Status epilepticus can be caused by nerve agents (de Araujo Furtado *et al*, 2012, *NeuroToxicology*, *33*(6), 1476–1490) and activation of KCC2 is a potential therapeutic option.

Recently it has been shown that potentiating KCC2 activity by genetic modification of its regulatory sites is sufficient to limit the onset and severity of seizures in mice (Moore *et al*, Proc Natl Acad Sci USA. 2018 Oct 2; 115(40): 10166–10171).

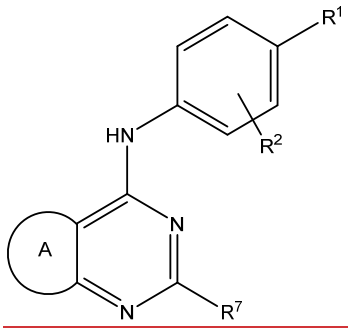
KCC2 activity is modulated by phosphorylation at a number of regulation sites (Cordshagen *et al*, Journal of Biological Chemistry 2018, 293, 16984-16993) including phosphorylation at T1007 by STK39 and OSR1. KCC2 cell surface expression is regulated by phosphorylation at S940.

Direct modulation of KCC2 by interaction with small molecules has been reported. Delpire *et al* (Proc Natl Acad Sci USA. 2009 Mar 31; 106(13): 5383–5388) describe an assay to identify small molecule inhibitors of KCC2 and Zhang *et al* (Journal of Biomolecular Screening 15(2): 2010) describe an assay used to identify positive modulators of KCC2.

There exists a need for new compounds which activate KCC2 and which are therefore useful in the treatment of neurological disorders.

SUMMARY

In a first aspect of the present disclosure, there is provided a compound of Formula (I):

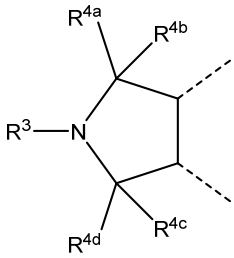


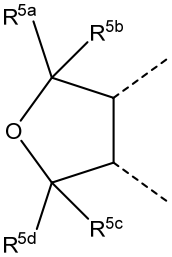
(I)

R^1 is selected from C_{2-6}alkyl; C_{2-6}alkenyl; C_{2-6}alkynyl; C_{2-6}alkoxy; C_{2-6}alkenyloxy; C_{2-6}alkynyloxy; C_{3-7}cycloalkyl; -O-C_{3-7}cycloalkyl; C_{6-10}aryl; -O-$(CH_2)_m$-C_{6-10}aryl; 6 membered heteroaryl; and thiophenyl; wherein alkyl, alkenyl, alkynyl, alkoxy, alkenyloxy, alkynyloxy and cycloalkyl are optionally substituted with 1, 2 or 3 substituents selected from -F and $-CF_3$ and wherein aryl and heteroaryl are optionally substituted with 1 or 2 substituents selected from -halo, -C_{1-3}alkyl, -C_{1-8}alkoxy and -C_{2-8}alkynyloxy wherein -C_{1-3}alkyl, -C_{1-8}alkoxy and -C_{2-8}alkynyloxy are optionally substituted with 1, 2, or 3 substituents selected from -F, $-CF_3$ and -NHC(O)O-C_{1-6}alkyl or two substituents together with the carbon to which they are attached form diazirinyl;

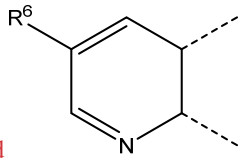
R^2 is selected from -H; -halo; and -C_{1-3}alkyl optionally substituted with 1, 2 or 3 substituents selected from -F and $-CF_3$;

A is selected from:





; and



or a N-oxide thereof;

R^3 is selected from -H; -C_{1-6}alkyl; -C_{2-6}alkenyl; -C_{2-6}alkynyl; -C_{3-7}cycloalkyl; and a 5 or 6 membered heterocycloalkyl; wherein the alkyl, alkenyl, alkynyl, cycloalkyl or heterocycloalkyl are optionally substituted by 1, 2 or 3 groups selected from -F, -CF_3, -C_{1-3}alkyl optionally substituted by 1 or 2 substituents selected from -F, -CF_3, -C(O)NR^8R^9 and -NR^8R^9;

R^{4a} and R^{4b} are each independently selected from -H and -C_{1-3} alkyl optionally substituted with 1, 2 or 3 substituents selected from -F and -CF_3;

R^{4c} and R^{4d} are each independently selected from -H and -C_{1-3} alkyl optionally substituted with 1, 2 or 3 substituents selected from -F and CF_3; or R^{4c} and R^{4d} together with the carbon to which they are attached represent carbonyl;

R^{5a}, R^{5b}, R^{5c} and R^{5d} are each independently selected from -H and -C_{1-3} alkyl optionally substituted with 1, 2 or 3 substituents selected from -F and CF_3;

R^6 is selected from -H; -halo; -NH_2; -CN; -C_{1-3}alkyl optionally substituted with 1, 2 or 3 substituents selected from -F and CF_3; -C_{1-3}alkoxy optionally substituted with 1, 2 or 3 substituents selected from -F and -CF_3; -C(O)O-C_{1-3}alkyl; -C(O)NR^8R^9; -C(O)OH; and -NHC(O)-C_{1-3}alkyl;

R^7 is selected from $NR^{10}R^{11}$; a 5 to 7 membered monocyclic heterocycloalkyl; and a 5 or 6 membered monocyclic heteroaryl; wherein the heterocycloalkyl and heteroaryl are optionally substituted with 1, 2 or 3 groups selected from -CN; -C_{1-6}alkyl optionally substituted with 1, 2 or 3 substituents selected from -F, -CF_3 and -OH; -C_{1-3}alkoxy optionally substituted with 1, 2 or 3 substituents selected from -F and CF_3; -C(O)OH; -C_{1-3}alkylene-NHC(O)C_{1-6}alkyl; -C_{1-3}alkylene-NHC(O)OC_{1-6}alkyl; and C_{3-5}cycloalkyl; or the heterocycloalkyl is optionally substituted with two substituents on the same ring carbon which together with the carbon atom to which they are attached form a 5 to 7 membered monocyclic heterocycloalkyl; and wherein when R^7 is morpholinyl and R^1 is unsubstituted phenyl, R^2 is not -H;

