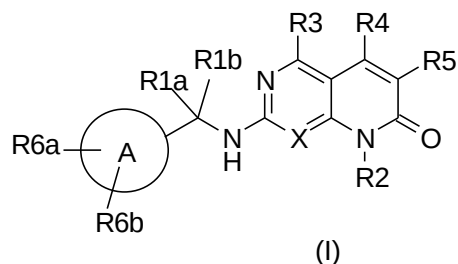


CLAIMS

1. A compound of formula (I):



wherein:

X is nitrogen or -CH-

R1a is hydrogen or an optionally substituted straight or branched (C₁-C₆)alkyl;

R1b is an optionally substituted (C₁-C₆)alkyl, or together with the atom to which they are bound, **R1a** and **R1b** may form a (C₃-C₆)cycloalkyl;

A is a (C₃-C₆)cycloalkyl, aryl or heteroaryl;

R6a and **R6b** are each independently selected from hydrogen, halogen, cyano, an optionally substituted straight or branched (C₁-C₆)alkyl, (C₃-C₆)cycloalkyl, cycloalkyl-alkyl, (C₂-C₆)alkenyl, (C₂-C₆)alkynyl, aryl, heteroaryl, heterocyclyl, -OR7, NR7R8, -COOR7, -SO₂R7, -CONR7R8, -CH(R14)OR7 and -CH(R14)NR7R8;

wherein:

R14 is hydrogen or an optionally substituted straight or branched (C₁-C₆)alkyl;

R7 and R8 are each independently hydrogen or a group selected from an optionally substituted straight or branched (C₁-C₆)alkyl, (C₃-C₆)cycloalkyl, aryl, heteroaryl, heterocyclyl, aryl-alkyl, heteroaryl-alkyl, heterocyclyl-alkyl, heterocyclyl-C(O)-alkyl, heterocyclyl-C(O)-alkenyl, heterocyclyl-C(O)-alkynyl or, together with the nitrogen atom to which they are bound, R7 and R8 form a 5- to 7-membered heteroaryl or heterocyclyl group optionally containing one additional heteroatom selected from O, S and NR9;

wherein:

R9 is hydrogen, an optionally substituted straight or branched (C₁-C₆)alkyl, -COOR10 or -COR11;

wherein:

R10 is hydrogen or an optionally substituted straight or branched (C₁-C₆)alkyl;

R11 is an optionally substituted straight or branched (C₁-C₆)alkyl, (C₂-C₆)alkenyl or (C₂-C₆)alkynyl;

R2 is an optionally substituted group selected from straight or branched (C₁-C₆)alkyl, (C₃-C₆)cycloalkyl-(C₁-C₆)alkyl, aryl-(C₁-C₆)alkyl, and heterocyclyl-(C₁-C₆)alkyl;

R3 is hydrogen, chloro, cyano, CONH₂, NH₂, NR13R13a, OR12, or an optionally substituted group selected from straight or branched (C₁-C₆)alkyl, (C₃-C₆)cycloalkyl-(C₁-C₆)alkyl, aryl and heteroaryl;

wherein:

R12 is an optionally substituted straight or branched (C₁-C₆)alkyl;

R13, R13a are each independently selected from hydrogen or optionally substituted straight or branched (C₁-C₆)alkyl;

R4 is hydrogen or an optionally substituted straight or branched (C₁-C₆)alkyl;

R5 is hydrogen, fluoro, cyano, an optionally substituted straight or branched (C₁-C₆)alkyl or -OR12, wherein:

R12 is as described above;

or a pharmaceutically acceptable salt thereof.

2. A compound of formula (I), according to claim 1, or a pharmaceutically acceptable salt thereof, wherein:

R3 is hydrogen, chloro, cyano, CONH₂, NH₂, NR13R13a, OR12, or an optionally substituted straight or branched (C₁-C₆)alkyl;

wherein:

R12 is an optionally substituted straight or branched (C₁-C₆)alkyl;

R13, R13a are each independently selected from hydrogen or optionally substituted straight or branched (C₁-C₆)alkyl;

R5 is hydrogen, fluoro or -OR12,

wherein:

R12 is as described above; and

R1a, R1b, A, X, R6a, R6b, R2 and **R4** are as defined in claim 1.

3. A compound of formula (I), according to claim 2, or a pharmaceutically acceptable salt thereof, wherein:

R6a and **R6b** are each independently selected from hydrogen, halogen, cyano, an optionally substituted straight or branched (C₁-C₆)alkyl, (C₂-C₆)alkenyl, (C₂-C₆)alkynyl, aryl, heteroaryl, heterocyclyl, -OR7, NR7R8, -COOR7, -SO₂R7, -CONR7R8, -CH(R14)OR7 and -CH(R14)NR7R8;

wherein:

R7, R8 and R14 are as defined in claim 1;

R5 is hydrogen or fluoro; and

R1a, R1b, A, X, R2, R3 and **R4** are as defined in claim 2.

4. A compound of formula (I), according to claim 3, or a pharmaceutically acceptable salt thereof, wherein:

A is aryl or heteroaryl;

R3 is hydrogen, cyano, CONH₂, NH₂, NR13R13a, or an optionally substituted straight or branched (C₁-C₆)alkyl; wherein:

R13, R13a are each independently selected from hydrogen or optionally substituted straight or branched (C₁-C₆)alkyl; and

R1a, R1b, R6a, R6b, X, R2, R4 and R5 are as defined in claim 3.

5. A compound (cpd) of formula (I), according to claim 1, or a pharmaceutically acceptable salt thereof, selected from the group consisting of:

- methyl 4-((1S)-1-((8-benzyl-7-oxo-pyrido[2,3-d]pyrimidin-2-yl)amino)ethyl)benzoate (cpd 1);
 methyl 4-((1S)-1-((8-ethyl-7-oxo-pyrido[2,3-d]pyrimidin-2-yl)amino)ethyl)benzoate (cpd 2);
 methyl 4-((1S)-1-((8-(methoxymethyl)-7-oxo-pyrido[2,3-d]pyrimidin-2-yl)amino)ethyl)benzoate (cpd 3);
 methyl 4-((1S)-1-((8-methyl-7-oxo-pyrido[2,3-d]pyrimidin-2-yl)amino)ethyl)benzoate (cpd 4);
 methyl 4-((1S)-1-((8-(2-methylpropyl)-7-oxo-pyrido[2,3-d]pyrimidin-2-yl)amino)ethyl)benzoate (cpd 5);
 methyl 4-((1S)-1-((8-(4-fluorobenzyl)-7-oxo-pyrido[2,3-d]pyrimidin-2-yl)amino)ethyl)benzoate (cpd 6);
 methyl 4-((1S)-1-((8-(3,5-difluorobenzyl)-7-oxo-pyrido[2,3-d]pyrimidin-2-yl)amino)ethyl)benzoate (cpd 7);
 methyl 4-((1S)-1-((8-[4-fluoro-2-(trifluoromethyl)benzyl]-7-oxo-pyrido[2,3-d]pyrimidin-2-yl)amino)ethyl)benzoate (cpd 8);
 methyl 4-((1S)-1-((7-oxo-8-(propan-2-yl)-pyrido[2,3-d]pyrimidin-2-yl)amino)ethyl)benzoate (cpd 9);
 methyl 4-((1S)-1-((8-((3-methyloxetan-3-yl)methyl)-7-oxo-pyrido[2,3-d]pyrimidin-2-yl)amino)ethyl)benzoate (cpd 10);
 methyl 4-((1S)-1-((8-(2,2-dimethylpropyl)-7-oxo-pyrido[2,3-d]pyrimidin-2-yl)amino)ethyl)benzoate (cpd 11);
 2-((1S)-1-cyclohexylethyl)amino-8-ethylpyrido[2,3-d]pyrimidin-7(8H)-one (cpd 12);
 8-ethyl-2-((1S)-1-(4-methoxyphenyl)ethyl)amino)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 13);
 2-((1S)-1-(4-chlorophenyl)ethyl)amino-8-ethylpyrido[2,3-d]pyrimidin-7(8H)-one (cpd 14);
 2-((1S)-1-(4-chlorophenyl)ethyl)amino-8-(pentan-3-yl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 15);
 8-benzyl-2-((1S)-1-(4-chlorophenyl)ethyl)amino)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 16);
 2-((1S)-1-(4-chlorophenyl)ethyl)amino-8-(2-fluoroethyl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 17);
 2-((1S)-1-(4-chlorophenyl)ethyl)amino-8-(2,2,2-trifluoroethyl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 18);
 2-((1S)-1-(4-chlorophenyl)ethyl)amino-8-(2-methylpropyl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 19);
 2-((1S)-1-(4-chlorophenyl)ethyl)amino-8-(cyclopropylmethyl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 20);
 2-((1S)-1-(4-chlorophenyl)ethyl)amino-8-(4-methoxybenzyl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 21);
 2-((1S)-1-(4-chlorophenyl)ethyl)amino-8-(2-fluorobenzyl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 22);
 2-((1S)-1-(4-chlorophenyl)ethyl)amino-8-(3,4-difluorobenzyl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 23);
 2-((1S)-1-(4-chlorophenyl)ethyl)amino-8-[3-(trifluoromethyl)benzyl]pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 24);
 2-((1S)-1-(4-chlorophenyl)ethyl)amino-8-(2,4-difluorobenzyl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 25);
 2-((1S)-1-(4-chlorophenyl)ethyl)amino-8-[4-(trifluoromethoxy)benzyl]pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 26);
 4-[[2-((1S)-1-(4-chlorophenyl)ethyl)amino]-7-oxopyrido[2,3-d]pyrimidin-8(7H)-yl]methyl]benzonitrile (cpd 27);
 2-((1S)-1-(4-chlorophenyl)ethyl)amino-8-(4-fluorobenzyl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 28);
 2-((1S)-1-(4-chlorophenyl)ethyl)amino-8-(3,5-difluorobenzyl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 29);
 2-((1S)-1-(4-chlorophenyl)ethyl)amino-8-(3-methoxybenzyl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 30);
 2-((1S)-1-(4-chlorophenyl)ethyl)amino-8-(2,6-difluorobenzyl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 31);
 2-((1S)-1-(4-chlorophenyl)ethyl)amino-4-methyl-8-(2-methylpropyl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 32);
 8-(2,2-dimethylpropyl)-2-((1S)-1-(4-methoxyphenyl)ethyl)amino)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 33);

