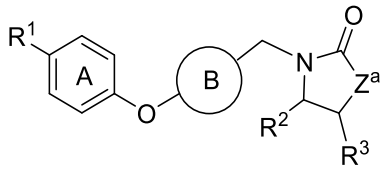
43. The compound according to any one of claims 1-7, 21 and 31 or a pharmacologically acceptable salt thereof, or the crystalline form according to any one of claims 8-20, 22-30, and

32-39, for use in prevention or treatment of depression, bipolar disorder, migraine, pain, or peripheral symptoms of dementia.

44. Use of at least one entity chosen from compounds according to any one of claims 1-7, 21, and 31, and pharmacologically acceptable salts thereof, and crystalline forms according to any one of claims 8-20, 22-30, and 32-39, and pharmacologically acceptable salts thereof, in the manufacture of a medicament for antagonizing an NMDA receptor containing an NR2B subunit in a mammal.

45. Use of at least one entity chosen from compounds or pharmacologically acceptable salt thereof according to any one of claims 1-7. 21 and 31, or of at least one crystalline form chosen from crystalline forms according to any one of claims 8-20, 22-30, and 32-39,in the manufacture of a prophylactic or therapeutic agent for the treatment of depression, bipolar disorder, migraine, pain, or peripheral symptoms of dementia.

46. A process for preparing a compound of Formula (Ia), or a pharmacologically acceptable salt thereof,



(Ia),

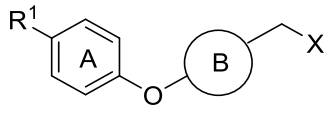
wherein

Z^a is CH_2, CF_2 or O; and

R^1, R^2, R^3, ring A and ring B are as defined in claim 1,

comprising:

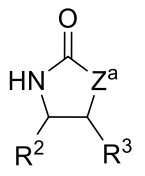
subjecting compound (7)



(7)

wherein X is chosen from halogens,

to an alkylation reaction together with compound (8)

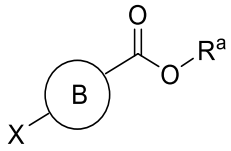


(8)

to provide the compound of Formula (Ia).

47. The process of claim 46, wherein the compound (7) is prepared by

(i) subjecting compound (2)



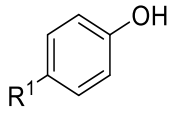
(2),

wherein

X is halogen; and

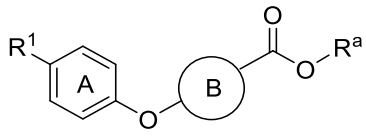
R^a is C_{1-3} alkyl optionally substituted with one to three substituents chosen from halogens,

to an aromatic nucleophilic substitution reaction together with compound (3)



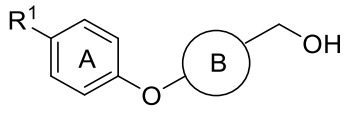
(3)

to provide compound (4)



(4);

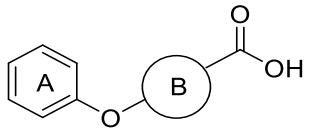
(iia) subjecting compound (4) to a reduction reaction to provide compound (6)



(6);

or

(iib) hydrolyzing compound (4) to provide compound (5)



(5), and

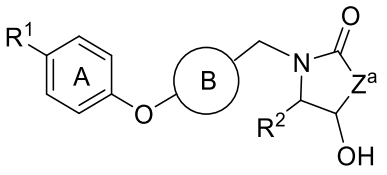
subjecting compound (5) to a reduction reaction to provide compound (6);

and

(iii) halogenating a hydroxyl group of compound (6)

to provide compound (7).

48. A process for preparing a compound of Formula (Ib), or a pharmacologically acceptable salt thereof,


(Ib),

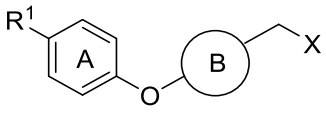
wherein

Z^a is CH_2, CF_2 or O; and

R^1, R^2, ring A and ring B are as defined in claim 1,

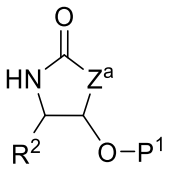
comprising:

(i) subjecting compound (7)


(7)

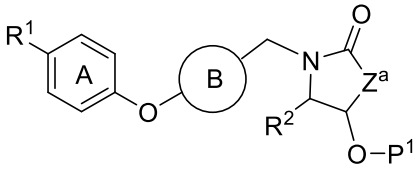
wherein X is chosen from halogens,

to an alkylation reaction together with compound (9)


(9),

wherein P^1 is an alcoholic hydroxyl protecting group,

to provide compound (10)


(10); and

(ii) deprotecting compound (10)

to provide the compound of Formula (Ib).