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NORWAY

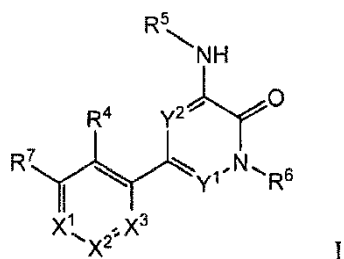
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C07D 519/00 (2006.01)

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(73)	Proprietor	F.Hoffmann-La Roche AG, Grenzacherstrasse 124, 4070 Basel, CH-Sveits
(72)	Inventor	CRAWFORD, James John, c/o Genentech Inc., 1 DNA Way, South San Francisco, California 94080, US-USA ORTWINE, Daniel Fred, c/o Genentech Inc., 1 DNA Way, South San Francisco, California 94080, US-USA WEI, BinQing, c/o Genentech Inc., 1 DNA Way, South San Francisco, California 94080, US-USA YOUNG, Wendy B., c/o Genentech Inc., 1 DNA Way, South San Francisco, California 94080, US-USA
(74)	Agent or Attorney	Bryn Aarflot AS, Postboks 449 Sentrum, 0104 OSLO, Norge

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(56)	References Cited:	WO-A1-2010/100070 WO-A1-2010/122038 WO-A2-2009/039397

Enclosed is a translation of the patent claims in Norwegian. Please note that as per the Norwegian Patents Acts, section 66i the patent will receive protection in Norway only as far as there is agreement between the translation and the language of the application/patent granted at the EPO. In matters concerning the validity of the patent, language of the application/patent granted at the EPO will be used as the basis for the decision. The patent documents published by the EPO are available through Espacenet (<http://worldwide.espacenet.com>) or via the search engine on our website here: <https://search.patentstyret.no/>

Patentkrav**1.** En forbindelse valgt fra Formel I:

5 eller stereoisomerer, tautomerer eller farmasøytisk akseptable salter derav, hvor:

X^1 er CR^1 eller N;

X^2 er CR^2 eller N;

X^3 er CR^3 eller N;

hvor én eller to av X^1 , X^2 og X^3 er N;

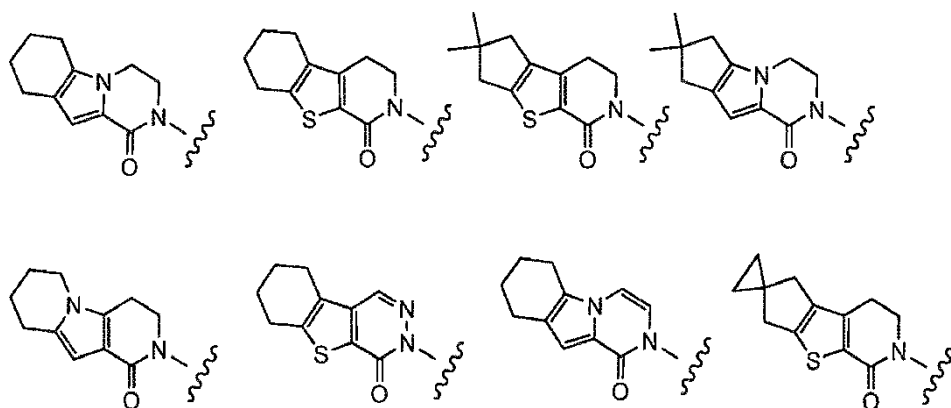
10 R^1 , R^2 og R^3 er uavhengig valgt fra H, F, Cl, $-NH_2$, $-NHCH_3$, $-N(CH_3)_2$, $-OH$, $-OCH_3$, $-OCH_2CH_3$, $-OCH_2CH_2OH$ og C_1 - C_3 alkyl;

R^4 er valgt fra H, F, Cl, CN, $-CH_2OH$, $-CH(CH_3)OH$, $-C(CH_3)_2OH$, $-CH(CF_3)OH$, $-CH_2F$, $-CHF_2$, $-CH_2CHF_2$, $-CF_3$, $-C(O)NH_2$, $-C(O)NHCH_3$, $-C(O)N(CH_3)_2$, $-NH_2$, $-NHCH_3$, $-N(CH_3)_2$, $-NHC(O)CH_3$, $-OH$, $-OCH_3$, $-OCH_2CH_3$, $-OCH_2CH_2OH$,
15 cyklopropyl, cyklopropylmetyl, 1-hydroksycyklopropyl, imidazolyl, pyrazolyl, 3-hydroksy-oxetan-3-yl, oxetan-3-yl og azetidin-1-yl;

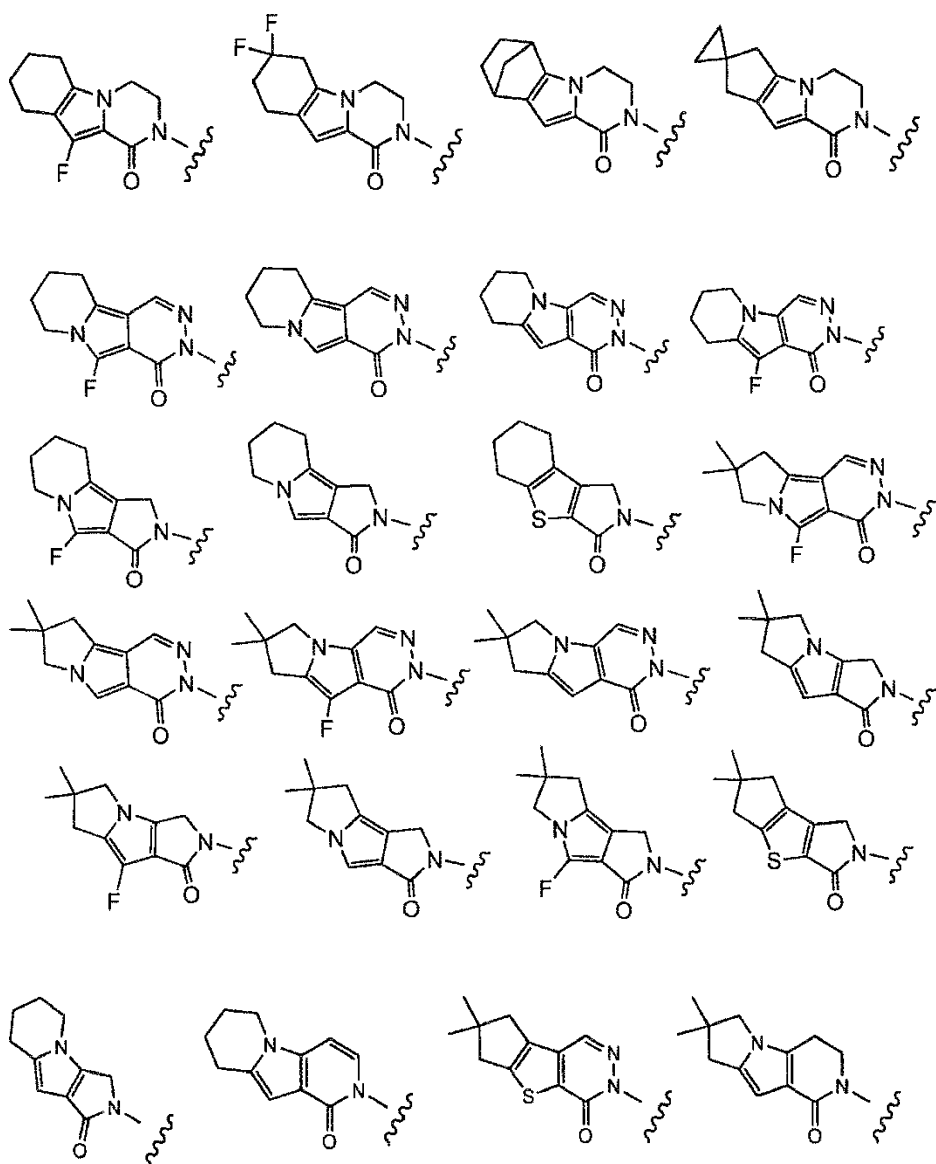
R^5 er eventuelt substituert C_6 - C_{20} aryl, C_3 - C_{12} karbocyklyl, C_2 - C_{20} heterocyklyl, C_1 - C_{20} heteroaryl, $-(C_6-C_{20} \text{ aryl})-(C_2-C_{20} \text{ heterocyklyl})$, $-(C_1-C_{20} \text{ heteroaryl})-(C_2-C_{20} \text{ heterocyklyl})$, $-(C_1-C_{20} \text{ heteroaryl})-(C_2-C_{20} \text{ heterocyklyl})-(C_2-C_{20} \text{ heterocyklyl})$, $-(C_1-C_{20} \text{ heteroaryl})-(C_2-C_{20} \text{ heterocyklyl})-(C_1-C_6 \text{ alkyl})$, $-(C_1-C_{20} \text{ heteroaryl})-(C_1-C_6 \text{ alkyl})$, $-(C_2-C_{20} \text{ heterocyklyl})-(C_1-C_6 \text{ alkyl})$, $-(C_2-C_{20} \text{ heterocyklyl})-(C_3-C_{12} \text{ karbocyklyl})$, $-(C_1-C_{20} \text{ heteroaryl})-(C_3-C_{12} \text{ karbocyklyl})$ eller $-(C_1-C_{20} \text{ heteroaryl})-C(=O)-(C_2-C_{20} \text{ heterocyklyl})$;

20 R^6 er H, $-CH_3$, $-CH_2CH_3$, $-CH_2CH_2OH$, $-CHF_2$, $-NH_2$ eller $-OH$;

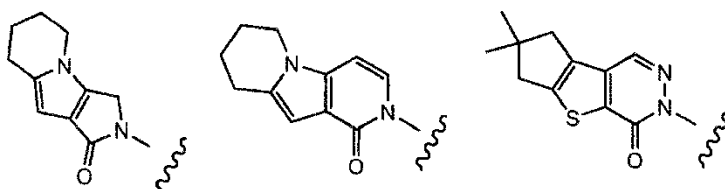
25 R^7 er valgt fra strukturene:



5



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hvor den bølgete linjen indikerer bindingssetet; og

Y^1 og Y^2 er uafhængig valgt fra CH og N, hvor Y^1 og Y^2 ikke er hver N;

hvor alkyl, karbocyklyl, heterocyklyl, aryl og heteroaryl er eventuelt substitueret med

- 5 én eller flere grupper uafhængig valgt fra F, Cl, Br, I, -CN, -CH₃, -CH₂CH₃, -CH(CH₃)₂, -CH₂CH(CH₃)₂, -CH₂OH, -CH₂OCH₃, -CH₂CH₂OH, -C(CH₃)₂OH, -CH(OH)CH(CH₃)₂, -C(CH₃)₂CH₂OH, -CH₂CH₂SO₂CH₃, -CH₂OP(O)(OH)₂, -CH₂F, -CHF₂, -CF₃, -CH₂CF₃, -CH₂CHF₂, -CH(CH₃)CN, -C(CH₃)₂CN, -CH₂CN, -CO₂H, -COCH₃, -CO₂CH₃, -CO₂C(CH₃)₃, -COCH(OH)CH₃, -CONH₂, -CONHCH₃, -CON(CH₃)₂, -C(CH₃)₂CONH₂, -NH₂, -NHCH₃, -
- 10 N(CH₃)₂, -NHCOCH₃, -N(CH₃)COCH₃, -NHS(O)₂CH₃, -N(CH₃)C(CH₃)₂CONH₂, -N(CH₃)CH₂CH₂S(O)₂CH₃, -NO₂, =O, -OH, -OCH₃, -OCH₂CH₃, -OCH₂CH₂OCH₃, -OCH₂CH₂OH, -OCH₂CH₂N(CH₃)₂, -OP(O)(OH)₂, -S(O)₂N(CH₃)₂, -SCH₃, -S(O)₂CH₃, -S(O)₃H, cyklopropyl, oxetanyl, azetidiny, 1-metylazetidin-3-yl)oksy, N-metyl-N-oxetan-3-ylamino, azetidin-1-ylmetyl og morfolino.