2-[[[(1S)-1-(4-bromophenyl)ethyl]amino]-8-(2,2-dimethylpropyl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 34);

2-[[[(1S)-1-(4-bromophenyl)ethyl]amino]-8-(3-hydroxy-2,2-dimethylpropyl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 35);

8-(2,2-dimethylpropyl)-2-[[[(1S)-1-(naphthalen-2-yl)ethyl]amino]pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 36);

methyl 2,2-dimethyl-3-[2-[[[(1S)-1-(naphthalen-2-yl)ethyl]amino]-7-oxopyrido[2,3-d]pyrimidin-8(7H)-yl]propanoate (cpd 37);

8-(3-hydroxy-2,2-dimethylpropyl)-2-[[[(1S)-1-(naphthalen-2-yl)ethyl]amino]pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 38);

8-(2,2-dimethylpropyl)-2-[[[(1R)-1-phenylethyl]amino]pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 39);

8-(2,2-dimethylpropyl)-2-[[[(1S)-1-phenylethyl]amino]pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 40);

8-(2,2-dimethylpropyl)-2-[(2-phenylpropan-2-yl)amino]pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 41);

8-(2,2-dimethylpropyl)-2-[(1-phenylcyclopropyl)amino]pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 42);

8-(2,2-dimethylpropyl)-2-[(1-phenylcyclobutyl)amino]pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 43);

8-(2,2-dimethylpropyl)-2-[[1-(tricyclo[3.3.1.1^{3,7}]dec-1-yl)ethyl]amino]pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 44);

8-[(3-methyloxetan-3-yl)methyl]-2-[[[(1S)-1-(naphthalen-2-yl)ethyl]amino]pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 45);

8-(2-hydroxy-2-methylpropyl)-2-[[[(1S)-1-phenylethyl]amino]pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 46);

8-(2,2-Dimethyl-propyl)-6-fluoro-2-((S)-1-phenyl-ethylamino)-8H-pyrido[2,3-d]pyrimidin-7-one (cpd 47);

methyl 4-[(1S)-1-[[8-(2-hydroxy-2-methylpropyl)-7-oxo-7,8-dihydropyrido[2,3-d]pyrimidin-2-yl]amino]ethyl]benzoate (cpd 48);

8-(2,2-dimethylpropyl)-2-[[[(1S)-1-(4-phenoxyphenyl)ethyl]amino]pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 49);

2-[[[(1S)-1-(6-chloro-2-oxo-quinolin-3-yl)ethyl]amino]-8-(2,2-dimethylpropyl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 50);

8-benzyl-2-[[[(1S)-1-(5-chloro-1H-benzimidazol-2-yl)ethyl]amino]pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 51);

8-benzyl-2-[[[(1S)-1-[3-(4-chlorophenyl)-1,2,4-oxadiazol-5-yl]ethyl]amino]pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 52);

2-[[[(1S)-1-[3-(4-chlorophenyl)-1,2,4-oxadiazol-5-yl]ethyl]amino]-8-(2,2-dimethylpropyl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 53);

8-(2,2-dimethylpropyl)-2-[[[(1S)-1-(4-oxo-3,4-dihydroquinazolin-2-yl)ethyl]amino]pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 54);

2-[[[(1S)-1-{4-[(4,4-difluoropiperidin-1-yl)methyl]phenyl}ethyl]amino]-8-(3-hydroxy-2,2-dimethylpropyl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 55);

4-{4-[(S)-1-[8-(3-Hydroxy-2,2-dimethyl-propyl)-7-oxo-7,8-dihydro-pyrido[2,3-d]pyrimidin-2-ylamino]-ethyl]-benzyl}-piperazine-1-carboxylic acid tert-butyl ester (cpd 56);

2-[(S)-1-[4-(3,3-Difluoro-piperidin-1-ylmethyl)-phenyl]-ethylamino]-8-(2,2-dimethyl-propyl)-6-fluoro-8H-pyrido[2,3-d]pyrimidin-7-one (cpd 57);

2-[(S)-1-[4-(3,3-Difluoro-piperidin-1-ylmethyl)-phenyl]-ethylamino]-8-(2,2-dimethyl-propyl)-6-methoxy-8H-pyrido[2,3-d]pyrimidin-7-one (cpd 58);

4-{4-[(S)-1-[8-(2,2-Dimethyl-propyl)-7-oxo-7,8-dihydro-pyrido[2,3-d]pyrimidin-2-ylamino]-ethyl]-benzyl}-piperazine-1-carboxylic acid tert-butyl ester (cpd 59);

2-[[[(1S)-1-{4-[(3,3-difluoropiperidin-1-yl)methyl]phenyl}ethyl]amino]-8-(2,2-dimethylpropyl)-5-methylpyrido[2,3-d]pyrimidin-7(8H)-one (cpd 60);

8-(butan-2-yl)-2-[[[(1S)-1-{4-[(3,3-difluoropiperidin-1-yl)methyl]phenyl}ethyl]amino]pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 61);

8-[(2S)-butan-2-yl]-2-[[[(1S)-1-{4-[(3,3-difluoropiperidin-1-yl)methyl]phenyl}ethyl]amino]pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 62);

ethyl 2-[2-[[[(1S)-1-{4-[(3,3-difluoropiperidin-1-yl)methyl]phenyl}ethyl]amino]-7-oxopyrido[2,3-d]pyrimidin-8(7H)-yl]propanoate (cpd 63);

2-[2-[[[(1S)-1-{4-[(3,3-difluoropiperidin-1-yl)methyl]phenyl}ethyl]amino]-7-oxopyrido[2,3-d]pyrimidin-8(7H)-yl]propanenitrile (cpd 64);

2-[[[(1S)-1-{4-[(3,3-difluoropiperidin-1-yl)methyl]phenyl}ethyl]amino]-8-[(2S)-3-methylbutan-2-yl]pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 65);

8-[(1S)-1-cyclohexylethyl]-2-[[[(1S)-1-{4-[(3,3-difluoropiperidin-1-yl)methyl]phenyl}ethyl]amino]pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 66);

2-[[[(1S)-1-{4-[(4,4-difluoropiperidin-1-yl)methyl]-3-fluorophenyl}ethyl]amino]-8-[(2S)-3-methylbutan-2-yl]pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 67);

2-[[[(1S)-1-[3-fluoro-4-(morpholin-4-ylmethyl)phenyl]ethyl]amino]-8-[(2S)-3-methylbutan-2-yl]pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 68);

2-[[[(1S)-1-{4-[(3,3-difluoropiperidin-1-yl)methyl]phenyl}ethyl]amino]-8-[(2S)-3,3-dimethylbutan-2-yl]pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 69);

8-(2,2-dimethylpropyl)-2-[[[(1S)-1-phenylpropyl]amino]pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 70);

2-[[[(1S)-1-(4-chlorophenyl)ethyl]amino]-8-(3-hydroxybenzyl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 71);

2-[[[(1S)-1-(4-chlorophenyl)ethyl]amino]-8-(4-hydroxybenzyl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 72);

4-[(1S)-1-[[8-(2,6-difluorobenzyl)-7-oxo-pyrido[2,3-d]pyrimidin-2-yl]amino]ethyl]benzoic acid (cpd 73);

4-[(1S)-1-[[8-(2-fluorobenzyl)-7-oxo-pyrido[2,3-d]pyrimidin-2-yl]amino]ethyl]benzoic acid (cpd 74);

4-[(1S)-1-[[8-(2,6-difluorobenzyl)-7-oxo-pyrido[2,3-d]pyrimidin-2-yl]amino]ethyl]-N-(4,4-difluorocyclohexyl)benzamide (cpd 75);

4-[(1S)-1-[[8-(2,6-difluorobenzyl)-7-oxo-pyrido[2,3-d]pyrimidin-2-yl]amino]ethyl]-N-(1-methylpiperidin-4-yl)benzamide (cpd 76);

8-(2,6-difluorobenzyl)-2-[[[(1S)-1-{4-[(4,4-difluoropiperidin-1-yl)carbonyl]phenyl}ethyl]amino]pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 77);

4-[(1S)-1-[[8-(2,6-difluorobenzyl)-7-oxo-pyrido[2,3-d]pyrimidin-2-yl]amino]ethyl]-N-(tetrahydro-2H-pyran-4-yl)benzamide (cpd 78);

N-(4,4-difluorocyclohexyl)-4-[(1S)-1-[[8-(2,2-dimethylpropyl)-7-oxo-pyrido[2,3-d]pyrimidin-2-yl]amino]ethyl]benzamide (cpd 79);

N-cyclopentyl-4-[(1S)-1-[[8-(2,2-dimethylpropyl)-7-oxo-pyrido[2,3-d]pyrimidin-2-yl]amino]ethyl]benzamide (cpd 80);

N-cyclohexyl-4-[(1S)-1-[[8-(2,2-dimethylpropyl)-7-oxo-pyrido[2,3-d]pyrimidin-2-yl]amino]ethyl]benzamide (cpd 81);

2-chloro-N-(4,4-difluorocyclohexyl)-4-(1-[[8-(2,2-dimethylpropyl)-7-oxo-pyrido[2,3-d]pyrimidin-2-yl]amino]ethyl)benzamide (cpd 82);

2-((1S)-1-{4-[(4,4-difluoropiperidin-1-yl)carbonyl]phenyl}ethyl)amino)-8-(2,2-dimethylpropyl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 83);

N-(4,4-difluorocyclohexyl)-4-{1-[[8-(2,2-dimethylpropyl)-7-oxo-pyrido[2,3-d]pyrimidin-2-yl]amino}ethyl)-2-fluorobenzamide (cpd 84);

N-(3,3-difluorocyclobutyl)-4-[(1S)-1-[[8-(2,2-dimethylpropyl)-7-oxo-pyrido[2,3-d]pyrimidin-2-yl]amino}ethyl]benzamide (cpd 85);

4-[(1S)-1-[[8-(2,2-dimethylpropyl)-7-oxo-pyrido[2,3-d]pyrimidin-2-yl]amino}ethyl]benzamide (cpd 86);

8-(2,2-dimethylpropyl)-2-((1S)-1-{4-[(4-hydroxypiperidin-1-yl)carbonyl]phenyl}ethyl)amino)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 87);