R^8 and R^9 are each independently selected from -H and -C_{1-6}alkyl;

R^{10} is -C_{1-6}alkyl;

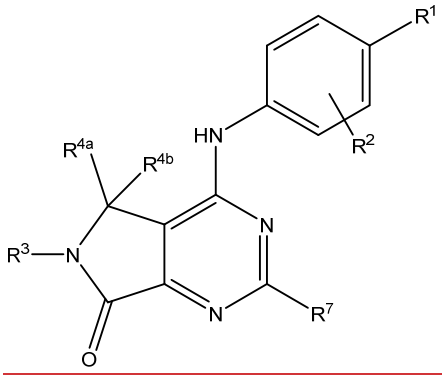
R^{11} is selected from -C_{1-6}alkyl optionally substituted with 1 or 2 substituents selected from -F and -C_{1-3}alkoxy; and -$(CH_2)_nR^{12}$;

R^{12} is a 5 or 6 membered heteroaryl, a 3 to 5 membered cycloalkyl or a 3 to 6 membered heterocycloalkyl;

m is 0 or 1; and

n is 1, 2 or 3.

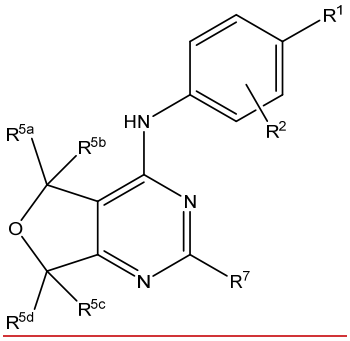
In another aspect of the present disclosure, there is provided a compound of Formula (I), or a pharmaceutically acceptable salt thereof, wherein the compound is a compound of Formula (II), or a pharmaceutically acceptable salt thereof:



(II)

wherein R^1, R^2, R^3, R^{4a}, R^{4b} and R^7 as defined for Formula (I) in the first aspect.

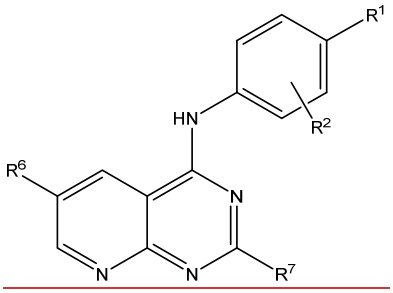
In a further aspect of the present disclosure, there is provided a compound of Formula (I), or a pharmaceutically acceptable salt thereof, wherein the compound is a compound of Formula (III), or a pharmaceutically acceptable salt thereof:



(III)

wherein R^1, R^2, R^{5a}, R^{5b}, R^{5c}, R^{5d} and R^7 are as defined in the first aspect.

In another aspect of the present disclosure, there is provided a compound of Formula (I), or a pharmaceutically acceptable salt thereof, wherein the compound is a compound of Formula (IV), or N-oxide or pharmaceutically acceptable salt thereof:



(IV)

wherein R^1, R^2, R^6 and R^7 are as defined for Formula (I) in the first aspect.

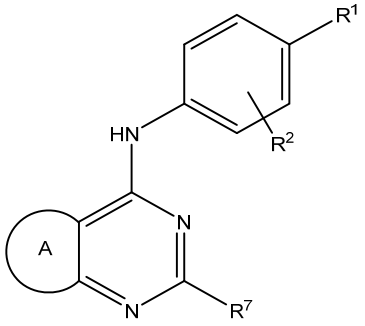
In a further aspect of the present disclosure, there is provided a pharmaceutical composition which comprises a compound of Formula (I) disclosed herein, or a pharmaceutically acceptable salt thereof, and at least one pharmaceutically acceptable excipient.

In another aspect of the present disclosure, there is provided a compound of Formula (I) disclosed herein, or a pharmaceutically acceptable salt thereof, for use in therapy.

In a further aspect of the present disclosure, there is provided a compound of Formula (I) disclosed herein, or a pharmaceutically acceptable salt thereof, for use in the treatment of a neurological disorder.

In another aspect of the present disclosure, there is provided a use of a compound of Formula (I) disclosed herein, or a pharmaceutically acceptable salt thereof, for the manufacture of a medicament for the treatment of neurological disorder.

Briefly, this specification describes, in part, a compound of Formula (I):



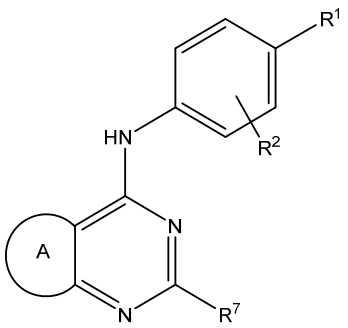
(I)

or a pharmaceutically acceptable salt thereof, wherein:

R^1 is selected from C_{2-6}alkyl; C_{2-6}alkenyl; C_{2-6}alkynyl; C_{2-6}alkoxy; C_{2-6}alkenyloxy; C_{2-6}alkynyloxy; C_{3-7}cycloalkyl; -O-C_{3-7}cycloalkyl; C_{6-10}aryl; -O-$(CH_2)_m$-C_{6-10}aryl; 6 membered heteroaryl; and thiophenyl; wherein alkyl, alkenyl, alkynyl, alkoxy, alkenyloxy, alkynyloxy and cycloalkyl are optionally substituted with 1, 2 or 3 substituents selected from -F and $-CF_3$ and wherein aryl and heteroaryl are optionally substituted with 1 or 2 substituents selected from -halo, -C_{1-3}alkyl, -C_{1-8}alkoxy and -C_{2-8}alkynyloxy wherein -C_{1-3}alkyl, -C_{1-8}alkoxy and -C_{2-8}alkynyloxy are optionally substituted with 1, 2, or 3 substituents selected from -F, $-CF_3$, -NHC(O)O-C_{1-6}alkyl or two substituents together with the carbon to which they are attached form diazirinyl;