15

2. Forbindelse ifølge krav 1, hvor X^1 er N.

3. Forbindelse ifølge krav 1, hvor X^2 er N.

20 **4.** Forbindelse ifølge krav 1, hvor X^3 er N.

5. Forbindelse ifølge krav 1, hvor X^1 og X^3 er N, X^1 og X^2 er N eller X^2 og X^3 er N.

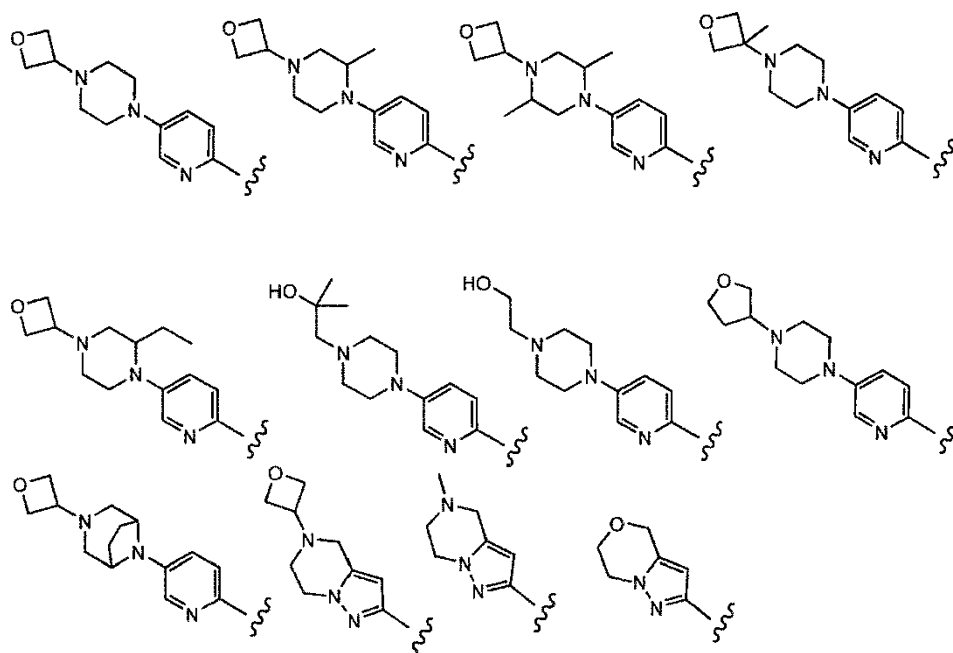
25 **6.** Forbindelse ifølge krav 1, hvor R^5 er eventuelt substitueret C₁-C₂₀ heteroaryl valgt fra pyrazolyl, pyridinyl, pyrimidinyl, 5-metyl-4,5,6,7-tetrahydropyrazolo[1,5-a]pyrazin-2-yl, 5-acetyl-4,5,6,7-tetrahydropyrazolo[1,5-a]pyrazin-2-yl, 6,7-dihydro-4H-pyrazolo[5,1-c][1,4]oksazin-2-yl og 1-metyl-5-(5-(4-metylpiperazin-1-yl)pyridin-2-yl).

30 **7.** Forbindelse ifølge krav 1, hvor R^5 er -(C₁-C₂₀ heteroaryl)-(C₂-C₂₀ heterocyklyl) hvor heteroaryl er eventuelt substitueret pyridinyl og heterocyklyl er eventuelt substitueret piperazinyl.

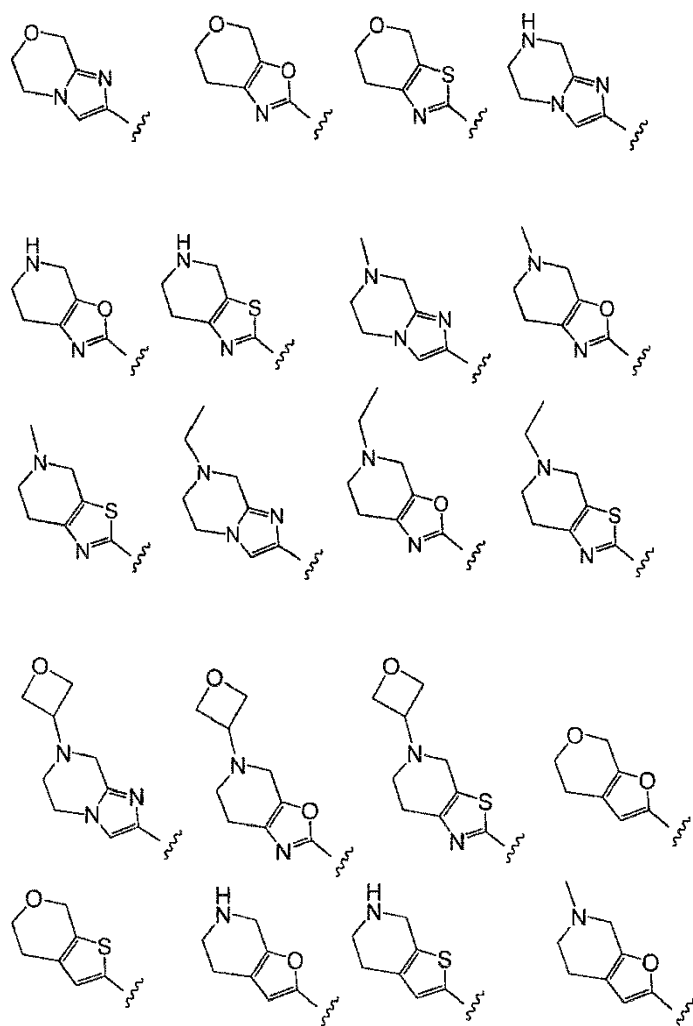
8. Forbindelse ifølge krav 1, hvor R^5 er fenyl, eventuelt substitueret med én eller flere grupper valgt fra F, Cl, -CH₃, -S(O)₂CH₃, cyklopropyl, azetidiny, oxetanyl og morfolino.

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9. Forbindelse ifølge krav 1, hvor R⁵ er valgt fra strukturene:

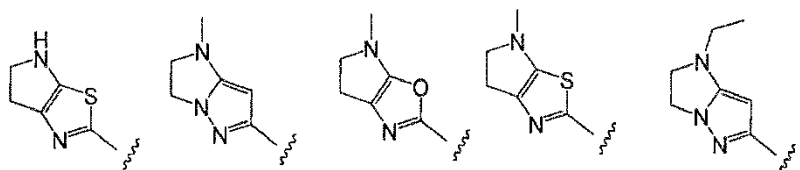
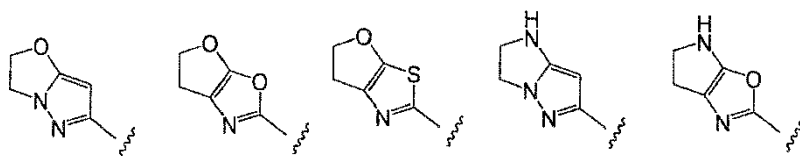
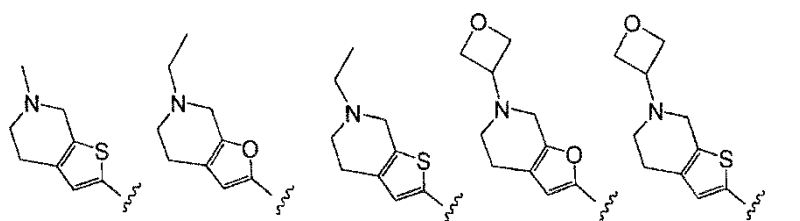


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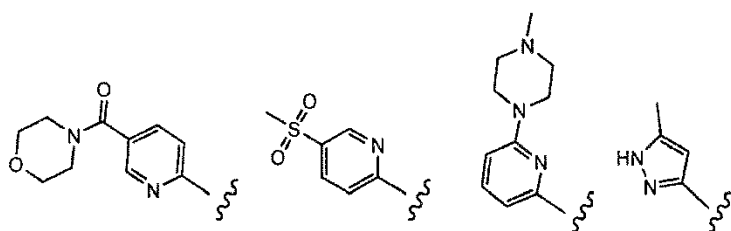
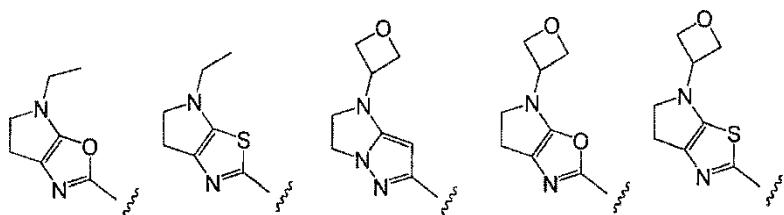