2-chloro-N-(4,4-difluorocyclohexyl)-4-[(1S)-1-[[8-(2,2-dimethylpropyl)-7-oxo-7,8-dihydropyrido[2,3-d]pyrimidin-2-yl]amino}ethyl]benzamide (cpd 88);

N-(4,4-difluorocyclohexyl)-4-[(1S)-1-[[8-(2,2-dimethylpropyl)-7-oxo-7,8-dihydropyrido[2,3-d]pyrimidin-2-yl]amino}ethyl]-2-fluorobenzamide (cpd 89);

8-(2,2-dimethylpropyl)-2-((1S)-1-[3-fluoro-4-(hydroxymethyl)phenyl]ethyl)amino)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 90);

2-((1S)-1-[4-(hydroxymethyl)phenyl]ethyl)amino)-8-(2-methylpropyl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 91);

8-(2,6-difluorobenzyl)-2-((1S)-1-[4-(hydroxymethyl)phenyl]ethyl)amino)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 92);

2-((1S)-1-[4-(hydroxymethyl)phenyl]ethyl)amino)-8-(2-hydroxy-2-methylpropyl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 93);

2-((1S)-1-{4-[(4,4-difluoropiperidin-1-yl)methyl]-3-fluorophenyl}ethyl)amino)-8-(2,2-dimethylpropyl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 94);

2-((1S)-1-{4-[(4,4-difluoropiperidin-1-yl)methyl]phenyl}ethyl)amino)-8-(2-methylpropyl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 95);

8-benzyl-2-[(1-{4-[(4,4-difluoropiperidin-1-yl)methyl]phenyl}ethyl)amino]pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 96);

2-[(1-{4-[(4,4-difluoropiperidin-1-yl)methyl]phenyl}ethyl)amino]-8-(2-fluorobenzyl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 97);

8-(2,6-difluorobenzyl)-2-[(1-{4-[(4,4-difluoropiperidin-1-yl)methyl]phenyl}ethyl)amino]pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 98);

8-(2,6-difluorobenzyl)-2-((1S)-1-{4-[(4,4-difluoropiperidin-1-yl)methyl]phenyl}ethyl)amino)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 99);

2-[(1-{4-[(4,4-difluoropiperidin-1-yl)methyl]phenyl}ethyl)amino]-8-(2-fluoroethyl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 100);

2-((1S)-1-{4-[(4,4-difluoropiperidin-1-yl)methyl]phenyl}ethyl)amino)-8-propylpyrido[2,3-d]pyrimidin-7(8H)-one (cpd 101);

2-((1S)-1-[4-(azepan-1-ylmethyl)phenyl]ethyl)amino)-8-propylpyrido[2,3-d]pyrimidin-7(8H)-one (cpd 102);

2-((1S)-1-{4-[(4-acetyl)piperazin-1-yl)methyl]phenyl}ethyl)amino)-8-propylpyrido[2,3-d]pyrimidin-7(8H)-one (cpd 103);

2-((1S)-1-{4-[(4,4-difluoropiperidin-1-yl)methyl]phenyl}ethyl)amino)-8-(2-methylpropyl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 104);

2-[[[(1S)-1-{4-[(4,4-difluoropiperidin-1-yl)methyl]phenyl}ethyl]amino]-8-(2,2-dimethylpropyl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 105);

2-[[[(1S)-1-{4-[(4,4-difluoropiperidin-1-yl)methyl]phenyl}ethyl]amino]-8-(2,2,2-trifluoroethyl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 106);

8-[2,3-difluoro-2-(fluoromethyl)propyl]-2-[[[(1S)-1-{4-[(4,4-difluoropiperidin-1-yl)methyl]phenyl}ethyl]amino]pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 107);

2-[[[(1S)-1-{4-[(4,4-difluoropiperidin-1-yl)methyl]phenyl}ethyl]amino]-8-[3,3,3-trifluoro-2-(trifluoromethyl)propyl]pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 108);

8-(cyclobutylmethyl)-2-[[[(1S)-1-{4-[(4,4-difluoropiperidin-1-yl)methyl]phenyl}ethyl]amino]pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 109);

8-(2,2-dimethylpropyl)-2-[[[(1S)-1-{4-(morpholin-4-ylmethyl)phenyl}ethyl]amino]pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 110);

8-(2,2-dimethylpropyl)-2-[[[(1S)-1-{4-(pyrrolidin-1-ylmethyl)phenyl}ethyl]amino]pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 111);

2-[[[(1S)-1-{4-[(4,4-difluoropiperidin-1-yl)methyl]phenyl}ethyl]amino]-8-(2-methylbenzyl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 112);

8-(cyclohexylmethyl)-2-[[[(1S)-1-{4-[(4,4-difluoropiperidin-1-yl)methyl]phenyl}ethyl]amino]pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 113);

2-[[[(1S)-1-{4-[(4,4-difluoropiperidin-1-yl)methyl]phenyl}ethyl]amino]-8-(2-methoxyethyl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 114);

2-[[[(1S)-1-{4-[(4,4-difluoropiperidin-1-yl)methyl]phenyl}ethyl]amino]-8-[4-fluoro-2-(trifluoromethyl)benzyl]pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 115);

2-[[[(1S)-1-{4-[(4,4-difluoropiperidin-1-yl)methyl]phenyl}ethyl]amino]-8-(3,3,3-trifluoro-2,2-dimethylpropyl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 116);

2-[[[(1S)-1-{4-[(3,3-difluoropiperidin-1-yl)methyl]phenyl}ethyl]amino]-8-(2,2-dimethylpropyl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 117);

2-[[[(1S)-1-{4-[(4,4-difluoropiperidin-1-yl)methyl]phenyl}ethyl]amino]-4-methyl-8-(2-methylpropyl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 118);

2-[[[(1S)-1-{4-[(4,4-difluoropiperidin-1-yl)methyl]phenyl}ethyl]amino]-8-(2-hydroxy-2-methylpropyl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 119);

2-[[[(1S)-1-{4-[(4,4-difluoropiperidin-1-yl)methyl]phenyl}ethyl]amino]-8-[2-(hydroxymethyl)-2-methylpentyl]pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 120);

2,2-dimethyl-3-[2-[[[(1S)-1-(naphthalen-2-yl)ethyl]amino]-7-oxopyrido[2,3-d]pyrimidin-8(7H)-yl]propanoic acid (cpd 121);

2,2-dimethyl-3-[2-[[[(1S)-1-(naphthalen-2-yl)ethyl]amino]-7-oxopyrido[2,3-d]pyrimidin-8(7H)-yl]propanamide (cpd 122);

N,2,2-trimethyl-3-[7-oxo-2-[[[(1S)-1-phenylethyl]amino]pyrido[2,3-d]pyrimidin-8(7H)-yl]propanamide (cpd 123);

N,N,2,2-tetramethyl-3-[7-oxo-2-[[[(1S)-1-phenylethyl]amino]pyrido[2,3-d]pyrimidin-8(7H)-yl]propanamide (cpd 124);

2,2-dimethyl-N-(3-methylphenyl)-3-[7-oxo-2-(((1S)-1-phenylethyl)amino)pyrido[2,3-d]pyrimidin-8(7H)-yl]propanamide (cpd 125);

N-(2-hydroxyethyl)-2,2-dimethyl-3-[7-oxo-2-(((1S)-1-phenylethyl)amino)pyrido[2,3-d]pyrimidin-8(7H)-yl]propanamide (cpd 126);

N-(3-hydroxypropyl)-2,2-dimethyl-3-[7-oxo-2-(((1S)-1-phenylethyl)amino)pyrido[2,3-d]pyrimidin-8(7H)-yl]propanamide (cpd 127);

N-[3-(1-hydroxyethyl)phenyl]-2,2-dimethyl-3-[7-oxo-2-(((1S)-1-phenylethyl)amino)pyrido[2,3-d]pyrimidin-8(7H)-yl]propanamide (cpd 128);

2,2-dimethyl-3-[2-(((1S)-1-(naphthalen-2-yl)ethyl)amino)-7-oxopyrido[2,3-d]pyrimidin-8(7H)-yl]propanenitrile (cpd 129);

8-(2,2-dimethylpropyl)-2-(((1S)-1-[4-(1-methyl-1H-pyrazol-4-yl)phenyl]ethyl)amino)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 130);

8-(2,2-dimethylpropyl)-2-(((1S)-1-[4-(pyridin-4-yl)phenyl]ethyl)amino)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 131);

8-(2,2-dimethylpropyl)-2-(((1S)-1-[4-(2-fluoropyridin-4-yl)phenyl]ethyl)amino)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 132);

8-(2,2-dimethylpropyl)-2-(((1S)-1-[4-(thiophen-3-yl)phenyl]ethyl)amino)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 133);

4'-(((1S)-1-[[8-(2,2-dimethylpropyl)-7-oxo-7,8-dihydropyrido[2,3-d]pyrimidin-2-yl]amino]ethyl)biphenyl-2-carbonitrile (cpd 134);

8-(3-hydroxy-2,2-dimethylpropyl)-2-(((1S)-1-[4-(1-methyl-1H-pyrazol-4-yl)phenyl]ethyl)amino)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 135);

8-(3-hydroxy-2,2-dimethylpropyl)-2-(((1S)-1-[4-(thiophen-3-yl)phenyl]ethyl)amino)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 136);

8-(2,2-dimethylpropyl)-2-(((1S)-1-[4-(methylsulfonyl)phenyl]ethyl)amino)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 137);

8-(2,2-dimethylpropyl)-2-(((1S)-1-[4-(piperazin-1-ylmethyl)phenyl]ethyl)amino)pyrido[2,3-d]pyrimidin-7(8H)-one dihydrochloride (cpd 138);

2-(((1S)-1-[4-((4-acryloylpiperazin-1-yl)methyl)phenyl]ethyl)amino)-8-(2,2-dimethylpropyl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 139);

2-(((1S)-1-[4-((4-acryloylpiperazin-1-yl)methyl)phenyl]ethyl)amino)-8-(3-hydroxy-2,2-dimethylpropyl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 140);

2-(((1S)-1-[4-((4-acryloylpiperazin-1-yl)methyl)-3-fluorophenyl]ethyl)amino)-8-(2,2-dimethylpropyl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 141);