Claims

1. A compound of Formula (I):

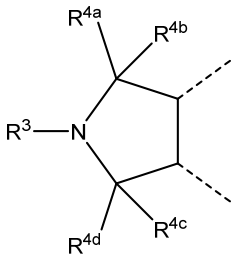
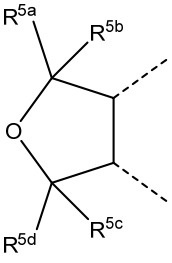
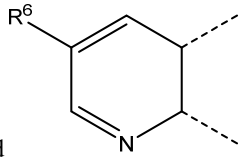


(I)

R^1 is selected from C_{2-6}alkyl; C_{2-6}alkenyl; C_{2-6}alkynyl; C_{2-6}alkoxy; C_{2-6}alkenyloxy; C_{2-6}alkynyloxy; C_{3-7}cycloalkyl; -O-C_{3-7}cycloalkyl; C_{6-10}aryl; -O-$(CH_2)_m$-C_{6-10}aryl; 6 membered heteroaryl; and thiophenyl; wherein alkyl, alkenyl, alkynyl, alkoxy, alkenyloxy, alkynyloxy and cycloalkyl are optionally substituted with 1, 2 or 3 substituents selected from -F and -CF_3 and wherein aryl and heteroaryl are optionally substituted with 1 or 2 substituents selected from -halo, -C_{1-3}alkyl, -C_{1-8}alkoxy and -C_{2-8}alkynyloxy wherein -C_{1-3}alkyl, -C_{1-8}alkoxy and -C_{2-8}alkynyloxy are optionally substituted with 1, 2, or 3 substituents selected from -F, -CF_3 and -NHC(O)O-C_{1-6}alkyl or two substituents together with the carbon to which they are attached form diazirinyl;

R^2 is selected from -H; -halo; and -C_{1-3}alkyl optionally substituted with 1, 2 or 3 substituents selected from -F and -CF_3;

A is selected from:


; 
; and 
or a N-oxide thereof;

R^3 is selected from -H; -C_{1-6}alkyl; -C_{2-6}alkenyl; -C_{2-6}alkynyl; -C_{3-7}cycloalkyl; and a 5 or 6 membered heterocycloalkyl; wherein the alkyl, alkenyl, alkynyl, cycloalkyl or heterocycloalkyl are optionally substituted by 1, 2 or 3 groups selected from -F, -CF_3, -C_{1-3}alkyl optionally substituted by 1 or 2 substituents selected from -F, -CF_3, -C(O)NR^8R^9 and -NR^8R^9;

R^{4a} and R^{4b} are each independently selected from -H and -C_{1-3} alkyl optionally substituted with 1, 2 or 3 substituents selected from -F and -CF_3;

R^{4c} and R^{4d} are each independently selected from -H and -C_{1-3} alkyl optionally substituted with 1, 2 or 3 substituents selected from -F and CF_3; or R^{4c} and R^{4d} together with the carbon to which they are attached represent carbonyl;

R^{5a}, R^{5b}, R^{5c} and R^{5d} are each independently selected from -H and -C_{1-3} alkyl optionally substituted with 1, 2 or 3 substituents selected from -F and CF_3;

R^6 is selected from -H; -halo; -NH_2; -CN; -C_{1-3}alkyl optionally substituted with 1, 2 or 3 substituents selected from -F and CF_3; -C_{1-3}alkoxy optionally substituted with 1, 2 or 3 substituents selected from -F and -CF_3; -C(O)O-C_{1-3}alkyl; -C(O)NR^8R^9; -C(O)OH; and -NHC(O)-C_{1-3}alkyl;

R^7 is selected from $NR^{10}R^{11}$; a 5 to 7 membered monocyclic heterocycloalkyl; and a 5 or 6 membered monocyclic heteroaryl; wherein the heterocycloalkyl and heteroaryl are optionally substituted with 1, 2 or 3 groups selected from -CN; -C_{1-6}alkyl optionally substituted with 1, 2 or 3 substituents selected from -F, -CF_3 and -OH; -C_{1-3}alkoxy optionally substituted with 1, 2 or 3 substituents selected from -F and CF_3; -C(O)OH; -C_{1-3}alkylene-NHC(O)C_{1-6}alkyl; -C_{1-3}alkylene-NHC(O)OC_{1-6}alkyl; and C_{3-5}cycloalkyl; or the heterocycloalkyl is optionally substituted with two substituents on the same ring carbon which together with the carbon atom to which they are attached form a 5 to 7 membered monocyclic heterocycloalkyl; and wherein when R^7 is morpholinyl and R^1 is unsubstituted phenyl, R^2 is not -H;

R^8 and R^9 are each independently selected from -H and -C_{1-6}alkyl;

R^{10} is -C_{1-6}alkyl;

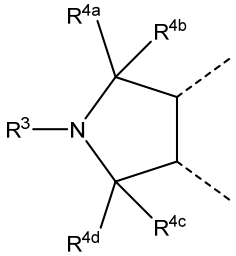
R^{11} is selected from -C_{1-6}alkyl optionally substituted with 1 or 2 substituents selected from -F and -C_{1-3}alkoxy; and -$(CH_2)_nR^{12}$;

R^{12} is a 5 or 6 membered heteroaryl, a 3 to 5 membered cycloalkyl or a 3 to 6 membered heterocycloalkyl;

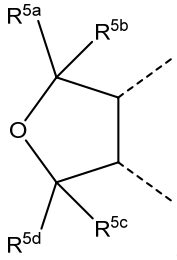
m is 0 or 1; and

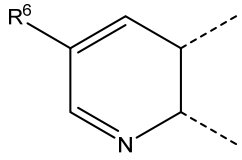
n is 1, 2 or 3.

2. The compound of Formula (I), or a pharmaceutically acceptable salt thereof, as claimed in claim 1,



wherein A is and R^3, R^{4a}, R^{4b}, R^{4c} and R^{4d} are as defined in claim 1.