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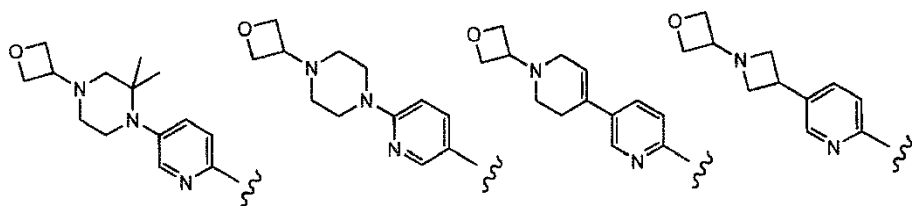
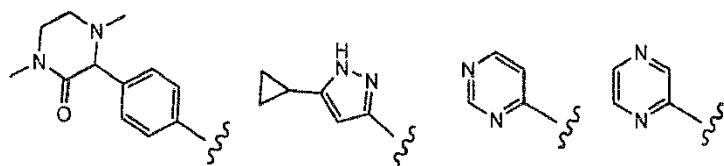
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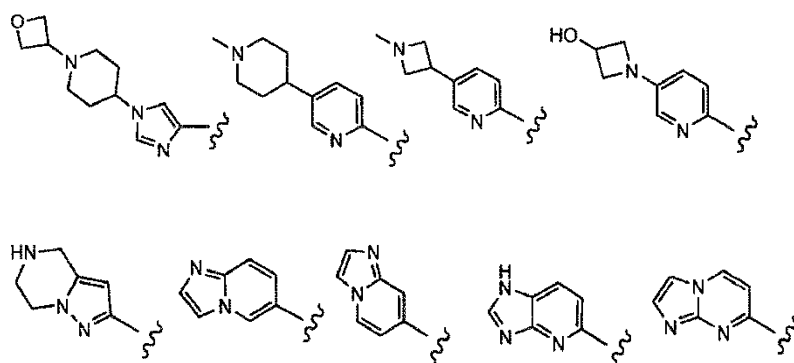
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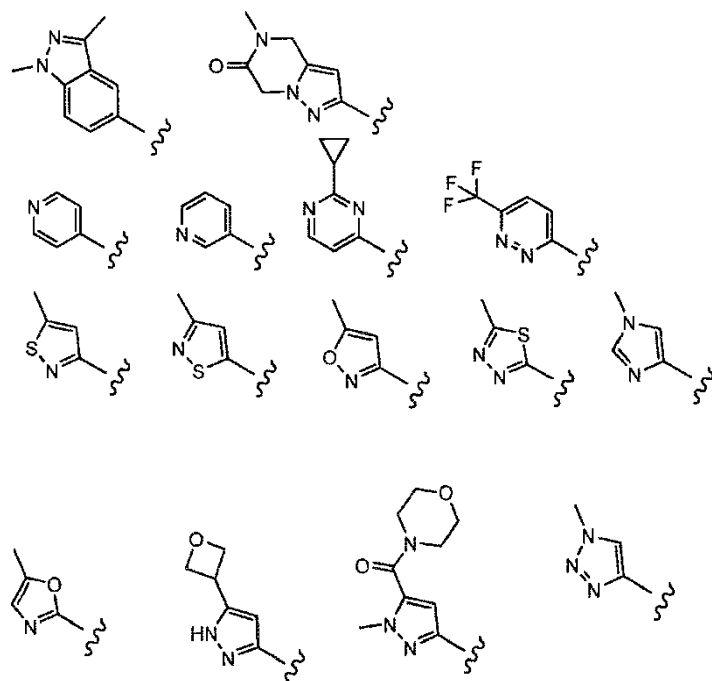
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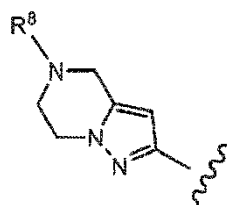


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hvor den bølgete linjen indikerer bindingsstedet.

10 **10.** Forbindelse ifølge krav 1, hvor R^5 er:



hvor R^8 er valgt fra H, $-\text{CH}_3$, $-\text{CH}_2\text{OCH}_3$, $-\text{CH}_2\text{CH}_3$, $-\text{CH}(\text{CH}_3)_2$, $-\text{CH}_2\text{CH}_2\text{OH}$, $-\text{CH}_2\text{CH}_2\text{OCH}_3$, $-\text{CH}_2\text{F}$, $-\text{CHF}_2$, $-\text{CF}_3$, $-\text{CH}_2\text{CF}_3$, $-\text{CH}_2\text{CHF}_2$, $-\text{CH}(\text{CH}_3)\text{CN}$, $-\text{C}(\text{CH}_3)_2\text{CN}$, $-\text{CH}_2\text{CN}$, $-\text{C}(\text{O})\text{CH}_3$, $-\text{C}(\text{O})\text{CH}_2\text{CH}_3$, $-\text{C}(\text{O})\text{CH}(\text{CH}_3)_2$, $-\text{NH}_2$, $-\text{NHCH}_3$, $-\text{N}(\text{CH}_3)_2$, $-\text{OH}$, $-\text{OCH}_3$, $-\text{OCH}_2\text{CH}_3$, $-\text{OCH}_2\text{CH}_2\text{OH}$, cyklopropyl og oxetanyl.

11. Forbindelse ifølge krav 1, hvor R^6 er CH_3 .

12. Forbindelse ifølge krav 1, hvor Y^1 er CH og Y^2 er N.

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13. Forbindelse ifølge krav 1, hvor Y¹ er N og Y² er CH.

14. Forbindelse ifølge krav 1, hvor Y¹ og Y² er hver CH.

5 **15.** Forbindelse ifølge krav 1, hvor Y¹ og Y² er hver CH og R⁶ er CH₃.

16. Forbindelse ifølge krav 1, valgt fra gruppen bestående av:

- 10 2-{4-hydroksymetyl-1'-metyl-5'-[5-(4-oxetan-3-yl-piperazin-1-yl)-pyridin-2-ylamino]-6'-okso-1',6'-dihydro-[3,3']bipyridinyl-5-yl}-3,4,6,7,8,9-heksahydro-2H-pyrazino[1,2-a]indol-1-on,
- 2-{4-hydroksymetyl-1'-metyl-5'-[5-(4-metyl-piperazin-1-yl)-pyridin-2-ylamino]-6'-okso-1',6'-dihydro-[3,3']bipyridinyl-5-yl}-3,4,6,7,8,9-heksahydro-2H-pyrazino[1,2-a]indol-1-on,
- 15 2-(3-(hydroksymetyl)-4-(1-metyl-5-(5-(4-(oxetan-3-yl)piperazin-1-yl)pyridin-2-ylamino)-6-okso-1,6-dihydropyridin-3-yl)pyridin-2-yl)-3,4,6,7,8,9-heksahydropyrazino[1,2-a]indol-1(2H)-on,
- 2-(3-(hydroksymetyl)-2-(1-metyl-5-(5-(4-(oxetan-3-yl)piperazin-1-yl)pyridin-2-ylamino)-6-okso-1,6-dihydropyridin-3-yl)pyridin-4-yl)-3,4,6,7,8,9-heksahydropyrazino[1,2-a]indol-1(2H)-on,
- 20 2-{4-hydroksymetyl-1'-metyl-5'-[5-(4-oxetan-3-yl-piperazin-1-yl)-pyridin-2-ylamino]-6'-okso-1',6'-dihydro-[3,3']bipyridinyl-5-yl}-3,4,5,6,7,8-heksahydro-2H-benzo[4,5]tieno[2,3-c]pyridin-1-on,
- 25 6-{4-hydroksymetyl-1'-metyl-5'-[5-(4-oxetan-3-yl-piperazin-1-yl)-pyridin-2-ylamino]-6'-okso-1',6'-dihydro-[3,3']bipyridinyl-5-yl}-2,2-dimetyl-2,3,5,6-tetrahydro-1H,4H-8-tia-6-aza-cyklopenta[a]inden-7-on,
- 2-{4-hydroksymetyl-1'-metyl-5'-[5-(4-oxetan-3-yl-piperazin-1-yl)-pyridin-2-ylamino]-6'-okso-1',6'-dihydro-[3,3']bipyridinyl-5-yl}-7,7-dimetyl-3,4,7,8-tetrahydro-2H,6H-cyklopenta[4,5]pyrrolo[1,2-a]pyrazin-1-on,
- 30 2-{3'-hydroksymetyl-1-metyl-5-[5-(4-oxetan-3-yl-piperazin-1-yl)-pyridin-2-ylamino]-6-okso-1,6-dihydro-[3,4']bipyridinyl-2'-yl}-7,7-dimetyl-3,4,7,8-tetrahydro-2H,6H-cyklopenta[4,5]pyrrolo[1,2-a]pyrazin-1-on,

- 6-{3'-hydroksymetyl-1-metyl-5-[5-(4-oxetan-3-yl-piperazin-1-yl)-pyridin-2-ylamino]-6-okso-1,6-dihydro-[3,4']bipyridinyl-2'-yl}-2,2-dimetyl-2,3,5,6-tetrahydro-1H,4H-8-tia-6-aza-cyklopenta[a]inden-7-on,
- 5 2-{3'-hydroksymetyl-1-metyl-5-[6-(4-metyl-piperazin-1-yl)-pyridin-2-ylamino]-6-okso-1,6-dihydro-[3,4']bipyridinyl-2'-yl}-3,4,6,7,8,9-heksahydro-2H-pyrazino[1,2-a]indol-1-on,
- 2-{3'-hydroksymetyl-1-metyl-5-[5-(morfolin-4-karbonyl)-pyridin-2-ylamino]-6-okso-1,6-dihydro-[3,4']bipyridinyl-2'-yl}-3,4,6,7,8,9-heksahydro-2H-pyrazino[1,2-a]indol-1-on,
- 10 2-{4-hydroksymetyl-1'-metyl-5'-[5-(4-oxetan-3-yl-piperazin-1-yl)-pyridin-2-ylamino]-6'-okso-1',6'-dihydro-[3,3']bipyridinyl-5-yl}-2,3,5,6,7,8-heksahydro-4H-2,4b-diaza-fluoren-1-on,
- 15 2-[3'-hydroksymetyl-1-metyl-5-(5-metyl-4,5,6,7-tetrahydro-pyrazolo[1,5-a]pyrazin-2-ylamino)-6-okso-1,6-dihydro-[3,4']bipyridinyl-2'-yl]-3,4,6,7,8,9-heksahydro-2H-pyrazino[1,2-a]indol-1-on,
- 2-(4-{6-[4-((R)-1,4-dimetyl-3-okso-piperazin-2-yl)-fenylamino]-4-metyl-5-okso-4,5-dihydro-pyrazin-2-yl}-3-hydroksymetyl-pyridin-2-yl)-3,4,6,7,8,9-heksahydro-2H-pyrazino[1,2-a]indol-1-on,
- 20 2-[3'-hydroksymetyl-1-metyl-5-(5-metyl-1H-pyrazol-3-ylamino)-6-okso-1,6-dihydro-[3,4']bipyridinyl-2'-yl]-3,4,6,7,8,9-heksahydro-2H-pyrazino[1,2-a]indol-1-on,
- 3-4-hydroksymetyl-1'-metyl-5'-[5-(4-oxetan-3-yl-piperazin-1-yl)-pyridin-2-ylamino]-6'-okso-1',6'-dihydro-[3,3']bipyridinyl-5-yl}-6,7,8,9-tetrahydro-3H-benzo[4,5]tieno[2,3-d]pyridazin-4-on,
- 25 2-[3'-hydroksymetyl-5-(5-metansulfonyl-pyridin-2-ylamino)-1-metyl-6-okso-1,6-dihydro-[3,4']bipyridinyl-2'-yl]-3,4,6,7,8,9-heksahydro-2H-pyrazino [1,2-a]indol-1-on,
- 30 2-[5-(5-cyklopropyl-1H-pyrazol-3-ylamino)-3'-hydroksymetyl-1-metyl-6-okso-1,6-dihydro-[3,4']bipyridinyl-2'-yl]-3,4,6,7,8,9-heksahydro-2H-pyrazino[1,2-a]indol-1-on,