2-(((1S)-1-[4-((4-acryloylpiperazin-1-yl)carbonyl)phenyl]ethyl)amino)-8-(2,2-dimethylpropyl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 142);

2-(((1S)-1-[4-((4-((2E)-but-2-enoyl)piperazin-1-yl)methyl)phenyl]ethyl)amino)-8-(2,2-dimethylpropyl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 143);

8-(2,2-dimethylpropyl)-2-(((1S)-1-[4-((4-(2-methylacryloyl)piperazin-1-yl)methyl)phenyl]ethyl)amino)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 144);

8-(2,2-Dimethyl-propyl)-2-[(S)-1-(4-hydroxy-phenyl)-ethylamino]-8H-pyrido[2,3-d]pyrimidin-7-one (cpd 145);

4-(4-((S)-1-[8-((S)-1,2-Dimethyl-propyl)-7-oxo-7,8-dihydro-pyrido[2,3-d]pyrimidin-2-ylamino]-ethyl)-phenoxy)-piperidine-1-carboxylic acid benzyl ester (cpd 146);

2-(((1S)-1-{4-[(3,3-difluoroazetidin-1-yl)methyl]phenyl}ethyl)amino)-8-(2,2-dimethylpropyl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 147);

2-(((1S)-1-{4-[(3,3-difluoropyrrolidin-1-yl)methyl]phenyl}ethyl)amino)-8-(2,2-dimethylpropyl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 148);

8-[(2R)-butan-2-yl]-2-(((1S)-1-{4-[(3,3-difluoropiperidin-1-yl)methyl]phenyl}ethyl)amino)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 149);

2-(((1S)-1-{4-[(2R,6S)-2,6-dimethylmorpholin-4-yl]methyl}-3-fluorophenyl)ethyl)amino)-8-[(2S)-3-methylbutan-2-yl]pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 150);

2-(((1S)-1-{4-[(2R,6S)-2,6-dimethylmorpholin-4-yl]methyl}-2-fluorophenyl)ethyl)amino)-8-(2,2-dimethylpropyl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 151);

2-(((1S)-1-{4-[(4,4-difluoropiperidin-1-yl)methyl]-2-fluorophenyl}ethyl)amino)-8-(2,2-dimethylpropyl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 152);

8-(2,2-dimethylpropyl)-2-(((1S)-1-[2-fluoro-4-(morpholin-4-ylmethyl)phenyl]ethyl)amino)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 153);

4-(4-((S)-1-[8-(2,2-Dimethyl-propyl)-7-oxo-7,8-dihydro-pyrido[2,3-d]pyrimidin-2-ylamino]-ethyl)-phenoxy)-piperidine-1-carboxylic acid tert-butyl ester (cpd 154);

8-((S)-1,2-Dimethyl-propyl)-2-((S)-1-[4-(piperidin-4-yloxy)-phenyl]-ethylamino)-8H-pyrido[2,3-d]pyrimidin-7-one (cpd 155);

2-((S)-1-[4-(1-Acryloyl-piperidin-4-yloxy)-phenyl]-ethylamino)-8-(2,2-dimethyl-propyl)-8H-pyrido[2,3-d]pyrimidin-7-one (cpd 156);

8-(2,2-dimethylpropyl)-2-(((1S)-1-{4-[(2-methylpropanoyl)piperazin-1-yl]methyl}phenyl)ethyl)amino)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 157);

2-(((1S)-1-{4-[(4-(cyclopropylcarbonyl)piperazin-1-yl]methyl}phenyl)ethyl)amino)-8-(2,2-dimethylpropyl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 158);

2-((S)-1-[4-(1-Acryloyl-piperidin-4-yloxy)-phenyl]-ethylamino)-8-((S)-1,2-dimethyl-propyl)-8H-pyrido[2,3-d]pyrimidin-7-one (cpd 159);

8-((S)-1,2-Dimethyl-propyl)-2-((S)-1-[4-(1-isobutyryl-piperidin-4-yloxy)-phenyl]-ethylamino)-8H-pyrido[2,3-d]pyrimidin-7-one (cpd 160);

2-((S)-1-[4-(4-Acryloyl-piperazin-1-ylmethyl)-phenyl]-ethylamino)-8-((S)-1,2-dimethyl-propyl)-8H-pyrido[2,3-d]pyrimidin-7-one (cpd 161);

8-((S)-1,2-Dimethyl-propyl)-2-((S)-1-{4-[(2-methyl-acryloyl)-piperazin-1-ylmethyl]-phenyl}-ethylamino)-8H-pyrido[2,3-d]pyrimidin-7-one (cpd 162);

2-(((1S)-1-{4-bromophenyl}ethyl)amino)-8-[(2S)-3-methylbutan-2-yl]pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 163);

2-(((1S)-1-{4-[(2R,6S)-2,6-dimethylmorpholin-4-yl]methyl}phenyl)ethyl)amino)-8-[(2S)-1,1,1-trifluoropropan-2-yl]pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 164);

4'-[[(1S)-1-[(8-[(2S)-3-methylbutan-2-yl]-7-oxo-7,8-dihydropyrido[2,3-d]pyrimidin-2-yl)amino)ethyl]biphenyl-2-carbonitrile (cpd 165);

2-([(1S)-1-[4-(2-fluoropyridin-4-yl)phenyl]ethyl]amino)-8-[(2S)-3-methylbutan-2-yl]pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 166);

tert-butyl 4-[4-[(1S)-1-[(8-[(2S)-3-methylbutan-2-yl]-7-oxo-7,8-dihydropyrido[2,3-d]pyrimidin-2-yl)amino)ethyl]phenyl]-3,6-dihydropyridine-1(2H)-carboxylate (cpd 167);

2-([(1S)-1-[4-(1-acryloyl-1,2,3,6-tetrahydropyridin-4-yl)phenyl]ethyl]amino)-8-[(2S)-3-methylbutan-2-yl]pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 168);

2-([(1S)-1-[4-[(4-acryloylpiperazin-1-yl)methyl]phenyl]ethyl]amino)-8-[(2S)-1,1,1-trifluoropropan-2-yl]pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 169);

2-([(1S)-1-[4-[(3,3-difluoropiperidin-1-yl)methyl]phenyl]ethyl]amino)-8-(propan-2-yl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 170);

8-[(1S)-1-cyclopropylethyl]-2-([(1S)-1-[4-[(2R,6S)-2,6-dimethylmorpholin-4-yl]methyl]-3-fluorophenyl]ethyl] amino)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 171);

2-([(1S)-1-(6-chloro-2-oxo-1,2-dihydroquinolin-3-yl)ethyl]amino)-8-[(2S)-3-methylbutan-2-yl]pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 172);

8-[(2S)-3-methylbutan-2-yl]-2-([(1S)-1-[4-(morpholin-4-yl)phenyl]ethyl]amino)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 173);

benzyl 4-[4-[(1S)-1-[(8-[(2S)-3-methylbutan-2-yl]-7-oxo-7,8-dihydropyrido[2,3-d]pyrimidin-2-yl)amino)ethyl]phenyl]piperazine-1-carboxylate (cpd 174);

2-([(1S)-1-[4-(4-acryloylpiperazin-1-yl)phenyl]ethyl]amino)-8-[(2S)-3-methylbutan-2-yl]pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 175);

8-[(2S)-3-methylbutan-2-yl]-2-([(1S)-1-[4-(piperazin-1-yl)phenyl]ethyl]amino)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 176);

2-([(1S)-1-[4-(4-ethylpiperazin-1-yl)phenyl]ethyl]amino)-8-[(2S)-3-methylbutan-2-yl]pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 177);

benzyl 4-[2-fluoro-4-[(1S)-1-[(8-[(2S)-3-methylbutan-2-yl]-7-oxo-7,8-dihydropyrido[2,3-d]pyrimidin-2-yl)amino)ethyl]phenyl]piperazine-1-carboxylate (cpd 178);

2-([(1S)-1-[4-(4-acryloylpiperazin-1-yl)-3-fluorophenyl]ethyl]amino)-8-[(2S)-3-methylbutan-2-yl]pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 179);

8-[(2S)-3-methylbutan-2-yl]-2-([(1S)-1-[6-(piperazin-1-yl)pyridin-3-yl]ethyl]amino)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 180);

2-([(1S)-1-[6-(4-acryloylpiperazin-1-yl)pyridin-3-yl]ethyl]amino)-8-[(2S)-3-methylbutan-2-yl]pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 181);

2-([(1S)-1-[4-[(4-acryloylpiperazin-1-yl)methyl]phenyl]ethyl]amino)-8-(2-azidoethyl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 182);

2-([(1S)-1-[4-[(4-acryloylpiperazin-1-yl)methyl]-3-fluorophenyl]ethyl]amino)-8-(propan-2-yl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 183);

2-[[[(1S)-1-{4-[(4-acryloylpiperazin-1-yl)methyl]phenyl}ethyl]amino]-8-(propan-2-yl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 184);

tert-butyl 4-{4-[(1S)-1-[(8-ethyl-7-oxo-7,8-dihydropyrido[2,3-d]pyrimidin-2-yl)amino]ethyl}benzyl}piperazine-1-carboxylate (cpd 185);

2-[[[(1S)-1-{4-[(4-acryloylpiperazin-1-yl)methyl]phenyl}ethyl]amino]-8-ethylpyrido[2,3-d]pyrimidin-7(8H)-one (cpd 186);

2-[[[(1S)-1-{4-[1-(4-acryloylpiperazin-1-yl)propyl]phenyl}ethyl]amino]-8-(propan-2-yl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 187);

8-[(2S)-3-methylbutan-2-yl]-2-[[[(1S)-1-{4-[(4-methyl-3-oxopiperazin-1-yl)methyl]phenyl}ethyl]amino]pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 188);

tert-butyl 4-{4-[(1S)-1-[(8-ethyl-7-oxo-7,8-dihydropyrido[2,3-d]pyrimidin-2-yl)amino]ethyl}benzoyl}piperazine-1-carboxylate (cpd 189);

2-[[[(1S)-1-{4-[(4-acryloylpiperazin-1-yl)carbonyl]phenyl}ethyl]amino]-8-ethylpyrido[2,3-d]pyrimidin-7(8H)-one (cpd 190);