3. The compound of Formula (I), or a pharmaceutically acceptable salt thereof, as claimed in claim 1, wherein A is  and R^{5a}, R^{5b}, R^{5c} and R^{5d} are as defined in claim 1.

4. The compound of Formula (I), or a pharmaceutically acceptable salt thereof, as claimed in claim 1, wherein A is  or a N-oxide thereof and R^6 is as defined in claim 1.

5. The compound of Formula (I), or a pharmaceutically acceptable salt thereof, as claimed in any preceding claim, wherein R^1 is selected from C_{2-6}alkyl; C_{2-6}alkoxy; C_{3-7}cycloalkyl; -O-C_{3-7}cycloalkyl; C_{6-10}aryl; -O-$(CH_2)_m$-C_{6-10}aryl; and thiophenyl, wherein the alkyl, alkoxy and cycloalkyl are optionally substituted with 1, 2 or 3 substituents selected from -F and -CF_3 and wherein aryl is optionally substituted with 1 or 2 substituents selected from -halo, -C_{1-3}alkyl, -C_{1-8}alkoxy and -C_{2-8}alkynyloxy wherein -C_{1-3}alkyl, -C_{1-8}alkoxy and -C_{2-8}alkynyloxy are optionally substituted with 1, 2, or 3 substituents selected from -F, -CF_3 and -NHC(O)O-C_{1-6}alkyl or two substituents together with the carbon to which they are attached form diazirinyl.

6. The compound of Formula (I), or a pharmaceutically acceptable salt thereof, as claimed in any preceding claim, wherein R^1 is selected from -CH_2CF_3; -CF_2CF_3; propyl; butyl; pentyl; propoxy; cyclobutyl; cyclohexyl; -O-cyclopentyl; phenyl optionally substituted with 1 or 2 substituents selected from -F, -Cl, -CH_3, -O-$(CH_2)_5$C≡CH, -O-$(CH_2)_7$, -O-$(CH_2)_2$C(N=N)$(CH_2)_2$C≡CH, -O-$(CH_2)_2$NHC(O)OC$(CH_3)_3$, -O-CH_2C≡CH, -O-$(CH_2)_5CF_3$ and -O-$(CH_2)_7$; -O-phenyl optionally substituted with -F; -O-CH_2-phenyl and thiophenyl.

7. The compound of Formula (I), or a pharmaceutically acceptable salt thereof, as claimed in any preceding claim, wherein R^2 is -H, -F or methyl.

8. The compound of Formula (I), or a pharmaceutically acceptable salt thereof, as claimed in any one of claims 1 to 2 and 5 to 7, wherein R^3 is ethyl, *i*-propyl, propynyl, -CH_2C≡CH, -$(CH_2)_2N(CH_3)_2$, -$(CH_2)_3N(CH_3)_2$, -$CH_2C(O)N(CH_3)_2$ or N-methylpiperidine.

9. The compound of Formula (I), or a pharmaceutically acceptable salt thereof, as claimed in any one of claims 1 to 2 and 5 to 8, wherein R^{4a} and R^{4b} are both -H.

10. The compound of Formula (I), or a pharmaceutically acceptable salt thereof, as claimed in any one of claims 1 to 2 and 5 to 9, wherein R^{4d} and R^{4c} together with the carbon to which they are attached represent carbonyl.

11. The compound of Formula (I), or a pharmaceutically acceptable salt thereof, as claimed in any one of claims 1, 3 and 5 to 7, wherein R^{5a}, R^{5b}, R^{5c} and R^{5d} are each -H.

12. The compound of Formula (I), or a pharmaceutically acceptable salt thereof, as claimed in any of claims 1, 4 and 5 to 7, wherein R^6 is selected from -H, -Br, -NH_2, -CN, methoxy, ethyl, -$C(O)OCH_3$, -$C(O)NH_2$, -C(O)OH and -$NHC(O)CH_3$.

13. The compound of Formula (I), or a pharmaceutically acceptable salt thereof, as claimed in any preceding claim, wherein R^7 is a 5 to 7 membered monocylic heterocycloalkyl selected from morpholinyl, thiazolidinyl, tetrahydropyranyl, pyrrolyl, thiomorpholinyl and 3,4-dihydro-2H-pyranyl; a 5 or 6 membered monocyclic heteroaryl selected from pyridinyl, dihydropyranyl, imidazolyl, oxazolyl, imidazolyl and thiazolyl; wherein the heterocycloalkyl and heteroaryl are optionally substituted with 1, 2 or 3 groups selected from -CN; -$C_{1\text{-}6}$alkyl optionally substituted with 1, 2 or 3 substituents selected from -F, -CF_3 and -OH; -$C_{1\text{-}3}$alkoxy optionally substituted with 1, 2 or 3 substituents selected from -F and -CF_3; -C(O)OH; -$C_{1\text{-}3}$alkylene-$NHC(O)C_{1\text{-}6}$alkyl; -$C_{1\text{-}3}$alkylene-$NHC(O)OC_{1\text{-}6}$alkyl; and $C_{3\text{-}5}$cycloalkyl; or the heterocycloalkyl is optionally substituted with two substituents on the same ring carbon which together with the carbon atom to which they are attached form a 5 to 7 membered monocyclic heterocycloalkyl.

14. The compound of Formula (I), or a pharmaceutically acceptable salt thereof, as claimed in any preceding claim, wherein R^7 is a 5 to 7 membered monocylic heterocycloalkyl selected from morpholinyl, thiazolidinyl, tetrahydropyranyl, pyrrolyl, thiomorpholinyl and 3,4-dihydro-2H-pyranyl; a 5 or 6 membered monocyclic heteroaryl selected from pyridinyl, dihydropyranyl, imidazolyl, oxazolyl, imidazolyl and thiazolyl; wherein the heterocycloalkyl and heteroaryl are optionally substituted with 1, 2 or 3 groups selected from -CN, methyl, ethyl, propyl, cyclopropyl, methoxy, -CH_2CF_3, -CH_2OH, -CH_2CH_2OH, -C(O)OH, -$(CH_2)_2NHC(O)CH_3$ and -$CH_2NHC(O)OC(CH_3)_3$; or the heterocycloalkyl is optionally substituted with two substituents on the same ring carbon which together with the carbon atom to which they are attached form a tetrahydropyranyl.