- 2-{3'-hydroksymetyl-1-metyl-5-[5-((S)-2-metyl-4-oksetan-3-yl-piperazin-1-yl)-pyridin-2-ylamino]-6-okso-1,6-dihydro-[3,4']bipyridinyl-2'-yl}-3,4,6,7,8,9-heksahydro-2H-pyrazino[1,2-a]indol-1-on,
- 5 2-(3'-hydroksymetyl-5-{5-[4-(2-hidroksy-2-metyl-propyl)-piperazin-1-yl]-pyridin-2-ylamino}-1-metyl-6-okso-1,6-dihydro-[3,4']bipyridinyl-2'-yl)-3,4,6,7,8,9-heksahydro-2H-pyrazino[1,2-a]indol-1-on,
- 2-{3'-hydroksymetyl-1-metyl-5-[5-(4-oksetan-3-yl-piperazin-1-yl)-pyridin-2-ylamino]-6-okso-1,6-dihydro-[3,4']bipyridinyl-2'-yl}-6,7,8,9-tetrahydro-2H-pyrazino[1,2-a]indol-1-on,
- 10 2-{5-[5-((2S,5R)-2,5-dimetyl-4-oksetan-3-yl-piperazin-1-yl)-pyridin-2-ylamino]-3'-hydroksymetyl-1-metyl-6-okso-1,6-dihydro-[3,4']bipyridinyl-2'-yl}-3,4,6,7,8,9-heksahydro-2H-pyrazino[1,2-a]indol-1-on,
- 15 2-(5-{5-[4-(2-hidroksy-etyl)-piperazin-1-yl]-pyridin-2-ylamino}-3'-hydroksymetyl-1-metyl-6-okso-1,6-dihydro-[3,4']bipyridinyl-2'-yl)-3,4,6,7,8,9-heksahydro-2H-pyrazino[1,2-a]indol-1-on,
- 3-{3'-hydroksymetyl-1-metyl-5-[5-(4-oksetan-3-yl-piperazin-1-yl)-pyridin-2-ylamino]-6-okso-1,6-dihydro-[3,4']bipyridinyl-2'-yl}-6,7,8,9-tetrahydro-3H-benzo[4,5]tieno[2,3-d]pyridazin-4-on,
- 20 2-[3'-hydroksymetyl-1-metyl-5-(5-oksetan-3-yl-4,5,6,7-tetrahydro-pyrazolo[1,5-a]pyrazin-2-ylamino)-6-okso-1,6-dihydro-[3,4']bipyridinyl-2'-yl]-3,4,6,7,8,9-heksahydro-2H-pyrazino[1,2-a]indol-1-on,
- 2-{4-hidroksymetyl-1'-metyl-5'-[5-(4-oksetan-3-yl-piperazin-1-yl)-pyridin-2-ylamino]-6'-okso-1',6'-dihydro-[3,3']bipyridinyl-5-yl}-6,7,8,9-tetrahydro-2H-pyrazino[1,2-a]indol-1-on,
- 25 2-[3'-hydroksymetyl-1-metyl-6-okso-5-(5-piperazin-1-yl-pyridin-2-ylamino)-1,6-dihydro-[3,4']bipyridinyl-2'-yl]-3,4,6,7,8,9-heksahydro-2H-pyrazino[1,2-a]indol-1-on,
- 30 2-[5-(5-cyklopropyl-4,5,6,7-tetrahydro-pyrazolo[1,5-a]pyrazin-2-ylamino)-3'-hydroksymetyl-1-metyl-6-okso-1,6-dihydro-[3,4']bipyridinyl-2'-yl]-3,4,6,7,8,9-heksahydro-2H-pyrazino[1,2-a]indol-1-on,

- 2-[5-(6,7-dihydro-4H-pyrazolo[5,1-c][1,4]oksazin-2-ylamino)-3'-hydroksymetyl-1-metyl-6-okso-1,6-dihydro-[3,4']bipyridinyl-2'-yl]-3,4,6,7,8,9-heksahydro-2H-pyrazino[1,2-a]indol-1-on,
- 5 2-{3'-hydroksymetyl-1-metyl-5-[5-((S)-2-metyl-4-oxetan-3-yl-piperazin-1-yl)-pyridin-2-ylamino]-6-okso-1,6-dihydro-[3,4']bipyridinyl-2'-yl}-7,7-dimetyl-3,4,7,8-tetrahydro-2H,6H-cyklopenta[4,5]pyrrolo[1,2-a]pyrazin-1-on,
- 2-{5-[5-((S)-2-etyl-4-oxetan-3-yl-piperazin-1-yl)-pyridin-2-ylamino]-3'-hydroksymetyl-1-metyl-6-okso-1,6-dihydro-[3,4']bipyridinyl-2'-yl}-3,4,6,7,8,9-heksahydro-2H-pyrazino[1,2-a]indol-1-on,
- 10 2-{4-[5-(6,7-dihydro-4H-pyrazolo[5,1-c][1,4]oksazin-2-ylamino)-1-metyl-6-okso-1,6-dihydro-pyridazin-3-yl]-3-hydroksymetyl-pyridin-2-yl}-3,4,6,7,8,9-heksahydro-2H-pyrazino[1,2-a]indol-1-on,
- 15 2-{3-hydroksymetyl-4-[1-metyl-5-(5-metyl-4,5,6,7-tetrahydro-pyrazolo[1,5-a]pyrazin-2-ylamino)-6-okso-1,6-dihydro-pyridazin-3-yl]-pyridin-2-yl}-3,4,6,7,8,9-heksahydro-2H-pyrazino[1,2-a]indol-1-on,
- 10-fluor-2-{3'-hydroksymetyl-1-metyl-5-[5-(4-oxetan-3-yl-piperazin-1-yl)-pyridin-2-ylamino]-6-okso-1,6-dihydro-[3,4']bipyridinyl-2'-yl}-3,4,6,7,8,9-heksahydro-2H-pyrazino[1,2-a]indol-1-on,
- 20 10-fluor-2-[3'-hydroksymetyl-1-metyl-5-(5-metyl-4,5,6,7-tetrahydro-pyrazolo[1,5-a]pyrazin-2-ylamino)-6-okso-1,6-dihydro-[3,4']bipyridinyl-2'-yl]-3,4,6,7,8,9-heksahydro-2H-pyrazino[1,2-a]indol-1-on,
- 10-fluor-2-{3'-hydroksymetyl-1-metyl-5-[5-((S)-2-metyl-4-oxetan-3-yl-piperazin-1-yl)-pyridin-2-ylamino]-6-okso-1,6-dihydro-[3,4']bipyridinyl-2'-yl}-3,4,6,7,8,9-heksahydro-2H-pyrazino[1,2-a]indol-1-on,
- 25 2-{3'-hydroksymetyl-1-metyl-5-[5-((R)-2-metyl-4-oxetan-3-yl-piperazin-1-yl)-pyridin-2-ylamino]-6-okso-1,6-dihydro-[3,4']bipyridinyl-2'-yl}-3,4,6,7,8,9-heksahydro-2H-pyrazino[1,2-a]indol-1-on,
- 2-[4-hydroksymetyl-1'-metyl-5'-(5-metyl-4,5,6,7-tetrahydro-pyrazolo[1,5-a]pyrazin-2-ylamino)-6'-okso-1',6'-dihydro-[3,3']bipyridinyl-5-yl]-3,4,6,7,8,9-heksahydro-2H-pyrazino[1,2-a]indol-1-on,
- 30

- 2-{3'-hydroksymetyl-1-metyl-5-[5-(4-oxetan-3-yl-piperazin-1-yl)-pyridin-2-ylamino]-6-okso-1,6-dihydro-[3,4']bipyridinyl-2'-yl}-2,3,5,6,7,8-heksahydro-4H-2,4b-diaza-fluoren-1-on,
- 5 7,7-difluor-2-{3'-hydroksymetyl-1-metyl-5-[5-((S)-2-metyl-4-oxetan-3-yl-piperazin-1-yl)-pyridin-2-ylamino]-6-okso-1,6-dihydro-[3,4']bipyridinyl-2'-yl}-3,4,6,7,8,9-heksahydro-2H-pyrazino[1,2-a]indol-1-on,
- 2-[3'-hydroksymetyl-1-metyl-5-(5-metyl-4,5,6,7-tetrahydro-pyrazolo[1,5-a]pyrazin-2-ylamino)-6-okso-1,6-dihydro-[3,4']bipyridinyl-2'-yl]-7,7-dimetyl-3,4,7,8-tetrahydro-2H,6H-cyklopenta[4,5]pyrrolo[1,2-a]pyrazin-1-on,
- 10 2-[3'-hydroksymetyl-1-metyl-6-okso-5-(pyrimidin-4-ylamino)-1,6-dihydro-[3,4']bipyridinyl-2'-yl]-3,4,6,7,8,9-heksahydro-2H-pyrazino[1,2-a]indol-1-on,
- 6-[3'-hydroksymetyl-1-metyl-6-okso-5-(pyrimidin-4-ylamino)-1,6-dihydro-[3,4']bipyridinyl-2'-yl]-2,2-dimetyl-2,3,5,6-tetrahydro-1H,4H-8-tia-6-aza-cyklopenta[a]inden-7-on,
- 15 2-[3'-hydroksymetyl-1-metyl-6-okso-5-(pyrimidin-4-ylamino)-1,6-dihydro-[3,4']bipyridinyl-2'-yl]-7,7-dimetyl-3,4,7,8-tetrahydro-2H,6H-cyklopenta[4,5]pyrrolo[1,2-a]pyrazin-1-on,
- 6-{3'-hydroksymetyl-1-metyl-5-[5-((S)-2-metyl-4-oxetan-3-yl-piperazin-1-yl)-pyridin-2-ylamino]-6-okso-1,6-dihydro-[3,4']bipyridinyl-2'-yl}-2,2-dimetyl-2,3,5,6-tetrahydro-1H,4H-8-tia-6-aza-cyklopenta[a]inden-7-on,
- 20 10-fluor-2-[3'-hydroksymetyl-1-metyl-6-okso-5-(pyrimidin-4-ylamino)-1,6-dihydro-[3,4']bipyridinyl-2'-yl]-3,4,6,7,8,9-heksahydro-2H-pyrazino[1,2-a]indol-1-on,
- 2-[3'-hydroksymetyl-1-metyl-5-(5-metyl-4,5,6,7-tetrahydro-pyrazolo[1,5-a]pyrazin-2-ylamino)-6-okso-1,6-dihydro-[3,4']bipyridinyl-2'-yl]-2,3,5,6,7,8-heksahydro-4H-2,4b-diaza-fluoren-1-on,
- 25 2-{3'-(3-hydroksy-oxetan-3-yl)-1-metyl-5-[5-((S)-2-metyl-4-oxetan-3-yl-piperazin-1-yl)-pyridin-2-ylamino]-6-okso-1,6-dihydro-[3,4']bipyridinyl-2'-yl}-3,4,6,7,8,9-heksahydro-2H-pyrazino[1,2-a]indol-1-on,
- 30 2-{3'-hydroksymetyl-1-metyl-5-[5-((S)-2-metyl-4-oxetan-3-yl-piperazin-1-yl)-pyridin-2-ylamino]-6-okso-1,6-dihydro-[3,4']bipyridinyl-2'-yl}-2,3,5,6,7,8-heksahydro-4H-2,4b-diaza-fluoren-1-on,