2-[[[(1S)-1-{4-[(4-acryloylpiperazin-1-yl)carbonyl]-3-fluorophenyl}ethyl]amino]-8-[(2S)-3-methylbutan-2-yl]pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 191);

N-(1-acryloylpiperidin-4-yl)-2-fluoro-4-[(1S)-1-[[7-oxo-8-(propan-2-yl)-7,8-dihydropyrido[2,3-d]pyrimidin-2-yl] amino]ethyl]benzamide (cpd192);

tert-butyl 6-[(1S)-1-[(8-[(2S)-3-methylbutan-2-yl]-7-oxo-7,8-dihydropyrido[2,3-d]pyrimidin-2-yl)amino)ethyl]-3',6'-dihydro-3,4'-bipyridine-1'(2'H)-carboxylate (cps 193);

2-[[[(1S)-1-(1'-acryloyl-1',2',3',6'-tetrahydro-3,4'-bipyridin-6-yl)ethyl]amino]-8-[(2S)-3-methylbutan-2-yl]pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 194);

2-[[[(1S)-1-[1'-(cyclopropylcarbonyl)-1',2',3',6'-tetrahydro-3,4'-bipyridin-6-yl]ethyl]amino]-8-[(2S)-3-methylbutan-2-yl]pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 195);

8-[(2S)-3-methylbutan-2-yl]-2-[[[(1S)-1-[2'-(trifluoromethyl)-3,4'-bipyridin-6-yl]ethyl]amino]pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 196);

2-[[[(1S)-1-(2'-fluoro-3,4'-bipyridin-6-yl)ethyl]amino]-8-[(2S)-3-methylbutan-2-yl]pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 197);

2-[[[(1S)-1-{4-[(4-acryloylpiperazin-1-yl)methyl]phenyl}ethyl]amino]-8-[(2S)-1-fluoropropan-2-yl]pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 198);

2-[[[(1S)-1-{4-[(4-acryloylpiperazin-1-yl)methyl]phenyl}ethyl]amino]-8-[(2S)-1-hydroxypropan-2-yl]pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 199);

tert-butyl 4-{4-[(1S)-1-[(4-cyano-8-(2,2-dimethylpropyl)-7-oxo-7,8-dihydropyrido[2,3-d]pyrimidin-2-yl] amino]ethyl}benzyl}piperazine-1-carboxylate (cpd 200);

2-[[[(1S)-1-{4-[(4-acryloylpiperazin-1-yl)methyl]phenyl}ethyl]amino]-8-(2,2-dimethylpropyl)-4-ethoxypyrido[2,3-d]pyrimidin-7(8H)-one (cpd 201);

2-[[[(1S)-1-{4-[(4-acryloylpiperazin-1-yl)methyl]phenyl}ethyl]amino]-8-(2,2-dimethylpropyl)-4-(methylamino)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 202);

2-[[[(1S)-1-{4-[(4-acryloylpiperazin-1-yl)methyl]phenyl}ethyl]amino]-4-(dimethylamino)-8-(propan-2-yl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 203);

2-[[[(1S)-1-{4-[(4-acryloylpiperazin-1-yl)methyl]phenyl}ethyl]amino]-7-oxo-8-(propan-2-yl)-7,8-dihydropyrido[2,3-d]pyrimidine-4-carbonitrile (cpd 204);

2-[[[(1S)-1-{4-[(4-acryloylpiperazin-1-yl)methyl]phenyl}ethyl]amino]-4-[(2,4-dimethoxybenzyl)amino]-8-(propan-2-yl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 205);

2-[[[(1S)-1-{4-[(4-acryloylpiperazin-1-yl)methyl]phenyl}ethyl]amino]-4-amino-8-(propan-2-yl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 206);

2-[[[(1S)-1-{4-[[[(2R)-4-acryloyl-2-methylpiperazin-1-yl]methyl]phenyl}ethyl]amino]-8-ethylpyrido[2,3-d]pyrimidin-7(8H)-one (cpd 207);

2-[[[(1S)-1-{4-[[[(3R)-4-acryloyl-3-methylpiperazin-1-yl]methyl]phenyl}ethyl]amino]-8-ethylpyrido[2,3-d]pyrimidin-7(8H)-one (cpd 208);

2-[[[(1S)-1-{4-[[[(2R)-4-acryloyl-2-(propan-2-yl)piperazin-1-yl]methyl]phenyl}ethyl]amino]-8-ethylpyrido[2,3-d]pyrimidin-7(8H)-one (cpd 209);

2-[[[(1S)-1-{4-[[[(2S)-4-acryloyl-2-methylpiperazin-1-yl]methyl]phenyl}ethyl]amino]-8-ethylpyrido[2,3-d]pyrimidin-7(8H)-one (cpd 210);

2-[[[(1S)-1-{4-[[[(3S)-4-acryloyl-3-methylpiperazin-1-yl]methyl]phenyl}ethyl]amino]-8-ethylpyrido[2,3-d]pyrimidin-7(8H)-one (cpd 211);

2-[[[(1S)-1-{4-[[[(2S)-4-acryloyl-2-(propan-2-yl)piperazin-1-yl]methyl]phenyl}ethyl]amino]-8-ethylpyrido[2,3-d]pyrimidin-7(8H)-one (cpd 212);

2-[[[(1S)-1-{6-[(4-acryloylpiperazin-1-yl)methyl]pyridin-3-yl}ethyl]amino]-8-(propan-2-yl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 213);

2-[[[(1S)-1-{4-[1-(4-acryloylpiperazin-1-yl)propyl]phenyl}ethyl]amino]-8-ethylpyrido[2,3-d]pyrimidin-7(8H)-one (cpd 214);

2-[[[(1S)-1-{4-[1-(4-acryloylpiperazin-1-yl)propyl]phenyl}ethyl]amino]-8-methylpyrido[2,3-d]pyrimidin-7(8H)-one (cpd 215);

2-[[[(1S)-1-{4-[1-(4-acryloylpiperazin-1-yl)propyl]phenyl}ethyl]amino]-8-(2,6-difluorobenzyl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 216);

2-[[[(1S)-1-{4-[(4-acryloylpiperazin-1-yl)methyl]phenyl}ethyl]amino]-8-(4-ethynyl-2-fluorobenzyl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 217);

2-[[[(1S)-1-{4-[1-(4-acryloylpiperazin-1-yl)propyl]phenyl}ethyl]amino]-8-cyclopropylpyrido[2,3-d]pyrimidin-7(8H)-one (cpd 218);

2-[[[(1S)-1-{4-[1-(4-acryloylpiperazin-1-yl)-2-cyclopropylethyl]phenyl}ethyl]amino]-8-ethylpyrido[2,3-d]pyrimidin-7(8H)-one (cpd 219);

2-[[[(1S)-1-{4-[1-(4-acryloylpiperazin-1-yl)-2-cyclopropylethyl]phenyl}ethyl]amino]-8-(propan-2-yl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 220);

2-[[[(1S)-1-{4-[1-[4-(2-methylacryloyl)piperazin-1-yl]propyl]phenyl}ethyl]amino]-8-(propan-2-yl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 221);

2-(((1S)-1-[4-(1-[4-[(2E)-but-2-enoyl]piperazin-1-yl)propyl]phenyl)ethyl]amino)-8-(propan-2-yl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 222);

2-(((1S)-1-[4-(((3R)-1-acryloylpyrrolidin-3-yl)oxy)phenyl)ethyl]amino)-8-ethylpyrido[2,3-d]pyrimidin-7(8H)-one (cpd 223);

2-(((1S)-1-[4-(((3S)-1-acryloylpyrrolidin-3-yl)oxy)phenyl)ethyl]amino)-8-ethylpyrido[2,3-d]pyrimidin-7(8H)-one (cpd 224);

phenyl 4-[(1S)-1-[4-[(1S)-1-[[7-oxo-8-(propan-2-yl)-7,8-dihydropyrido[2,3-d]pyrimidin-2-yl]amino]ethyl]phenyl] propyl] piperazine-1-carboxylate (cpd 225);

phenyl 4-[(1R)-1-[4-[(1S)-1-[[7-oxo-8-(propan-2-yl)-7,8-dihydropyrido[2,3-d]pyrimidin-2-yl]amino]ethyl]phenyl]propyl] piperazine-1-carboxylate (cpd 226);

2-(((1S)-1-[4-[(1S)-1-(4-acryloylpiperazin-1-yl)propyl]phenyl)ethyl]amino)-8-(propan-2-yl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 227);

2-(((1S)-1-[4-[(1R)-1-(4-acryloylpiperazin-1-yl)propyl]phenyl)ethyl]amino)-8-(propan-2-yl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 228);

2-(((1R)-1-[4-[(1R)-1-(4-acryloylpiperazin-1-yl)propyl]phenyl)ethyl]amino)-8-(propan-2-yl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 229);

2-(((1S)-1-[4-[(1S)-1-(4-acryloylpiperazin-1-yl)-2-cyclopropylethyl]phenyl)ethyl]amino)-8-(propan-2-yl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 230);

2-(((1S)-1-[4-[(1R)-1-(4-acryloylpiperazin-1-yl)-2-cyclopropylethyl]phenyl)ethyl]amino)-8-(propan-2-yl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 231);

4-{4-[(S)-1-(1-Ethyl-2-oxo-1,2-dihydro-[1,6]naphthyridin-7-ylamino)-ethyl]-benzyl}-piperazine-1-carboxylic acid tert-butyl ester (cpd 232);

4-(1-{4-[(S)-1-(1-Ethyl-2-oxo-1,2-dihydro-[1,6]naphthyridin-7-ylamino)-ethyl]-phenyl}-propyl)-piperazine-1-carboxylic acid tert-butyl ester (cpd 233);

4-((S)-1-[4-((S)-1-(1-Ethyl-2-oxo-1,2-dihydro-[1,6]naphthyridin-7-ylamino)-ethyl)-phenyl]-propyl)-piperazine-1-carboxylic acid phenyl ester (cpd 234);

7-((S)-1-[4-(3,3-Difluoro-piperidin-1-ylmethyl)-phenyl]-ethylamino)-1-(2,2-dimethyl-propyl)-1H-[1,6]naphthyridin-2-one (cpd 235);