15. The compound of Formula (I), or a pharmaceutically acceptable salt thereof, as claimed in any one of claims 1 to 12, wherein R^7 is $NR^{10}R^{11}$.

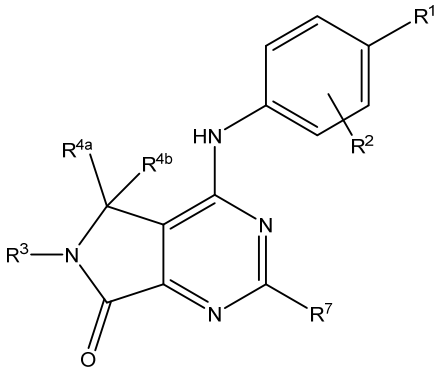
16. The compound of Formula (I), or a pharmaceutically acceptable salt thereof, as claimed in any one of claims 1, 2, 4 to 10 and 12 to 15, wherein R^8 and R^9 are either both -H or are both methyl.

17. The compound of Formula (I), or a pharmaceutically acceptable salt thereof, as claimed any one of claims 1 to 12, 15 and 16, wherein R^{10} is selected from methyl, ethyl and propyl.

18. The compound of Formula (I), or a pharmaceutically acceptable salt thereof, as claimed in any one of claims 1 to 12 and 15 to 17, wherein R^{11} is selected from ethyl, $-CH_2CHF_2$, propyl, $-(CH_2)_2O(CH_2)_2$ and $-(CH_2)_nR^{12}$.

19. The compound of Formula (I), or a pharmaceutically acceptable salt thereof, as claimed in any of claims 1 to 12 and 15 to 18, wherein R^{12} is selected from isoxazolyl, oxadiazolyl, cyclopropyl, pyrazinyl, tetrahydrofuranyl and pyridinyl.

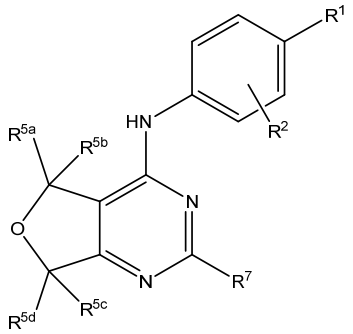
20. The compound of Formula (I), or a pharmaceutically acceptable salt thereof, wherein the compound is a compound of Formula (II), or a pharmaceutically acceptable salt thereof:



(II)

wherein R^1, R^2, R^3, R^{4a}, R^{4b} and R^7 as defined for Formula (I) in claim 1.

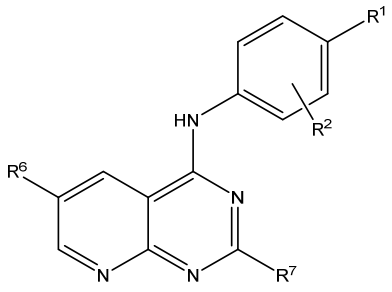
21. The compound of Formula (I), or a pharmaceutically acceptable salt thereof, wherein the compound is a compound of Formula (III), or a pharmaceutically acceptable salt thereof:



(III)

wherein R^1, R^2, R^{5a}, R^{5b}, R^{5c}, R^{5d} and R^7 are as defined in claim 1.

22. The compound of Formula (I), or a pharmaceutically acceptable salt thereof, wherein the compound is a compound of Formula (IV), or N-oxide or pharmaceutically acceptable salt thereof:



(IV)

wherein R^1, R^2, R^6 and R^7 are as defined for Formula (I) in claim 1.

23. The compound of Formula (I), or a pharmaceutically acceptable salt thereof, as claimed in claim 1, wherein the compound is selected from the group consisting of:

2-(diethylamino)-6-(propan-2-yl)-4-{[4-(propan-2-yl)phenyl]amino}-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

4-[(4-cyclohexylphenyl)amino]-2-(2-cyclopropylmorpholin-4-yl)-6-(propan-2-yl)-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

6-(propan-2-yl)-4-{[4-(propan-2-yl)phenyl]amino}-2-(1,3-thiazolidin-3-yl)-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

2-[(2R,6S)-2,6-dimethylmorpholin-4-yl]-6-(propan-2-yl)-4-{[4-(propan-2-yl)phenyl]amino}-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

6-(propan-2-yl)-4-{[4-(propan-2-yl)phenyl]amino}-2-(thiomorpholin-4-yl)-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

2-[(2S)-2-methylmorpholin-4-yl]-6-(propan-2-yl)-4-{[4-(propan-2-yl)phenyl]amino}-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

2-[(2R)-2-methylmorpholin-4-yl]-6-(propan-2-yl)-4-{[4-(propan-2-yl)phenyl]amino}-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

2-[(2S,6S)-2,6-dimethylmorpholin-4-yl]-6-(propan-2-yl)-4-{[4-(propan-2-yl)phenyl]amino}-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

2-(3-methylmorpholin-4-yl)-6-(propan-2-yl)-4-{[4-(propan-2-yl)phenyl]amino}-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

2-(2-cyclopropylmorpholin-4-yl)-6-(propan-2-yl)-4-{[4-(propan-2-yl)phenyl]amino}-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

4-[(4-cyclohexylphenyl)amino]-2-(morpholin-4-yl)-6-(propan-2-yl)-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

4-[(4-cyclohexylphenyl)amino]-2-(2-methylmorpholin-4-yl)-6-(propan-2-yl)-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

4-[(4-cyclohexylphenyl)amino]-2-[(2R)-2-methylmorpholin-4-yl]-6-(propan-2-yl)-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

4-[(4-cyclohexylphenyl)amino]-2-((2R)-cyclopropylmorpholin-4-yl)-6-(propan-2-yl)-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