- 2-[4-hydroksymetyl-1'-metyl-5'-(5-metyl-4,5,6,7-tetrahydro-pyrazolo[1,5-a]pyrazin-2-ylamino)-6'-okso-1',6'-dihydro-[3,3']bipyridinyl-5-yl]-7,7-dimetyl-3,4,7,8-tetrahydro-2H,6H-cyklopenta[4,5]pyrrolo[1,2-a]pyrazin-1-on,
- 5 2-{3'-hydroksymetyl-1-metyl-5-[5-((R)-2-metyl-4-oxetan-3-yl-piperazin-1-yl)-pyridin-2-ylamino]-6-okso-1,6-dihydro-[3,4']bipyridinyl-2'-yl}-6,7,8,9-tetrahydro-2H-pyrazino[1,2-a]indol-1-on,
- 2-{3'-hydroksymetyl-1-metyl-5-[5-((1S,5R)-3-oxetan-3-yl-3,8-diaza-bicyklo[3,2,1]okt-8-yl)-pyridin-2-ylamino]-6-okso-1,6-dihydro-[3,4']bipyridinyl-2'-yl}-3,4,6,7,8,9-heksahydro-2H-pyrazino[1,2-a]indol-1-on,
- 10 2-{3'-hydroksymetyl-1-metyl-5-[5-((R)-2-metyl-4-oxetan-3-yl-piperazin-1-yl)-pyridin-2-ylamino]-6-okso-1,6-dihydro-[3,4']bipyridinyl-2'-yl}-7,7-dimetyl-3,4,7,8-tetrahydro-2H,6H-cyklopenta[4,5]pyrrolo[1,2-a]pyrazin-1-on,
- 15 3-{3'-hydroksymetyl-1-metyl-5-[5-((R)-2-metyl-4-oxetan-3-yl-piperazin-1-yl)-pyridin-2-ylamino]-6-okso-1,6-dihydro-[3,4']bipyridinyl-2'-yl}-6,7,8,9-tetrahydro-3H-benzo[4,5]tieno[2,3-d]pyridazin-4-on,
- 2-{5-[5-((2S,5R)-2,5-dimetyl-4-oxetan-3-yl-piperazin-1-yl)-pyridin-2-ylamino]-3'-hydroksymetyl-1-metyl-6-okso-1,6-dihydro-[3,4']bipyridinyl-2'-yl}-2,3,5,6,7,8-heksahydro-4H-2,4b-diaza-fluoren-1-on,
- 20 2-{5-[5-((2S,5R)-2,5-dimetyl-4-oxetan-3-yl-piperazin-1-yl)-pyridin-2-ylamino]-3'-hydroksymetyl-1-metyl-6-okso-1,6-dihydro-[3,4']bipyridinyl-2'-yl}-10-fluor-3,4,6,7,8,9-heksahydro-2H-pyrazino[1,2-a]indol-1-on,
- 2-{5'-[5-((2S,5R)-2,5-dimetyl-4-oxetan-3-yl-piperazin-1-yl)-pyridin-2-ylamino]-4-hydroksymetyl-1'-metyl-6'-okso-1',6'-dihydro-[3,3']bipyridinyl-5-yl}-3,4,6,7,8,9-heksahydro-2H-pyrazino[1,2-a]indol-1-on,
- 25 2-{5-[5-((2S,5R)-2,5-dimetyl-4-oxetan-3-yl-piperazin-1-yl)-pyridin-2-ylamino]-3'-hydroksymetyl-1-metyl-6-okso-1,6-dihydro-[3,4']bipyridinyl-2'-yl}-7,7-dimetyl-3,4,7,8-tetrahydro-2H,6H-cyklopenta[4,5]pyrrolo[1,2-a]pyrazin-1-on,
- 30 3-{5-[5-((2S,5R)-2,5-dimetyl-4-oxetan-3-yl-piperazin-1-yl)-pyridin-2-ylamino]-3'-hydroksymetyl-1-metyl-6-okso-1,6-dihydro-[3,4']bipyridinyl-2'-yl}-6,7,8,9-tetrahydro-3H-benzo[4,5]tieno[2,3-d]pyridazin-4-on,

- 2-{5-[5-((2S,5R)-2,5-dimetyl-4-oxetan-3-yl-piperazin-1-yl)-pyridin-2-ylamino]-3'-hydroksymetyl-1-metyl-6-okso-1,6-dihydro-[3,4']bipyridinyl-2'-yl}-6,7,8,9-tetrahydro-2H-pyrazino[1,2-a]indol-1-on,
- 5 2-{5-[5-((S)-2-etyl-4-oxetan-3-yl-piperazin-1-yl)-pyridin-2-ylamino]-3'-hydroksymetyl-1-metyl-6-okso-1,6-dihydro-[3,4']bipyridinyl-2'-yl}-2,3,5,6,7,8-heksahydro-4H-2,4b-diaza-fluoren-1-on,
- 10 2-[3'-hydroksymetyl-1-metyl-6-okso-5-(pyrazin-2-ylamino)-1,6-dihydro-[3,4']bipyridinyl-2'-yl]-3,4,6,7,8,9-heksahydro-2H-pyrazino[1,2-a]indol-1-on,
- 2-[3'-hydroksymetyl-1-metyl-5-(5-oxetan-3-yl-4,5,6,7-tetrahydro-pyrazolo[1,5-a]pyrazin-2-ylamino)-6-okso-1,6-dihydro-[3,4']bipyridinyl-2'-yl]-7,7-dimetyl-3,4,7,8-tetrahydro-2H,6H-cyklopenta[4,5]pyrrolo[1,2-a]pyrazin-1-on,
- 15 2-{5-[5-((S)-2-etyl-4-oxetan-3-yl-piperazin-1-yl)-pyridin-2-ylamino]-3'-hydroksymetyl-1-metyl-6-okso-1,6-dihydro-[3,4']bipyridinyl-2'-yl}-7,7-dimetyl-3,4,7,8-tetrahydro-2H,6H-cyklopenta[4,5]pyrrolo[1,2-a]pyrazin-1-on,
- 2-{5-[5-((S)-2-etyl-4-oxetan-3-yl-piperazin-1-yl)-pyridin-2-ylamino]-3'-hydroksymetyl-1-metyl-6-okso-1,6-dihydro-[3,4']bipyridinyl-2'-yl}-6,7,8,9-tetrahydro-2H-pyrazino[1,2-a]indol-1-on,
- 20 10-fluor-2-[3'-hydroksymetyl-1-metyl-5-(5-oxetan-3-yl-4,5,6,7-tetrahydro-pyrazolo[1,5-a]pyrazin-2-ylamino)-6-okso-1,6-dihydro-[3,4']bipyridinyl-2'-yl]-3,4,6,7,8,9-heksahydro-2H-pyrazino[1,2-a]indol-1-on,
- 2-(3-(hydroksymetyl)-4-(1-metyl-5-(5-metyl-4,5,6,7-tetrahydropyrazolo[1,5-a]pyrazin-2-ylamino)-6-okso-1,6-dihydropyridin-3-yl)pyridin-2-yl)-3,4,6,7,8,9-heksahydro-6,9-metanopyrazino[1,2-a]indol-1(2H)-on,
- 25 2-[5-(6,7-dihydro-4H-pyrazolo[5,1-c][1,4]oksazin-2-ylamino)-3'-hydroksymetyl-1-metyl-6-okso-1,6-dihydro-[3,4']bipyridinyl-2'-yl]-7,7-dimetyl-3,4,7,8-tetrahydro-2H,6H-cyklopenta[4,5]pyrrolo[1,2-a]pyrazin-1-on,
- 30 2-{3'-hydroksymetyl-1-metyl-5-[5-(4-oxetan-3-yl-piperazin-1-yl)-pyridin-2-ylamino]-6-okso-1,6-dihydro-[3,4']bipyridinyl-2'-yl}-3,4,5,6,7,8-heksahydro-2H-benzo[4,5]tieno[2,3-c]pyridin-1-on,

- 2-(3-(hydroksymetyl)-4-(1-metyl-5-(5-metyl-4,5,6,7-tetrahydropyrazolo[1,5-a]pyrazin-2-ylamino)-6-okso-1,6-dihydropyridin-3-yl)pyridin-2-yl)-3,4,6,7,8,9-heksahydro-6,9-metanopyrazino[1,2-a]indol-1(2H)-on,
- 5 (1*S*,11*R*)-6-[3-(hydroksymetyl)-4-[1-metyl-5-(5-[(2*S*)-2-metyl-4-(oxetan-3-yl)piperazin-1-yl]pyridin-2-yl)amino)-6-okso-1,6-dihydropyridin-3-yl]pyridin-2-yl]-3,6-diazatetracyklo[9,2,1,0^{2,10},0^{3,8}]tetradeca-2(10),8-dien-7-on,
- 2-(4-(5-(1,2,4-triazin-3-ylamino)-1-metyl-6-okso-1,6-dihydropyridin-3-yl)-3-(hydroksymetyl)pyridin-2-yl)-3,4,6,7,8,9-heksahydropyrazino[1,2-a]indol-1(2H)-on,
- 10 2-[5-(2,6-dimetyl-pyrimidin-4-ylamino)-3'-hydroksymetyl-1-metyl-6-okso-1,6-dihydro-[3,4']bipyridinyl-2'-yl]-7,7-dimetyl-3,4,7,8-tetrahydro-2H,6H-cyklopenta[4,5]pyrrolo[1,2-a]pyrazin-1-on,
- 15 (1*R*,11*S*)-6-[3-(hydroksymetyl)-4-[1-metyl-5-(5-[(2*S*)-2-metyl-4-(oxetan-3-yl)piperazin-1-yl]pyridin-2-yl)amino)-6-okso-1,6-dihydropyridin-3-yl]pyridin-2-yl]-3,6-diazatetracyklo[9,2,1,0^{2,11},0^{3,8}]tetradeca-2(10),8-dien-7-on,
- 3-{5-[5-((*S*)-2-etyl-4-oxetan-3-yl)piperazin-1-yl]-pyridin-2-ylamino}-3'-hydroksymetyl-1-metyl-6-okso-1,6-dihydro-[3,4']bipyridinyl-2'-yl}-6,7,8,9-tetrahydro-3H-benzo[4,5]tieno[2,3-d]pyridazin-4-on,
- 20 (*S*)-2-(3-(hydroksymetyl)-4-(1-metyl-5-(5-(2-metyl-4-(oxetan-3-yl)piperazin-1-yl)pyridin-2-ylamino)-6-okso-1,6-dihydropyridin-3-yl)pyridin-2-yl)-6,7,8,9-tetrahydropyrazino[1,2-a]indol-1(2H)-on,
- 2-(4-(5-(5-etyl-4,5,6,7-tetrahydropyrazolo[1,5-a]pyrazin-2-ylamino)-1-metyl-6-okso-1,6-dihydropyridin-3-yl)-3-(hydroksymetyl)pyridin-2-yl)-3,4,6,7,8,9-heksahydropyrazino[1,2-a]indol-1(2H)-on,
- 25 3-[3'-hydroksymetyl-1-metyl-6-okso-5-(pyridin-2-ylamino)-1,6-dihydro-[3,4']bipyridinyl-2'-yl]-6,7,8,9-tetrahydro-3H-benzo[4,5]tieno[2,3-d]pyridazin-4-on,
- 30 2-[3'-hydroksymetyl-1-metyl-5-(2-metyl-pyrimidin-4-ylamino)-6-okso-1,6-dihydro-[3,4']bipyridinyl-2'-yl]-7,7-dimetyl-3,4,7,8-tetrahydro-2H,6H-cyklopenta[4,5]pyrrolo[1,2-a]pyrazin-1-on,