7-((S)-1-[4-(4-Acryloyl-piperazin-1-ylmethyl)-phenyl]-ethylamino)-1-ethyl-1H-[1,6]naphthyridin-2-one (cpd 236);

7-((S)-1-[4-[1-(4-Acryloyl-piperazin-1-yl)-propyl]-phenyl]-ethylamino)-1-ethyl-1H-[1,6]naphthyridin-2-one (cpd 237);

7-((S)-1-[4-((S)-1-(4-Acryloyl-piperazin-1-yl)-propyl)-phenyl]-ethylamino)-1-ethyl-1H-[1,6]naphthyridin-2-one (cpd 238);

7-(((1S)-1-[4-[(1S)-1-(4-acryloylpiperazin-1-yl)propyl]phenyl)ethyl]amino)-1-(propan-2-yl)-1,6-naphthyridin-2(1H)-one (cpd 239);

2-(((1S)-1-[4-[1-(4-propanoylpiperazin-1-yl)propyl]phenyl)ethyl]amino)-8-(propan-2-yl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 240);

1-acryloyl-4-{4-[(1S)-1-[[7-oxo-8-(propan-2-yl)-7,8-dihydropyrido[2,3-d]pyrimidin-2-yl]amino]ethyl]phenyl}piperidine-4-carbonitrile (cpd 241);

2-[[[(1S)-1-(4-{[(1S)-1-[4-(3-chloropropanoyl)piperazin-1-yl]-2-cyclopropylethyl]phenyl)ethyl]amino}-8-(propan-2-yl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 242);

2-[[[(1S)-1-(4-{[(1R)-1-[4-(3-hydroxypropanoyl)piperazin-1-yl]propyl]phenyl)ethyl]amino}-8-(propan-2-yl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 243);

2-[[[(1-{4-[1-(4-acryloylpiperazin-1-yl)-2-cyclopropylethyl]phenyl}cyclopropyl)amino]-8-(propan-2-yl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 244);

2-[[[(1-{4-[[(1R)-1-(4-acryloylpiperazin-1-yl)-2-cyclopropylethyl]phenyl}cyclopropyl)amino]-8-(propan-2-yl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 245);

2-[[[(1-{4-[[(1S)-1-(4-acryloylpiperazin-1-yl)-2-cyclopropylethyl]phenyl}cyclopropyl)amino]-8-(propan-2-yl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 246);

2-[[[(1-{4-[1-(4-acryloylpiperazin-1-yl)propyl]phenyl}cyclopropyl)amino]-8-(propan-2-yl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 247);

2-[[[(1-{4-[[(1R)-1-(4-acryloylpiperazin-1-yl)propyl]phenyl}cyclopropyl)amino]-8-(propan-2-yl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 248);

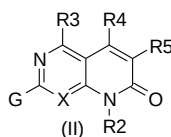
2-[[[(1-{4-[[(1S)-1-(4-acryloylpiperazin-1-yl)propyl]phenyl}cyclopropyl)amino]-8-(propan-2-yl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 249);

2-[[[(1S)-1-(4-{[(2E)-pent-2-en-3-yl]phenyl}ethyl]amino}-8-(propan-2-yl)pyrido[2,3-d]pyrimidin-7(8H)-one (cpd 250); and

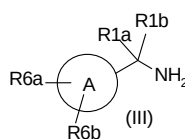
7-[[[(1S)-1-(4-{[(1S)-1-(4-acryloylpiperazin-1-yl)-2-cyclopropylethyl]phenyl)ethyl]amino]-1-(propan-2-yl)-1,6-naphthyridin-2(1H)-one (cpd 251).

6. A process for the preparation of a compound of formula (I) or a pharmaceutical acceptable salt thereof, as defined in claim 1, said process comprises the following steps:

Step 1a) reacting a compound of formula (II):



wherein G is chloro, MeS(O)_2^- , or MeS(O)^- ; R2 is an optionally substituted group selected from straight or branched $(\text{C}_1\text{-C}_6)\text{alkyl}$, $(\text{C}_3\text{-C}_6)\text{cycloalkyl-(C}_1\text{-C}_6)\text{alkyl}$, $\text{aryl-(C}_1\text{-C}_6)\text{alkyl}$, and $\text{heterocyclyl-(C}_1\text{-C}_6)\text{alkyl}$; X is nitrogen or $-\text{CH}-$, R3 is hydrogen, chloro, cyano, CONH_2 , NH_2 , $\text{NR}_{13}\text{R}_{13a}$, OR12, or an optionally substituted group selected from straight or branched $(\text{C}_1\text{-C}_6)\text{alkyl}$, $(\text{C}_3\text{-C}_6)\text{cycloalkyl-(C}_1\text{-C}_6)\text{alkyl}$, aryl and heteroaryl ; R4 is hydrogen or an optionally substituted straight or branched $(\text{C}_1\text{-C}_6)\text{alkyl}$; R5 is hydrogen, fluoro, cyano, an optionally substituted straight or branched $(\text{C}_1\text{-C}_6)\text{alkyl}$ or OR12, wherein R12 is an optionally substituted straight or branched $(\text{C}_1\text{-C}_6)\text{alkyl}$ and R13, R13a are each independently selected from hydrogen or optionally substituted straight or branched $(\text{C}_1\text{-C}_6)\text{alkyl}$; with a compound of formula (III):

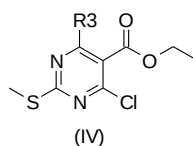


wherein R1a is hydrogen or an optionally substituted straight or branched (C₁-C₆)alkyl; R1b is an optionally substituted (C₁-C₆)alkyl, or together with the atom to which they are bound, R1a and R1b may form a (C₃-C₆)cycloalkyl; A is a (C₃-C₆) cycloalkyl, aryl or heteroaryl; R6a and R6b are each independently selected from hydrogen, halogen, cyano, an optionally substituted straight or branched (C₁-C₆)alkyl, (C₃-C₆)cycloalkyl, cycloalkyl-alkyl, (C₂-C₆)alkenyl, (C₂-C₆)alkynyl, aryl, heteroaryl, heterocyclyl, -OR7, NR7R8, -COOR7, -SO₂R7, -CONR7R8 -CH(R14)OR7, and -CH(R14)NR7R8 wherein R14 is hydrogen or an optionally substituted straight or branched (C₁-C₆)alkyl and R7 and R8 are each independently hydrogen or a group selected from an optionally substituted straight or branched (C₁-C₆)alkyl, (C₃-C₆)cycloalkyl, aryl, heteroaryl, heterocyclyl, aryl-alkyl, heteroaryl-alkyl, heterocyclyl-alkyl, heterocyclyl-C(O)-alkyl, heterocyclyl-C(O)-alkenyl, heterocyclyl-C(O)-alkynyl or, together with the nitrogen atom to which they are bound, R7 and R8 form a 5- to 7-membered heteroaryl or heterocyclyl group optionally containing one additional heteroatom selected from O, S and NR9; wherein R9 is hydrogen, an optionally substituted straight or branched (C₁-C₆)alkyl, -COOR10 or -COR11; wherein R10 is hydrogen or an optionally substituted straight or branched (C₁-C₆)alkyl; R11 is an optionally substituted straight or branched (C₁-C₆)alkyl, (C₂-C₆)alkenyl or (C₂-C₆)alkynyl;

to yield a compound of general formula (I);

the compound of formula (II) wherein G is MeS(O)₂- or MeS(O)- can be prepared according to the following steps:

Step 2a) substituting the chlorine of an intermediate compound of formula (IV):

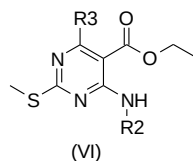


wherein R3 is hydrogen, or an optionally substituted straight or branched (C₁-C₆)alkyl, with an amine intermediate compound of formula (V):



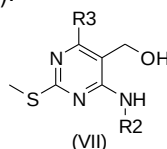
wherein R2 is as defined above;

Step 2b) reacting a compound of formula (VI):



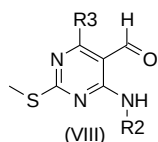
wherein R2 and R3 are as defined above, with a reducing agent;

Step 2c) reacting the resultant compound of formula (VII):

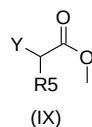


wherein R2 and R3 are as defined above, with an appropriate oxydant reagent;

Step 2d) reacting the resultant compound of formula (VIII):

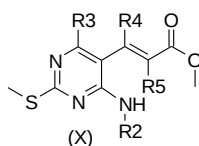


wherein R2 and R3 are as defined above, with an compound of formula (IX):



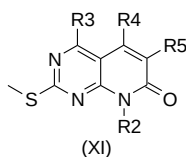
wherein Y is a suitable leaving group for Wittig or Horner–Wadsworth–Emmons reaction (or HWE reaction) such as triphenylphosphorane or diethylphosphonate, and R5 is hydrogen or fluoro, or an optionally substituted straight or branched (C₁-C₆)alkyl;

Step 2e) cyclize an intermediate compound of formula (X):



wherein R2, R3, R4 and R5 are as defined above under basic conditions, to obtained the intermediate compound of formula (XI);

Step 2f) mixing the resultant intermediate compound of formula (XI):

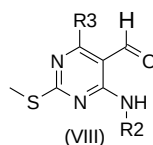


wherein R2, R3, R4 and R5 are as defined above, with a oxydant reagent, to give a compound of formula (II)

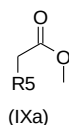
wherein G is MeS(O)₂-, or MeS(O)- and R2, R3, R4 and R5 are as defined above;

alternatively compounds of formula (XI) can be prepared according to the following steps:

Step 3a) reacting a compound of formula (VIII):



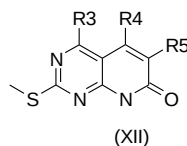
wherein R2, is as defined above, and R3 is hydrogen, chloro or an optionally substituted straight or branched (C₁-C₆)alkyl; with an compound of formula (IXa):



wherein R5 is hydrogen or OR12, wherein R12 is an optionally substituted straight or branched (C₁-C₆)alkyl, to yield a compound of formula (XI) wherein R2, R3 and R4 are as defined above and R5 is hydrogen or OR12 wherein R12 is an optionally substituted straight or branched (C₁-C₆)alkyl;

or

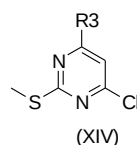
Step 3a') alkylating the intermediate compound of formula (XII):



wherein, R3 and R4 are as defined above and R5 is hydrogen, fluoro, cyano, an optionally substituted straight or branched (C₁-C₆)alkyl or OR₁₂, wherein R₁₂ is an optionally substituted straight or branched (C₁-C₆)alkyl, with an alkylating agent of formula R₂-X (XIII), wherein X is bromine, iodine, -OMs -OTs or hydroxy and R₂ is as defined above, to give a compound of formula (XI) wherein R₂, R₃, R₄ and R₅ are as defined above;

or

Step 3a'') reacting a compound of formula (XIV):