4-[(4-cyclohexylphenyl)amino]-2-((2S)-cyclopropylmorpholin-4-yl)-6-(propan-2-yl)-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

4-[(4-cyclohexylphenyl)amino]-6-(propan-2-yl)-2-[2-(2,2,2-trifluoroethyl)morpholin-4-yl]-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

tert-butyl {[(2R)-4-{4-[(4-cyclohexylphenyl)amino]-7-oxo-6-(propan-2-yl)-6,7-dihydro-5H-pyrrolo[3,4-d]pyrimidin-2-yl}morpholin-2-yl]methyl}carbamate;

4-[(4-cyclohexylphenyl)amino]-6-(propan-2-yl)-2-[2-(propan-2-yl)morpholin-4-yl]-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

4-[(4-cyclohexylphenyl)amino]-6-(propan-2-yl)-2-(1,3-thiazolidin-3-yl)-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

4-[(4-cyclohexylphenyl)amino]-2-[(2-ethoxyethyl)(methyl)amino]-6-(propan-2-yl)-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

4-[(4-cyclohexylphenyl)amino]-2-(2-ethylmorpholin-4-yl)-6-(propan-2-yl)-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

4-[(4-cyclohexylphenyl)amino]-2-{methyl[(1,2-oxazol-3-yl)methyl]amino}-6-(propan-2-yl)-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

4-[(4-cyclohexylphenyl)amino]-2-{methyl[2-(1,2,4-oxadiazol-3-yl)ethyl]amino}-6-(propan-2-yl)-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

4-[(4-cyclohexylphenyl)amino]-2-(1,4-oxazepan-4-yl)-6-(propan-2-yl)-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

4-[(4-cyclohexylphenyl)amino]-2-(1,9-dioxa-4-azaspiro[5.5]undecan-4-yl)-6-(propan-2-yl)-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

4-[(4-cyclohexylphenyl)amino]-2-(3-methoxypyrrolidin-1-yl)-6-(propan-2-yl)-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

4-[(4-cyclohexylphenyl)amino]-2-[2-(2-hydroxyethyl)morpholin-4-yl]-6-(propan-2-yl)-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

4-[(4-cyclohexylphenyl)amino]-2-(dipropylamino)-6-(propan-2-yl)-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

4-[(4-cyclohexylphenyl)amino]-2-[(cyclopropylmethyl)(methyl)amino]-6-(propan-2-yl)-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

4-[(4-cyclohexylphenyl)amino]-2-[2-(hydroxymethyl)morpholin-4-yl]-6-(propan-2-yl)-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

4-[(4-cyclohexylphenyl)amino]-2-[3-(hydroxymethyl)morpholin-4-yl]-6-(propan-2-yl)-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

4-[(4-cyclohexylphenyl)amino]-2-{methyl[(pyrazin-2-yl)methyl]amino}-6-(propan-2-yl)-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

4-[(4-cyclohexylphenyl)amino]-2-(diethylamino)-6-(propan-2-yl)-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

4-[(4-cyclohexylphenyl)amino]-2-{methyl[(oxolan-2-yl)methyl]amino}-6-(propan-2-yl)-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

4-[(4-cyclohexylphenyl)amino]-2-[(2,2-difluoroethyl)(methyl)amino]-6-(propan-2-yl)-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

4-[(4-cyclohexylphenyl)amino]-2-{methyl[2-(pyridin-2-yl)ethyl]amino}-6-(propan-2-yl)-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

(3S)-4-{4-[(4-cyclohexylphenyl)amino]-7-oxo-6-(propan-2-yl)-6,7-dihydro-5H-pyrrolo[3,4-d]pyrimidin-2-yl}morpholine-3-carboxylic acid;

N-[2-(4-{4-[(4-cyclohexylphenyl)amino]-7-oxo-6-(propan-2-yl)-6,7-dihydro-5H-pyrrolo[3,4-d]pyrimidin-2-yl}morpholin-2-yl)ethyl]acetamide;

6-(propan-2-yl)-4-{[4-(propan-2-yl)phenyl]amino}-2-(pyridin-4-yl)-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

4-{4-[(4-cyclohexylphenyl)amino]-7-oxo-6-(propan-2-yl)-6,7-dihydro-5H-pyrrolo[3,4-d]pyrimidin-2-yl}pyridine-2-carbonitrile;

4-[(4-cyclohexylphenyl)amino]-2-(2-cyclopropylpyridin-4-yl)-6-(propan-2-yl)-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

4-[(4-cyclohexylphenyl)amino]-2-(2-methoxypyridin-4-yl)-6-(propan-2-yl)-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

4-[(4-cyclohexylphenyl)amino]-2-(2-methylpyridin-4-yl)-6-(propan-2-yl)-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

4-[(4-cyclohexylphenyl)amino]-2-(3,6-dihydro-2H-pyran-4-yl)-6-(propan-2-yl)-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

4-[(4-cyclohexylphenyl)amino]-6-(propan-2-yl)-2-(pyridin-4-yl)-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

4-[(4-cyclohexylphenyl)amino]-2-(1-methyl-1H-pyrazol-4-yl)-6-(propan-2-yl)-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

4-[(4-cyclohexylphenyl)amino]-2-(1,3-oxazol-5-yl)-6-(propan-2-yl)-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

4-[(4-cyclohexylphenyl)amino]-6-(propan-2-yl)-2-(1,3-thiazol-5-yl)-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

2-(3,6-dihydro-2H-pyran-4-yl)-6-(propan-2-yl)-4-{[4-(propan-2-yl)phenyl]amino}-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

4-{[4-(4-fluorophenoxy)phenyl]amino}-2-[(2R)-2-methylmorpholin-4-yl]-6-(propan-2-yl)-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

2-(2-cyclopropylmorpholin-4-yl)-4-({4'-[(hept-6-yn-1-yl)oxy][1,1'-biphenyl]-4-yl}amino)-6-(propan-2-yl)-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

2-(2-cyclopropylmorpholin-4-yl)-4-{[4'-(heptyloxy)[1,1'-biphenyl]-4-yl]amino}-6-(propan-2-yl)-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