- 2-[3'-hydroksymetyl-1-metyl-5-(6-metyl-pyrimidin-4-ylamino)-6-okso-1,6-dihydro-[3,4']bipyridinyl-2'-yl]-7,7-dimetyl-3,4,7,8-tetrahydro-2H,6H-cyklopenta[4,5]pyrrolo[1,2-a]pyrazin-1-on,
- 5 3-[3'-hydroksymetyl-1-metyl-5-(5-metyl-4,5,6,7-tetrahydro-pyrazolo[1,5-a]pyrazin-2-ylamino)-6-okso-1,6-dihydro-[3,4']bipyridinyl-2'-yl]-6,7,8,9-tetrahydro-3H-benzo[4,5]tieno[2,3-d]pyridazin-4-on,
- 3-[3'-hydroksymetyl-1-metyl-6-okso-5-(pyrimidin-4-ylamino)-1,6-dihydro-[3,4']bipyridinyl-2'-yl]-6,7,8,9-tetrahydro-3H-benzo[4,5]tieno[2,3-d]pyridazin-4-on,
- 10 10-fluor-2-(3-(hydroksymetyl)-4-(1-metyl-6-okso-5-(pyridin-2-ylamino)-1,6-dihydropyridin-3-yl)pyridin-2-yl)-3,4,6,7,8,9-heksahydropyrazino[1,2-a]indol-1(2H)-on,
- 15 6-[3'-hydroksymetyl-1-metyl-6-okso-5-(pyrazin-2-ylamino)-1,6-dihydro-[3,4']bipyridinyl-2'-yl]-2,2-dimetyl-2,3,5,6-tetrahydro-1H,4H-8-tia-6-aza-cyklopenta[a]inden-7-on,
- 2-{3-hydroksymetyl-4-[6-(imidazo[1,2-a]pyridin-7-ylamino)-4-metyl-5-okso-4,5-dihydro-pyrazin-2-yl]-pyridin-2-yl}-7,7-dimetyl-3,4,7,8-tetrahydro-2H,6H-cyklopenta[4,5]pyrrolo[1,2-a]pyrazin-1-on,
- 20 10-fluor-2-(3-(hydroksymetyl)-4-(4-metyl-5-okso-6-(pyridin-3-ylamino)-4,5-dihydropyrazin-2-yl)pyridin-2-yl)-3,4,6,7,8,9-heksahydropyrazino[1,2-a] indol-1 (2H)-on,
- 2-(4-(5-(5-(2,2-dimetyl-4-(oxetan-3-yl)piperazin-1-yl)pyridin-2-ylamino)-1-metyl-6-okso-1,6-dihydropyridin-3-yl)-3-(hydroksymetyl)pyridin-2-yl)-3,4,6,7,8,9-heksahydropyrazino[1,2-a]indol-[1(2H)-on,
- 25 2-[3'-hydroksymetyl-1-metyl-6-okso-5-(pyrazin-2-ylamino)-1,6-dihydro-[3,4']bipyridinyl-2'-yl]-7,7-dimetyl-3,4,7,8-tetrahydro-2H,6H-cyklopenta[4,5]pyrrolo[1,2-a]pyrazin-1-on og
- 30 2-(3-(hydroksymetyl)-4-(1-metyl-5-(5-(4-(oxetan-3-yl)piperazin-1-yl)pyrazin-2-ylamino)-6-okso-1,6-dihydropyridin-3-yl)pyridin-2-yl)-3,4,6,7,8,9-heksahydropyrazino[1,2-a]indol-1(2H)-on.

17. Forbindelse ifølge krav 1, valgt fra gruppen bestående av:

- 2-[4-[5-[[5-[2,2-dimetyl-4-(oxetan-3-yl)piperazin-1-yl]-2-pyridyl]amino]-1-metyl-6-okso-3-pyridyl]-3-(hydroksymetyl)-2-pyridyl]-3,4,6,7,8,9-heksahydropyrazino[1,2-a]indol-1-on,
- 5 3-[3-(hydroksymetyl)-4-[1-metyl-5-[[5-[(2S)-2-metyl-4-(oxetan-3-yl)piperazin-1-yl]-2-pyridyl]amino]-6-okso-3-pyridyl]-2-pyridyl]-6,7,8,9-tetrahydrobenzotiofeno[2,3-d]pyridazin-4-on,
- 10 3-[3-(hydroksymetyl)-4-[1-metyl-5-[[5-[(2S)-2-metyl-4-(oxetan-3-yl)piperazin-1-yl]-2-pyridyl]amino]-6-okso-3-pyridyl]-2-pyridyl]-7,8,9,10-tetrahydropyridazino[4,5-a]indolizin-4-on,
- 2-[3-(hydroksymetyl)-4-[1-metyl-5-[[5-[(2S)-2-metyl-4-(oxetan-3-yl)piperazin-1-yl]-2-pyridyl]amino]-6-okso-3-pyridyl]-2-pyridyl]-6,7,8,9-tetrahydropyridazino[4,5-b]indolizin-1-on,
- 15 3-[3-(hydroksymetyl)-4-[1-metyl-6-okso-5-(pyrazin-2-ylamino)-3-pyridyl]-2-pyridyl]-6,7,8,9-tetrahydrobenzotiofeno[2,3-d]pyridazin-4-on,
- 2-[3-(hydroksymetyl)-4-[1-metyl-5-[(5-metyl-6,7-dihydro-4H-pyrazolo[1,5-a]pyrazin-2-yl)amino]-6-okso-3-pyridyl]-2-pyridyl]-6,7,8,9-tetrahydropyrazino[1,2-a]indol-1-on,
- 20 3-[4-[5-[(2-cyklopropylpyrimidin-4-yl)amino]-1-metyl-6-okso-3-pyridyl]-3-(hydroksymetyl)-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,
- 2-[3-(hydroksymetyl)-4-[4-metyl-6-[[6-[4-(oxetan-3-yl)piperazin-1-yl]-3-pyridyl]amino]-5-okso-pyrazin-2-yl]-2-pyridyl]-3,4,6,7,8,9-heksahydropyrazino[1,2-a]indol-1-on,
- 25 3-[3-(hydroksymetyl)-4-[1-metyl-5-[[5-[4-(oxetan-3-yl)piperazin-1-yl]-2-pyridyl]amino]-6-okso-3-pyridyl]-2-pyridyl]-7,8,9,10-tetrahydropyridazino[4,5-a]indolizin-4-on,
- 30 3-[3-(hydroksymetyl)-4-[5-(imidazo[1,2-a]pyrimidin-7-ylamino)-1-metyl-6-okso-3-pyridyl]-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,

- 2-[3-(hydroksymetyl)-4-[1-metyl-5-[[5-[1-(oxetan-3-yl)-3,6-dihydro-2H-pyridin-4-yl]-2-pyridyl]amino]-6-okso-3-pyridyl]-2-pyridyl]-3,4,6,7,8,9-heksahidropirazino[1,2-a]indol-1-on,
- 5 3-[3-(hydroksymetyl)-4-[6-(imidazo[1,2-a]pyridin-6-ylamino)-4-metyl-5-okso-pirazin-2-yl]-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pirazin-4-on,
- 3-[3-(hydroksymetyl)-4-[1-metyl-5-[(5-metyl-6,7-dihydro-4H-pirazolo[1,5-a]pirazin-2-yl)amino]-6-okso-3-pyridyl]-2-pyridyl]-7,8,9,10-tetrahidropiridazino[4,5-a]indolizin-4-on,
- 10 3-[3-(hydroksymetyl)-4-[1-metyl-5-[(5-metyl-6,7-dihydro-4H-tiazolo[5,4-c]pyridin-2-yl)amino]-6-okso-3-pyridyl]-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pirazin-4-on,
- 2-[3-(hydroksymetyl)-4-[1-metyl-5-[(5-metyl-6,7-dihydro-4H-pirazolo[1,5-a]pirazin-2-yl)amino]-6-okso-3-pyridyl]-2-pyridyl]-6,7,8,9-tetrahidropiridazino[4,5-b]indolizin-1-on,
- 15 2-[3-(hydroksymetyl)-4-[1-metyl-6-okso-5-(4,5,6,7-tetrahidropirazolo[1,5-a]pirazin-2-ylamino)-3-pyridyl]-2-pyridyl]-3,4,6,7,8,9-heksahidropirazino[1,2-a]indol-1-on,
- 2-[3-(hydroksymetyl)-4-[1-metyl-5-[[5-(1-metylazetidin-3-yl)oksy-2-pyridyl]amino]-6-okso-3-pyridyl]-2-pyridyl]-3,4,6,7,8,9-heksahidropirazino[1,2-a]indol-1-on,
- 20 3-[3-(hydroksymetyl)-4-[1-metyl-5-[[5-(1-metylazetidin-3-yl)oksy-2-pyridyl]amino]-6-okso-3-pyridyl]-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pirazin-4-on,
- 25 2-[4-[5-[(5-etyl-6,7-dihydro-4H-pirazolo[1,5-a]pirazin-2-yl)amino]-1-metyl-6-okso-3-pyridyl]-3-(hydroksymetyl)-2-pyridyl]-3,4,6,7,8,9-heksahidropirido[3,4-b]indolizin-1-on,
- 2-[4-[5-[(5-acetyl-6,7-dihydro-4H-pirazolo[1,5-a]pirazin-2-yl)amino]-1-metyl-6-okso-3-pyridyl]-3-(hydroksymetyl)-2-pyridyl]-3,4,6,7,8,9-heksahidropirazino[1,2-a]indol-1-on,
- 30