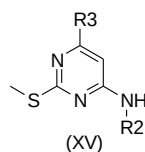


wherein R₃ is as defined above, with a compound of formula (V):



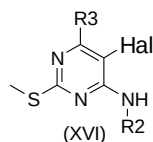
wherein R₂ is as defined above;

Step3b) reacting the resultant intermediate compound of formula (XV):

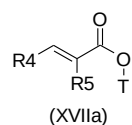


wherein R₃ and R₂ are as defined above, with a halogenation reagent;

Step 3c) reacting the intermediate compound of formula (XVI):

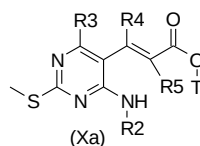


with a compound of formula (XVIIa):



wherein R₄ is hydrogen or an optionally substituted straight or branched (C₁-C₆)alkyl, R₅ is hydrogen and T is a straight or branched (C₁-C₆)alkyl;

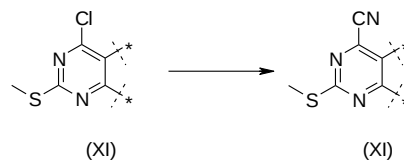
Step 3d) cyclize an intermediate compound of formula (Xa):



wherein R₂, R₃, R₄, R₅ and T are as defined above under basic conditions, so to obtain the intermediate compound of formula (XI), wherein R₄ is hydrogen or an optionally substituted straight or branched (C₁-C₆)alkyl, R₅ is hydrogen and R₂ and R₃ are as defined above;

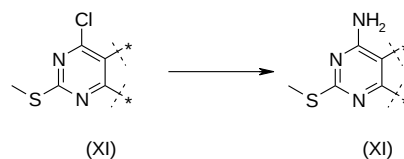
if desired, converting a first compound of formula (XI) into a second compound of formula (XI) by operating according to any one of the following synthetic conditions:

conv. A) converting a compound of formula (XI):



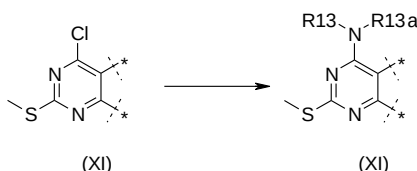
wherein R3 is chloro, into a compound of formula (XI) wherein R3 is CN, by reacting with a source of cyanide, following the condition known in the art for palladium-catalyzed cyanation of aryl halides;

conv. B) converting a compound of formula (XI):



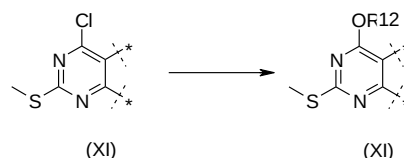
wherein R3 is chloro, into a compound of formula (XI) wherein R3 is NH₂, by reacting with ammonia;

conv. C) converting a compound of formula (XI):



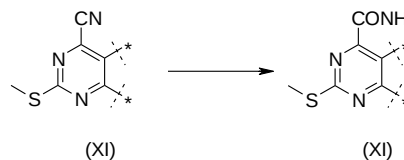
wherein R3 is chloro, into a compound of formula (XI) wherein R3 is NR₁₃R_{13a}, by reacting with an amine NR₁₃R_{13a} wherein R₁₃ and R_{13a} are each independently selected from hydrogen or optionally substituted straight or branched (C₁-C₆)alkyl;

conv. D) converting a compound of formula (XI):



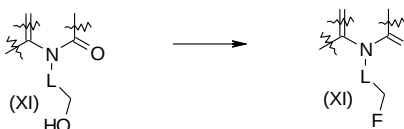
wherein R3 is chloro, into a compound of formula (XI) wherein R3 is OR₁₂, by reacting with an alcohol R₁₂-OH wherein R₁₂ is an optionally substituted straight or branched (C₁-C₆)alkyl;

conv. E) converting a compound of formula (XI):



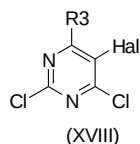
wherein R3 is cyano, into a compound of formula (XI) wherein R3 is CONH₂, by hydrolysis with a suitable agent;

conv. F) converting a compound of formula (XI):



wherein R2 is a group of formula L-CH₂OH, into a compound of formula (XI), wherein R2 is a group of formula L-CH₂F wherein L is an optionally substituted group selected straight or branched (C₁-C₆)alkyl, (C₃-C₆)cycloalkyl-(C₁-C₆)alkyl, aryl-(C₁-C₆)alkyl, and heterocyclyl-(C₁-C₆)alkyl, by reacting with a fluorination agent; the compound of formula (II) wherein G is chloro and X is nitrogen or -CH-, can be prepared according to the following steps:

Step 4a) reacting a compound of formula (XVIII):

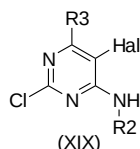


wherein R3 is hydrogen or an optionally substituted straight or branched (C₁-C₆)alkyl, and Hal is preferably bromo or iodo, with an intermediate compound of formula (V):

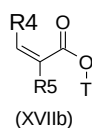


wherein R2 is as defined above;

Step 4b) mixing the obtained intermediate compound of formula (XIX):

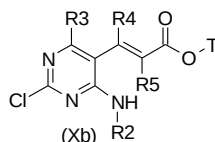


wherein R2, R3 and Hal are as defined above, with a reagent of formula (XVIIb):



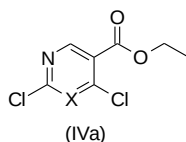
wherein R4 is hydrogen or an optionally substituted straight or branched (C₁-C₆) alkyl, R5 and T are hydrogen;

Step 4c) cyclize an intermediate compound of formula (Xb):

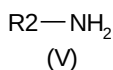


wherein R2, R3, R4, R5 and T are as defined above, with addition of acetic anhydride, to obtain the intermediate compound of formula (II) wherein G is chloro, R4 is hydrogen or an optionally substituted straight or branched (C₁-C₆) alkyl, R5 is hydrogen and R2 and R3 are as defined above;

Step 4d) substituting the chlorine of an intermediate compound of formula (IVa):

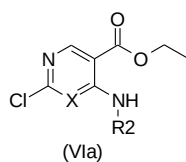


wherein X is N, or -CH-, with an amine intermediate compound of formula (V):



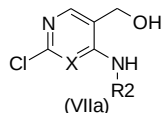
wherein R2 is as defined above;

Step 4e) reacting a compound of formula (VIa):



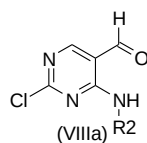
wherein X is N, or –CH and R2 is as defined above, with a reducing agent;

Step 4f) reacting the resultant compound of formula (VIIa):

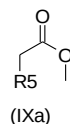


wherein X is N, or –CH and R2 is as defined above, with an appropriate oxydant reagent;

Step 4g) reacting a compound of formula (VIIIa):

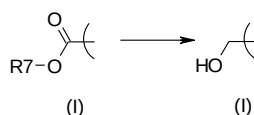


wherein R2 is as defined above, with an compound of formula (IXa):



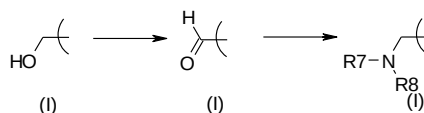
wherein R5 is hydrogen or OR12, wherein R12 is an optionally substituted straight or branched (C₁-C₆)alkyl, to yield a compound of formula (II) wherein G is chloro and X is nitrogen or -CH-, R2 is as defined above, R3 and R4 are hydrogen and R5 is hydrogen or OR12 wherein R12 is an optionally substituted straight or branched (C₁-C₆)alkyl; a first compound of general formula (I) can be conveniently converted into a second compound of general formula (I) by operating according to any one of the following synthetic conditions:

conv. 1) converting a compound of formula (I):



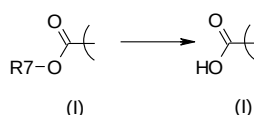
wherein R6a is a group of formula –COOR7, R7 is an optionally substituted straight or branched (C₁-C₆) alkyl, into a compound of formula (I) wherein R6a is a group of formula –CH₂OH, by reacting with a suitable reducing reagent;

conv. 2) converting a compound of formula (I):



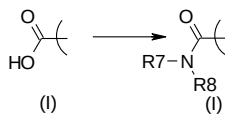
wherein R6a is a group of formula –CH₂OH, into a compound of formula (I) wherein R6a is a group -CH(R14)NR7R8 wherein R14 is hydrogen, by first converting the group –CH₂OH into the corresponding aldehyde –CHO then, reacting the resulting derivative with a compound of formula R7R8NH (XX), wherein R6 and R7 are as defined above, under reductive amination conditions in the presence of a suitable reducing agents;

conv. 3) converting a compound of formula (I):



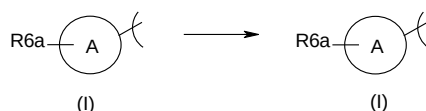
wherein R6a is a group of formula $-\text{COOR7}$, wherein R7 is an optionally substituted straight or branched ($\text{C}_1\text{-C}_6$) alkyl, into a compound of formula (I), wherein R6a is a group of formula $-\text{COOH}$ under acidic or basic conditions;

conv. 4) converting a compound of the formula (I):



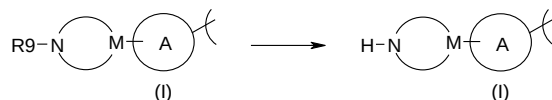
wherein R6a is a group of formula $-\text{COOH}$, into a compound of formula (I), wherein R6a is a group of formula $-\text{CONR7R8}$, wherein R7 and R8 are as defined above by reaction with a compound of formula R7R8NH (XX), in the presence of suitable amide coupling agents;

conv. 5) converting a compound of formula (I):