4-[(4'-{2-[3-(but-3-yn-1-yl)-3H-diaziren-3-yl]ethoxy}[1,1'-biphenyl]-4-yl)amino]-2-(2-cyclopropylmorpholin-4-yl)-6-(propan-2-yl)-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

2-[(2R)-2-methylmorpholin-4-yl]-4-[(4-pentylphenyl)amino]-6-(propan-2-yl)-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

4-{[4-(butan-2-yl)phenyl]amino}-2-[(2R)-2-methylmorpholin-4-yl]-6-(propan-2-yl)-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

4-{[4-(benzyloxy)phenyl]amino}-2-[(2R)-2-methylmorpholin-4-yl]-6-(propan-2-yl)-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

2-(2-cyclopropylmorpholin-4-yl)-4-{[4-(pentafluoroethyl)phenyl]amino}-6-(propan-2-yl)-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

2-(2-cyclopropylmorpholin-4-yl)-6-(propan-2-yl)-4-[(4-propylphenyl)amino]-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

2-[(2R)-2-methylmorpholin-4-yl]-6-(propan-2-yl)-4-[(4-propylphenyl)amino]-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

2-[(2R)-2-methylmorpholin-4-yl]-4-{[4-(pentafluoroethyl)phenyl]amino}-6-(propan-2-yl)-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

2-(2-cyclopropylmorpholin-4-yl)-6-(propan-2-yl)-4-({4-[(propan-2-yl)oxy]phenyl}amino)-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

4-[(4-cyclobutylphenyl)amino]-2-(morpholin-4-yl)-6-(propan-2-yl)-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

4-{[4-(cyclopentyloxy)phenyl]amino}-2-[(2R)-2-methylmorpholin-4-yl]-6-(propan-2-yl)-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

2-[(2R)-2-methylmorpholin-4-yl]-6-(propan-2-yl)-4-{[4-(2,2,2-trifluoroethyl)phenyl]amino}-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

tert-butyl {2-[(4'-{[2-(2-cyclopropylmorpholin-4-yl)-7-oxo-6-(propan-2-yl)-6,7-dihydro-5H-pyrrolo[3,4-d]pyrimidin-4-yl]amino}[1,1'-biphenyl]-4-yl)oxy]ethyl}carbamate;

6-ethyl-2-[(2R)-2-methylmorpholin-4-yl]-4-{[4-(propan-2-yl)phenyl]amino}-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

4-[(4-cyclohexylphenyl)amino]-6-ethyl-2-[(2R)-2-methylmorpholin-4-yl]-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

tert-butyl {2-[(4'-{[2-(morpholin-4-yl)-7-oxo-6-(propan-2-yl)-6,7-dihydro-5H-pyrrolo[3,4-d]pyrimidin-4-yl]amino}[1,1'-biphenyl]-4-yl)oxy]ethyl}carbamate;

4-[(4'-{2-[3-(but-3-yn-1-yl)-3H-diaziren-3-yl]ethoxy}[1,1'-biphenyl]-4-yl)amino]-2-(morpholin-4-yl)-6-(propan-2-yl)-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

2-(morpholin-4-yl)-6-(propan-2-yl)-4-({4'-[(prop-2-yn-1-yl)oxy][1,1'-biphenyl]-4-yl}amino)-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

4-[(4-cyclohexylphenyl)amino]-6-[3-(dimethylamino)propyl]-2-[(2R)-2-methylmorpholin-4-yl]-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

4-[(4-cyclohexylphenyl)amino]-6-[2-(dimethylamino)ethyl]-2-[(2R)-2-methylmorpholin-4-yl]-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

4-[(4-cyclobutylphenyl)amino]-6-[3-(dimethylamino)propyl]-2-[(2R)-2-methylmorpholin-4-yl]-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

4-[(4-cyclobutylphenyl)amino]-6-[2-(dimethylamino)ethyl]-2-[(2R)-2-methylmorpholin-4-yl]-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

2-(morpholin-4-yl)-4-{[4-(propan-2-yl)phenyl]amino}-6-(prop-2-yn-1-yl)-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

4-[(4-cyclohexylphenyl)amino]-2-(oxan-4-yl)-6-(propan-2-yl)-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

4-[(4-cyclohexylphenyl)amino]-2-(1H-imidazol-1-yl)-6-(propan-2-yl)-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

2-(3,6-dihydro-2H-pyran-4-yl)-4-[(2'-methyl[1,1'-biphenyl]-4-yl)amino]-6-(propan-2-yl)-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

4-[(4'-{2-[3-(but-3-yn-1-yl)-3H-diaziren-3-yl]ethoxy}[1,1'-biphenyl]-4-yl)amino]-2-(3,6-dihydro-2H-pyran-4-yl)-6-(propan-2-yl)-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

2-(3,6-dihydro-2H-pyran-4-yl)-4-[(2-fluoro[1,1'-biphenyl]-4-yl)amino]-6-(propan-2-yl)-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

2-(morpholin-4-yl)-4-{[4-(pentafluoroethyl)phenyl]amino}-6-(propan-2-yl)-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

4-[(2-fluoro[1,1'-biphenyl]-4-yl)amino]-2-(morpholin-4-yl)-6-(propan-2-yl)-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

4-[(3',4'-dichloro[1,1'-biphenyl]-4-yl)amino]-2-(morpholin-4-yl)-6-(propan-2-yl)-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

2-(morpholin-4-yl)-6-(propan-2-yl)-4-{[4-(propan-2-yl)phenyl]amino}-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

4-[(4-tert-butylphenyl)amino]-2-(morpholin-4-yl)-6-(propan-2-yl)-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

4-[(2-methyl[1,1'-biphenyl]-4-yl)amino]-2-(morpholin-4-yl)-6-(propan-2-yl)-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

4-[(4'-chloro[1,1'-biphenyl]-4-yl)amino]-2-(morpholin-4-yl)-6-(propan-2-yl)-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one;