- 2-(7,7-dimetyl-4-okso-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-3-yl)-4-[1-metyl-5-[[5-[(2S)-2-metyl-4-(oxetan-3-yl)piperazin-1-yl]-2-pyridyl]amino]-6-okso-3-pyridyl]pyridin-3-karboksamid,
- 5 2-(7,7-dimetyl-4-okso-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-3-yl)-N-metyl-4-[1-metyl-5-[[5-[(2S)-2-metyl-4-(oxetan-3-yl)piperazin-1-yl]-2-pyridyl]amino]-6-okso-3-pyridyl]pyridin-3-karboksamid,
- 3-[4-[5-[(5-acetyl-6,7-dihydro-4H-pyrazolo[1,5-a]pyrazin-2-yl)amino]-1-metyl-6-okso-3-pyridyl]-3-(hydroksymetyl)-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,
- 10 10-fluor-2-[3-(hydroksymetyl)-4-[1-metyl-5-[(2-metylpyrimidin-4-yl)amino]-6-okso-3-pyridyl]-2-pyridyl]-3,4,6,7,8,9-heksahidropyrazino[1,2-a]indol-1-on,
- 3-[4-[5-(6,7-dihydro-4H-pyrano[4,3-d]tiazol-2-ylamino)-1-metyl-6-okso-3-pyridyl]-3-(hydroksymetyl)-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,
- 15 3-[4-(hydroksymetyl)-5-[1-metyl-5-[(2-metylpyrimidin-4-yl)amino]-6-okso-3-pyridyl]-3-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,
- 3-[3-(hydroksymetyl)-4-[1-metyl-5-[(5-metyl-6,7-dihydro-4H-tiazolo[5,4-c]pyridin-2-yl)amino]-6-okso-3-pyridyl]-2-pyridyl]-6,7,8,9-tetrahydrobenzotiofeno[2,3-d]pyridazin-4-on,
- 20 2-[3-(hydroksymetyl)-4-[5-(1H-imidazo[4,5-b]pyridin-5-ylamino)-1-metyl-6-okso-3-pyridyl]-2-pyridyl]-3,4,6,7,8,9-heksahidropyrazino[1,2-a]indol-1-on,
- 3-[4-[5-[(1,5-dimetylpyrazol-3-yl)amino]-1-metyl-6-okso-3-pyridyl]-3-(hydroksymetyl)-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,
- 25 3-[4-[6-(3-aminoanilino)-4-metyl-5-okso-pyrazin-2-yl]-3-(hydroksymetyl)-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,
- 5-[2-(3,4,6,7,8,9-heksahydro-1H-pyrazino[1,2-a]indol-2-yl)-3-(hydroksymetyl)-4-pyridyl]-1-metyl-3-[[5-[(2S)-2-metyl-4-(oxetan-3-yl)piperazin-1-yl]-2-pyridyl]amino]pyridin-2-on,
- 30

- 3-[4-[5-[(6-amino-2-pyridyl)amino]-1-metyl-6-okso-3-pyridyl]-3-(hydroksymetyl)-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,
- 5 3-[3-(hydroksymetyl)-4-[5-[(2-metylpyrimidin-4-yl)amino]-6-okso-1H-pyridin-3-yl]-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,
- 10 10-fluor-2-[3-(hydroksymetyl)-4-[1-metyl-5-[(5-metyl-6,7-dihydro-4H-tiazolo[5,4-c]pyridin-2-yl)amino]-6-okso-3-pyridyl]-2-pyridyl]-3,4,6,7,8,9-heksahidropirazino[1,2-a]indol-1-on,
- 15 3-[3-(hydroksymetyl)-4-[1-metyl-5-[5-[(2S)-2-metyl-4-(oxetan-3-yl)piperazin-1-yl]-2-pyridyl]amino]-6-okso-pyridazin-3-yl]-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,
- 3 - [3 -(hydroksymetyl)-4-[1-metyl-5-[(2-metylpyrimidin-4-yl)amino]-6-okso-pyridazin-3-yl]-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,
- 20 3-[3-(hydroksymetyl)-4-[1-metyl-5-[5-(morfolin-4-karbonyl)-2-pyridyl]amino]-6-okso-pyridazin-3-yl]-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,
- 2-[3-(hydroksymetyl)-4-[1-metyl-5-[5-(morfolin-4-karbonyl)-2-pyridyl]amino]-6-okso-pyridazin-3-yl]-2-pyridyl]-3,4,6,7,8,9-heksahidropirazino[1,2-a]indol-1-on,
- 25 2-[3-(hydroksymetyl)-4-[1-metyl-5-[5-[(2S)-2-metyl-4-(oxetan-3-yl)piperazin-1-yl]pyrazin-2-yl]amino]-6-okso-3-pyridyl]-2-pyridyl]-3,4,6,7,8,9-heksahidropirazino[1,2-a]indol-1-on,
- 30 3-[4-[5-[(2-etylpyrimidin-4-yl)amino]-1-metyl-6-okso-3-pyridyl]-3-(hydroksymetyl)-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,
- 3-[3-(hydroksymetyl)-4-[1-metyl-5-[5-[(2S)-2-metyl-4-(oxetan-3-yl)piperazin-1-yl]pyrazin-2-yl]amino]-6-okso-3-pyridyl]-2-pyridyl]-6,7,8,9-tetrahydrobenzotiofeno[2,3-d]pyridazin-4-on,

- 10-fluor-2-[3-(hydroksymetyl)-4-[1-metyl-5-[[5-[(2S)-2-metyl-4-(oxetan-3-yl)piperazin-1-yl]-2-pyridyl]amino]-6-okso-pyridazin-3-yl]-2-pyridyl]-3,4,6,7,8,9-heksahidropirazino[1,2-a]indol-1-on,
- 5 2-[3-(hydroksymetyl)-4-[1-metyl-5-[[5-(1-metyl-4-piperidyl)-2-pyridyl]amino]-6-okso-3-pyridyl]-2-pyridyl]-3,4,6,7,8,9-heksahidropirazino[1,2-a]indol-1-on,
- 3-[3-(hydroksymetyl)-4-[1-metyl-6-okso-5-(4,5,6,7-tetrahydrotiazolo[5,4-c]pyridin-2-ylamino)-3-pyridyl]-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pirazin-4-on,
- 10 2-[4-[5-[(5-acetyl-6,7-dihydro-4H-tiazolo[5,4-c]pyridin-2-yl)amino]-1-metyl-6-okso-3-pyridyl]-3-(hydroksymetyl)-2-pyridyl]-10-fluor-3,4,6,7,8,9-heksahidropirazino[1,2-a]indol-1-on,
- 15 3-[3-(hydroksymetyl)-4-[1-metyl-5-[[5-[(2S)-2-metyl-4-(oxetan-3-yl)piperazin-1-yl]pirazin-2-yl]amino]-6-okso-3-pyridyl]-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pirazin-4-on,
- 3-[3-(hydroksymetyl)-4-[1-metyl-5-[[5-(1-metyl-4-piperidyl)-2-pyridyl]amino]-6-okso-3-pyridyl]-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pirazin-4-on,
- 20 10-fluor-2-[3-(hydroksymetyl)-4-[1-metyl-5-[[5-[(2S)-2-metyl-4-(oxetan-3-yl)piperazin-1-yl]-2-pyridyl]amino]-6-okso-3-pyridyl]-2-pyridyl]-3,4,6,7,8,9-heksahidropirido[3,4-b]indolizin-1-on,
- 2-[3-(hydroksymetyl)-4-[1-metyl-5-[[5-[(2S)-2-metyl-4-(oxetan-3-yl)piperazin-1-yl]-2-pyridyl]amino]-6-okso-3-pyridyl]-2-pyridyl]-5,6,7,8-tetrahydro-1H-pyrrolo[3,4-b]indolizin-3-on,
- 25 2-[3-(hydroksymetyl)-4-[1-metyl-5-[[5-(1-metylazetidin-3-yl)-2-pyridyl]amino]-6-okso-3-pyridyl]-2-pyridyl]-3,4,6,7,8,9-heksahidropirazino[1,2-a]indol-1-on,
- 30 3-[3-(hydroksymetyl)-4-[1-metyl-5-[[5-(1-metylazetidin-3-yl)-2-pyridyl]amino]-6-okso-3-pyridyl]-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pirazin-4-on,

- 10-fluor-2-[3-(hydroksymetyl)-4-[1-metyl-5-[(5-metyl-6,7-dihydro-4H-pyrazolo[1,5-a]pyrazin-2-yl)amino]-6-okso-3-pyridyl]-2-pyridyl]-3,4,6,7,8,9-heksahydropyrido[3,4-b]indolizin-1-on,
- 5 2-[4-[5-[(1,5-dimetylpyrazol-3-yl)amino]-1-metyl-6-okso-3-pyridyl]-3-(hydroksymetyl)-2-pyridyl]-3,4,6,7,8,9-heksahydropyrido[3,4-b]indolizin-1-on,
- 2-[3-(hydroksymetyl)-4-[1-metyl-5-[[1-[1-(oxetan-3-yl)-4-piperidyl]imidazol-4-yl]amino]-6-okso-3-pyridyl]]-2-pyridyl]-3,4,6,7,8,9-heksahydropyrazino[1,2-a]indol-1-on,
- 10 2-[3-(hydroksymetyl)-4-[1-metyl-5-[[5-(1-metylazetidin-3-yl)-2-pyridyl]amino]-6-okso-3-pyridyl]-2-pyridyl]-3,4,6,7,8,9-heksahydropyrido[3,4-b]indolizin-1-on,
- 2-[3-(hydroksymetyl)-4-[1-metyl-5-[[5-[(2S)-2-metyl-4-(oxetan-3-yl)piperazin-1-yl]-2-pyridyl]amino]-6-okso-3-pyridyl]-2-pyridyl]-6,7,8,9-tetrahydropyrido[3,4-b]indolizin-1-on,
- 15 2-[4-[5-[(1,5-dimetylpyrazol-3-yl)aminol-1-metyl-6-okso-3-pyridyl]-3-(hydroksymetyl)-2-pyridyl]-6,7,8,9-tetrahydropyrido[3,4-b]indolizin-1-on,
- 3-[4-[5-[(5-acetyl-6,7-dihydro-4H-pyrazolo[1,5-a]pyrazin-2-yl)amino]-1-metyl-6-okso-3-pyridyl]-3-(hydroksymetyl)-2-pyridyl]-6,7,8,9-tetrahydrobenzotiofeno[2,3-d]pyridazin-4-on,
- 20 3-[3-(hydroksymetyl)-4-[1-metyl-5-[[5-[(3R)-3-metyl morfolin-4-karbonyl]-2-pyridyl]amino]-6-okso-pyridazin-3-yl]-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,
- 3-[3-(hydroksymetyl)-4-[1-metyl-5-[[5-[(3R)-3-metyl morfolin-4-karbonyl]-2-pyridyl]amino]-6-okso-3-pyridyl]-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,
- 25 2-[4-[5-[(5,6-dimetyl-6,7-dihydro-4H-pyrazolo[1,5-a]pyrazin-2-yl)amino]-1-metyl-6-okso-3-pyridyl]-3-(hydroksymetyl)-2-pyridyl]-3,4,6,7,8,9-heksahydropyrazino[1,2-a]indol-1-on,
- 30 3-[4-[5-[(1-etyl-5-metyl-pyrazol-3-yl)amino]-1-metyl-6-okso-3-pyridyl]-3-(hydroksymetyl)-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,