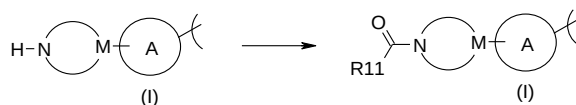
wherein A is aryl or heteroaryl and R6a is chloro, bromo or iodo, into a compound of formula (I), wherein R6a is an optionally substituted group selected from ($\text{C}_1\text{-C}_6$)alkyl, ($\text{C}_2\text{-C}_6$)alkenyl, ($\text{C}_2\text{-C}_6$)alkynyl, ($\text{C}_3\text{-C}_7$)cycloalkyl, heterocyclyl, aryl, heteroaryl, by reaction with a reagent of formula R6aQ (XXI), wherein R6a is as defined above and Q is a group selected from boronic acid, boronic ester, and $-\text{Sn}[(\text{C}_1\text{-C}_6)\text{alkyl}]_3$, under Pd-based catalyzed cross-coupling conditions;

conv. 6) converting a compound of formula (I):



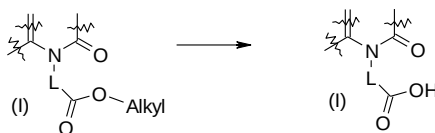
wherein R6a is a linker group M of formula $-\text{CH}(\text{R14})\text{NR7R8}$ or $-\text{CONR7R8}$ or NR7R8 wherein R14 is hydrogen or an optionally substituted straight or branched ($\text{C}_1\text{-C}_6$)alkyl, R7 and R8 together with the nitrogen atom to which they are bound, may form a 5 to 7 membered heterocyclyl group optionally containing one additional group such as N-R9, wherein R9 is a suitable protecting group, into a compound of formula (I), wherein A is as defined above and R9 is hydrogen, under basic or acid hydrogenation conditions;

conv. 7) converting a compound of formula (I):



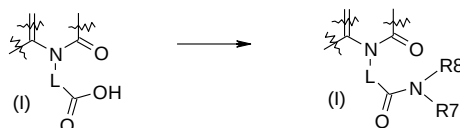
wherein R6a is a linker group M of formula $-\text{CH}(\text{R14})\text{NR7R8}$, or $-\text{CONR7R8}$ or NR7R8 wherein R14 is hydrogen or an optionally substituted straight or branched ($\text{C}_1\text{-C}_6$)alkyl, R7 and R8 together with the nitrogen atom to which they are bound, may form a 5 to 7 membered heterocyclyl group optionally containing one additional group such as N-R9, wherein R9 is hydrogen, into a compound of formula (I) wherein A, is as defined above and R9 is $-\text{COR11}$, wherein R11 is an optionally substituted straight or branched ($\text{C}_1\text{-C}_6$)alkyl, ($\text{C}_2\text{-C}_6$) alkenyl or ($\text{C}_2\text{-C}_6$) alkynyl, by reaction with a reagent of formula R11COW (XXII), wherein R11 is as defined above and W is OH or Cl;

conv. 8) converting a compound of formula (I):



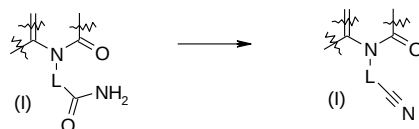
wherein R2 is a group of formula L-COOAlkyl wherein L is an optionally substituted group selected straight or branched (C₁-C₆)alkyl, (C₃-C₆)cycloalkyl-(C₁-C₆)alkyl, aryl-(C₁-C₆)alkyl, and heterocyclyl-(C₁-C₆)alkyl, into a compound of formula (I) wherein R2 is a group of formula L-COOH, wherein L is as defined above; under acidic or basic conditions;

conv. 9) converting a compound of formula (I):



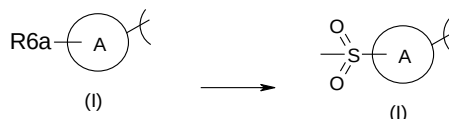
wherein R2 is a group of formula L-COOH, wherein L is as defined above, into a compound of formula (I), wherein R2 is a group of formula L-CONR₇R₈, wherein L, R₇ and R₈ are as defined above, by reaction with a compound of formula R₇R₈NH (XX), in the presence of an amide coupling agent;

conv. 10) converting a compound of formula (I):



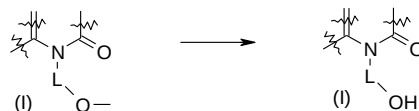
wherein R2 is a group of formula L-CONH₂ wherein L is as defined above, into a compound of formula (I), wherein R2 is a group of formula L-CN, wherein L is as defined above, by reaction with a dehydration agent;

conv. 11) converting a compound of formula (I):



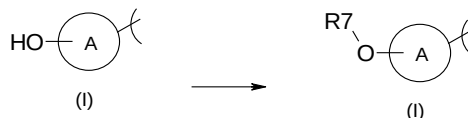
wherein A is aryl or heteroaryl and R6a is chloro, bromo or iodo, into a compound of formula (I), wherein R6a is a methylsulfonyl group, under cross-coupling reaction conditions;

conv. 12) converting a compound of formula (I):



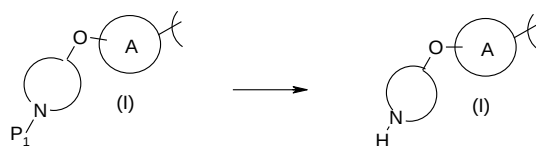
wherein L is a group selected from aryl (C₁-C₆)alkyl, and heterocyclyl-(C₁-C₆)alkyl, into a compound of formula (I) wherein L is defined above, under strong Lewis acid conditions;

conv. 13) converting a compound of formula (I):



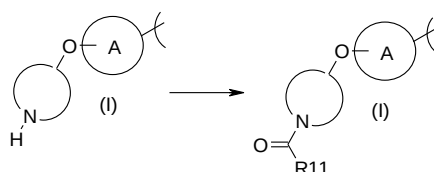
wherein R6a is a phenolic group, into a compound of formula (I) wherein R6a is a group OR7 wherein R7 is as defined above, by reaction with a reagent of formula R7-X (XXIII), wherein R7 is as defined above and X is hydroxy, bromine, iodine, -OMs or -OTs;

conv. 14) converting a compound of formula (I):



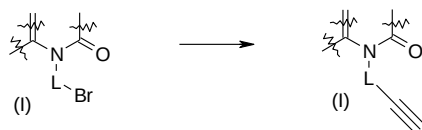
wherein A is as defined above and R6a is a group -OR7 wherein R7 is heterocyclyl group and P1 is a suitable protecting group, into a compound of formula (I), wherein A is as defined above and R7 is heterocyclyl, operating, e.g., under basic or acid hydrogenation;

conv. 15) converting a compound of formula (I):



wherein A is as defined above and R6a is a group -OR7 wherein R7 is a heterocyclyl group, into a compound of formula (I), wherein A and R11 are as defined above, by reaction with a reagent of formula R11COW, (XXII) wherein R11 is as defined above and W is OH or Cl.

conv. 16) converting a compound of formula (I):



wherein L is a group selected from aryl(C₁-C₆)alkyl, and heterocyclyl-(C₁-C₆)-alkyl, into a compound of formula (I) wherein L is defined above, under Sonogashira reaction;

7. Use of a compound of formula (I) or a pharmaceutically acceptable salt thereof, as defined in claim 1, in the manufacture of a medicament for the treatment of a disease caused by and/or associated with increased 2-hydroxyglutarate level, wherein an effective amount of a compound of formula (I) as defined in claim 1 is to be administered to a mammal, preferably a human, in need thereof .

8. Use of a compound of formula (I) or a pharmaceutically acceptable salt thereof, as defined in claim 1, in the manufacture of a medicament for the treatment of diseases caused by and/or associated with mutated IDH enzymes, wherein an effective amount of compound of formula (I) as defined in claim 1 is to be administered to a mammal, preferably a human, in need thereof.

9. Use of a compound of formula (I) or a pharmaceutically acceptable salt thereof, as defined in claim 1, in the manufacture of a medicament for the treatment of diseases caused by and/or associated with IDH wt over-functions,

, wherein an effective amount of compound of formula (I) as defined in claim 1 is to be administered to a mammal, preferably a human, in need thereof.

10. The use according to any of the claims 7 to 9, wherein the disease is selected from the group consisting of cancer, cell proliferative disorders and immune-related disorders.

11. The use according to claim 10 wherein the cancer is selected from the group consisting of: carcinomas, such as bladder, breast, kidney, liver, colon, lung, including small cell lung cancer, esophagus, gall-bladder, ovary, pancreas, stomach, cervix, prostate, and skin, including squamous cell carcinoma; hematopoietic tumors of lymphoid lineage including leukemia, acute lymphocytic leukemia, acute lymphoblastic leukemia, B-cell lymphoma, angioimmunoblastic T-cell lymphoma, Hodgkin's lymphoma, non-Hodgkin's lymphoma, hairy cell lymphoma and Burkitt's lymphoma; hematopoietic tumors of myeloid lineage, including acute and chronic myelogenous leukemias, myelodysplastic syndrome and promyelocytic leukemia; tumors of mesenchymal origin, including fibrosarcoma and rhabdomyosarcoma; tumors of the central and peripheral nervous system, including glioma, glioblastoma, glioblastoma multiforme, astrocytoma, oligodendroglioma, paraglioma, neuroblastoma, and schwannomas; and other tumors, including melanoma, seminoma, teratocarcinoma, osteosarcoma, xeroderma pigmentosum, keratoxanthoma, thyroid cancers, such as papillary thyroid carcinoma and medullary thyroid carcinoma, Kaposi's sarcoma, chondrosarcoma, and cholangiocarcinoma.

12. A compound of formula (I) or a pharmaceutically acceptable salt thereof, as defined in claim 1, for use as a medicament.

13. A pharmaceutical composition comprising a compound of formula (I) or a pharmaceutically acceptable salt thereof, as defined in claim 1, in association with a pharmaceutically acceptable excipient, carrier or diluent.

14. A pharmaceutical composition according to claim 13 further comprising one or more chemotherapeutic agents.

15. A product or kit comprising a compound of formula (I) or a pharmaceutically acceptable salt thereof, as defined in claim 1, and one or more chemotherapeutic agents, as a combined preparation for simultaneous, separate or sequential use in anticancer therapy.