N-(4-cyclohexylphenyl)-2-[(2R)-2-methylmorpholin-4-yl]-5,7-dihydrofuro[3,4-d]pyrimidin-4-amine;

N-(4-cyclobutylphenyl)-2-(3,6-dihydro-2H-pyran-4-yl)-5,7-dihydrofuro[3,4-d]pyrimidin-4-amine;

N-(4-cyclohexylphenyl)-2-(2-cyclopropylmorpholin-4-yl)-5,7-dihydrofuro[3,4-d]pyrimidin-4-amine;

2-(2-cyclopropylmorpholin-4-yl)-N-[4'-(heptyloxy)[1,1'-biphenyl]-4-yl]-5,7-dihydrofuro[3,4-d]pyrimidin-4-amine;

2-[(2R)-2-methylmorpholin-4-yl]-N-{4'-[(6,6,6-trifluorohexyl)oxy][1,1'-biphenyl]-4-yl}-5,7-dihydrofuro[3,4-d]pyrimidin-4-amine;

N-(4-cyclohexylphenyl)-2-(2-methylpyridin-4-yl)-5,7-dihydrofuro[3,4-d]pyrimidin-4-amine;

N-(4-cyclohexylphenyl)-2-[(2R)-2-methylmorpholin-4-yl]pyrido[2,3-d]pyrimidin-4-amine;

6-bromo-N-(4-cyclohexylphenyl)-2-[(2R)-2-methylmorpholin-4-yl]pyrido[2,3-d]pyrimidin-4-amine;

N-(4-cyclohexylphenyl)-2-(3,6-dihydro-2H-pyran-4-yl)pyrido[2,3-d]pyrimidin-4-amine;

N-(4-cyclohexylphenyl)-2-[(2R)-2-methylmorpholin-4-yl]-8-oxo-8lambda~5~-pyrido[2,3-d]pyrimidin-4-amine;

N-(4-cyclohexylphenyl)-6-ethyl-2-[(2R)-2-methylmorpholin-4-yl]pyrido[2,3-d]pyrimidin-4-amine;

4-[(4-cyclohexylphenyl)amino]-2-[(2R)-2-methylmorpholin-4-yl]pyrido[2,3-d]pyrimidine-6-carbonitrile;

methyl 4-[(4-cyclohexylphenyl)amino]-2-[(2R)-2-methylmorpholin-4-yl]pyrido[2,3-d]pyrimidine-6-carboxylate;

4-[(4-cyclohexylphenyl)amino]-2-[(2R)-2-methylmorpholin-4-yl]pyrido[2,3-d]pyrimidine-6-carboxylic acid;

4-[(4-cyclohexylphenyl)amino]-2-[(2R)-2-methylmorpholin-4-yl]pyrido[2,3-d]pyrimidine-6-carboxamide;

4-[(4-cyclohexylphenyl)amino]-2-(2-cyclopropylmorpholin-4-yl)pyrido[2,3-d]pyrimidine-6-carboxamide;

N-(4-cyclohexylphenyl)-6-methoxy-2-[(2R)-2-methylmorpholin-4-yl]pyrido[2,3-d]pyrimidin-4-amine;

N-{4-[(4-cyclohexylphenyl)amino]-2-[(2R)-2-methylmorpholin-4-yl]pyrido[2,3-d]pyrimidin-6-yl}acetamide;

N~4~-(4-cyclohexylphenyl)-2-[(2R)-2-methylmorpholin-4-yl]pyrido[2,3-d]pyrimidine-4,6-diamine;

N-(4-cyclohexylphenyl)-2-(morpholin-4-yl)-6-(propan-2-yl)-6,7-dihydro-5H-pyrrolo[3,4-d]pyrimidin-4-amine;

N-(4-cyclohexylphenyl)-2-[(2R)-2-methylmorpholin-4-yl]-6-(propan-2-yl)-6,7-dihydro-5H-pyrrolo[3,4-d]pyrimidin-4-amine;

2-{4-[(4-cyclohexylphenyl)amino]-2-(3,6-dihydro-2H-pyran-4-yl)-5,7-dihydro-6H-pyrrolo[3,4-d]pyrimidin-6-yl}-N,N-dimethylacetamide;

N-(4-cyclohexylphenyl)-2-(2-cyclopropylmorpholin-4-yl)-6-(1-methylpiperidin-4-yl)-6,7-dihydro-5H-pyrrolo[3,4-d]pyrimidin-4-amine;

2-(morpholin-4-yl)-6-(propan-2-yl)-4-{[4-(thiophen-2-yl)phenyl]amino}-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one; and

2-(morpholin-4-yl)-6-(propan-2-yl)-4-{[4-(thiophen-3-yl)phenyl]amino}-5,6-dihydro-7H-pyrrolo[3,4-d]pyrimidin-7-one.

24. A pharmaceutical composition which comprises a compound of Formula (I), or a pharmaceutically acceptable salt thereof, as claimed in any one of claims 1 to 23, and at least one pharmaceutically acceptable excipient.

25. A compound of Formula (I), or a pharmaceutically acceptable salt thereof, as claimed in any one of claims 1 to 23, for use in therapy.

26. A compound of Formula (I), or a pharmaceutically acceptable salt thereof, as claimed in any one of claims 1 to 23, for use in the treatment of a neurological disorder.

27. Use of a compound of Formula (I), or a pharmaceutically acceptable salt thereof, as claimed in any one of claims 1 to 23, for the manufacture of a medicament for the treatment of neurological disorder.

~~27~~28. A compound for use or use, as claimed in claim 26 or 27, wherein the neurological disorder is selected from epilepsy, pain, autism spectrum disorders, cognition, anxiety and amyotrophic lateral sclerosis.

~~28. Use of a compound of Formula (I), or a pharmaceutically acceptable salt thereof, as claimed in any one of claims 1 to 23, for the manufacture of a medicament for the treatment of neurological disorder.~~

~~29. A method of treating neurological disorder in a warm-blooded animal in need of such treatment, which comprises administering to the warm-blooded animal a therapeutically effective amount of a compound of Formula (I),~~