- 3-[3-(hydroksymetyl)-4-[5-[[5-[(2S)-2-metyl-4-(oxetan-3-yl)piperazin-1-yl]-2-pyridyl]amino]-6-okso-1H-pyridazin-3-yl]-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,
- 5 3-[4-[5-[(5-acetyl-6,7-dihydro-4H-pyrazolo[1,5-a]pyrazin-2-yl)amino]-1-metyl-6-okso-3-pyridyl]-3-(hydroksymetyl)-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]tieno[1,3-c]pyridin-4-on,
- 2-[4-[5-[(5-acetyl-6,7-dihydro-4H-pyrazolo[1,5-a]pyrazin-2-yl)amino]-1-metyl-6-okso-3-pyridyl]-3-(hydroksymetyl)-2-pyridyl]-10-fluor-3,4,6,7,8,9-heksahidropirazin[1,2-a]indol-1-on,
- 10 3-[3-(hydroksymetyl)-4-1-metyl-5-[[5-[(3S)-3-metyl-morfolin-4-karbonyl]-2-pyridyl]amino]-6-okso-pyridazin-3-yl]-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,
- 3-[3-(hydroksymetyl)-4-[1-metyl-5-[[5-[(3S)-3-metyl-morfolin-4-karbonyl]-2-pyridyl]amino]-6-okso-3-pyridyl]-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,
- 15 3-[3-(hydroksymetyl)-4-[1-metyl-5-[[5-(morfolin-4-karbonyl)-2-pyridyl]amino]-6-okso-pyridazin-3-yl]-2-pyridyl]-6,7,8,9-tetrahydrobenzotiofeno[2,3-d]pyridazin-4-on,
- 3-[3-(hydroksymetyl)-4-[1-metyl-5-[[5-(morfolin-4-karbonyl)-2-pyridyl]amino]-6-okso-pyridazin-3-yl]-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]tieno[1,3-c]pyridin-4-on,
- 20 3-[3-(hydroksymetyl)-4-[1-metyl-5-[(5-metyl-1H-pyrazol-3-yl)amino]-6-okso-3-pyridyl]-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,
- 25 2-[4-[5-[(1,5-dimetylpyrazol-3-yl)amino]-1-metyl-6-okso-3-pyridyl]-3-(hydroksymetyl)-2-pyridyl]-10-fluor-3,4,6,7,8,9-heksahidropirido[3,4-b]indolizin-1-on,
- 30 3-[3-(hydroksymetyl)-4-[1-metyl-5-[(5-metyloksazol-2-yl)amino]-6-okso-3-pyridyl]-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,

- 10-fluor-2-[3-(hydroksymetyl)-4-[1-metyl-6-okso-5-(pyrimidin-4-ylamino)pyridazin-3-yl]-2-pyridyl]-3,4,6,7,8,9-heksahidropirazino[1,2-a]indol-1-on,
- 5 3-[3-(hydroksymetyl)-4-[5-[[2-(1-hidroksy-1-metyl-etyl)pyrimidin-4-yl]amino]-1-metyl-6-okso-3-pyridyl]-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pirazin-4-on,
- 3-[3-(hydroksymetyl)-4-[1-metyl-6-okso-5-[(5-propanoyl-6,7-dihydro-4H-pirazolo[1,5-a]pirazin-2-yl)amino]-3-pyridyl]-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pirazin-4-on,
- 10 3-[3-(hydroksymetyl)-4-[1-metyl-5-[5-(oxetan-3-yl)-1H-pirazol-3-yl]amino]-6-okso-3-pyridyl]-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pirazin-4-on,
- 3-[3-(hydroksymetyl)-4-[1-metyl-5-[(5-metyl-1,3,4-tiadiazol-2-yl)amino]-6-okso-3-pyridyl]-2-pyridyl]-7,7-dimetyl-1,2,6,8-
- 15 tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pirazin-4-on,
- 3-[3-(hydroksymetyl)-4-[1-metyl-5-[(1-metylimidazol-4-yl)amino]-6-okso-3-pyridyl]-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pirazin-4-on,
- 20 3-[3-(hydroksymetyl)-4-[1-metyl-5-[5-(morfolin-4-karbonyl)-2-pyridyl]amino]-6-okso-3-pyridyl]-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pirazin-4-on,
- 2-[3-(hydroksymetyl)-4-[1-metyl-5-[(7-metyl-6,8-dihydro-5H-[1,2,4]triazolo[1,5-a]pirazin-2-yl)amino]-6-okso-3-pyridyl]-2-pyridyl]-3,4,6,7,8,9-heksahidropirazino[1,2-a]indol-1-on,
- 25 3-[3-(hydroksymetyl)-4-[5-[[5-[(2S)-2-metyl-4-(oxetan-3-yl)piperazin-1-yl]-2-pyridyl]amino]-6-okso-1H-pyridin-3-yl]-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pirazin-4-on,
- 3-[3-(hydroksymetyl)-4-[1-metyl-5-[5-[1-(oxetan-3-yl)azetidin-3-yl]-2-pyridyl]amino]-6-okso-3-pyridyl]-2-pyridyl]-7,7-dimetyl-1,2,6,8-
- 30 tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pirazin-4-on,

3-[3-(hydroksymetyl)-4-[1-metyl-6-okso-5-(2-pyridylamino)-3-pyridyl]-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,

5 3-[3-(hydroksymetyl)-4-[1-metyl-5-[(5-metylpyrazin-2-yl)amino]-6-okso-3-pyridyl]-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,

3-[4-[5-[(5-fluor-2-pyridyl)amino]-1-metyl-6-okso-3-pyridyl]-3-(hydroksymetyl)-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,

10 6-[[5-[2-(7,7-dimetyl-4-okso-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-3-yl)-3-(hydroksymetyl)-4-pyridyl]-1-metyl-2-okso-3-pyridyl]amino]pyridin-3-karbonitril,

15 3-[3-(hydroksymetyl)-4-[5-[(5-metoksy-2-pyridyl)amino]-1-metyl-6-okso-3-pyridyl]-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,

3-[4-[5-[(5-cyclopropyl-2-pyridyl)amino]-1-metyl-6-okso-3-pyridyl]-3-(hydroksymetyl)-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,

20 3-[3-(hydroksymetyl)-4-[1-metyl-6-okso-5-[[5-(trifluormetyl)-2-pyridyl]amino]-3-pyridyl]-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,

3-[3-(hydroksymetyl)-4-[1-metyl-5-[[1-metyl-5-(morfolin-4-karbonyl)pyrazol-3-yl]amino]-6-okso-3-pyridyl]-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,

25 3-[3-(hydroksymetyl)-4-[1-metyl-5-[(5-metyl-2-pyridyl)amino]-6-okso-3-pyridyl]-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,

30 3-[3-(hydroksymetyl)-4-[1-metyl-5-[[5-[(2S)-2-metyl-4-(oxetan-3-yl)piperazin-1-yl]-2-pyridyl]amino]-6-okso-3-pyridyl]-2-pyridyl]-7,7-dimetyl-6,8-dihydrocyklopenta[3,4]tieno[1,3-d]pyridazin-4-on,

- 3-[3-(hydroksymetyl)-4-[1-metyl-5-[(5-metylisoksazol-3-yl)amino]-6-okso-3-pyridyl]-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,
- 5 10-fluor-2-[3-(hydroksymetyl)-4-[1-metyl-5-[[5-(oxetan-3-yl)-6,7-dihydro-4H-pyrazolo[1,5-a]pyrazin-2-yl]amino]-6-okso-3-pyridyl]-2-pyridyl]-3,4,6,7,8,9-heksahydropyrido[3,4-b]indolizin-1-on,
- 3-[3-(hydroksymetyl)-4-[1-metyl-5-[[1-(oxetan-3-yl)imidazol-4-yl]amino]-6-okso-3-pyridyl]-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,
- 10 3-[3-(hydroksymetyl)-4-[5-(isoksazol-3-ylamino)-1-metyl-6-okso-3-pyridyl]-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,
- 15 2-[4-[5-[(4,5-dimetyl-6,7-dihydro-4H-pyrazolo[1,5-a]pyrazin-2-yl)amino]-1-metyl-6-okso-3-pyridyl-3-(hydroksymetyl)-2-pyridyl]-3,4,6,7,8,9-heksahydropyrazino[1,2-a]indol-1-on,
- 3-[3-(hydroksymetyl)-4-[1-metyl-5-[(5-metylisoksazol-3-yl)amino]-6-okso-3-pyridyl]-2-pyridyl]-7,7-dimetyl-6,8-dihydrocyklopenta[3,4]tieno[1,3-d]pyridazin-4-on,
- 20 3-[3-(hydroksymetyl)-4-[1-metyl-6-okso-5-(1H-pyrazol-3-ylamino)-3-pyridyl]-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,
- 3-[3-(hydroksymetyl)-4-[1-metyl-5-[(1-metylpyrazol-3-yl)amino]-6-okso-3-pyridyl]-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,
- 25 3-[3-(hydroksymetyl)-4-[1-metyl-5-[(5-metylisoksazol-3-yl)amino]-6-okso-3-pyridyl]-2-pyridyl]-6,7,8,9-tetrahydrobenzotiofeno[2,3-d]pyridazin-4-on,
- 3-[4-[5-[(1,5-dimetylpyrazol-3-yl)amino]-1-metyl-6-okso-3-pyridyl]-3-(hydroksymetyl)-2-pyridyl]-7,7-dimetyl-6,8-dihydrocyklopenta[3,4]tieno[1,3-d]pyridazin-4-on,
- 30 3-[3-(hydroksymetyl)-4-[1-metyl-5-[(1-metyltriazol-4-yl)amino]-6-okso-3-pyridyl]-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,

- 3-[4-[5-[(5-tert-butylisoksazol-3-yl)amino]-1-metyl-6-okso-3-pyridyl]-3-(hydroksymetyl)-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,
- 5 3-[4-[5-[(5-etylisoksazol-3-yl)amino]-1-metyl-6-okso-3-pyridyl]-3-(hydroksymetyl)-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,
- 3-[3-(hydroksymetyl)-4-[5-[[5-(2-metoksyetyl)-6,7-dihydro-4H-pyrazolo[1,5-a]pyrazin-2-yl]amino]-1-metyl-6-okso-3-pyridyl]-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,
- 10 3-[3-(hydroksymetyl)-4-[1-metyl-5-[(5-metyl-6,7-dihydro-4H-pyrazolo[1,5-a]pyrazin-2-yl)amino]-6-okso-pyridazin-3-yl]-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,
- 15 5-[[5-[2-(7,7-dimetyl-4-okso-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-3-yl)-3-(hydroksymetyl)-4-pyridyl]-1-metyl-2-okso-3-pyridyl]amino]pyrazin-2-karbonitril,
- 3-[3-(hydroksymetyl)-4-[1-metyl-6-okso-5-[(5-fenylisoksazol-3-yl)amino]-3-pyridyl]-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,
- 20 (R)-2-(3'-(hydroksymetyl)-5-((5-(1-metoksypropan-2-yl)-4,5,6,7-tetrahydropyrazolo[1,5-a]pyrazin-2-yl)amino)-1-metyl-6-okso-1,6-dihydro-[3,4'-bipyridin]-2'-yl)-7,7-dimetyl-2,3,4,6,7,8-heksahydro-1H-cyklopenta[4,5]pyrrolo[1,2-a]pyrazin-1-on,
- 25 3-[3-(hydroksymetyl)-4-[1-metyl-6-okso-5-[[6-(trifluormetyl)pyridazin-3-yl]amino]-3-pyridyl]-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,
- 3-[3-(hydroksymetyl)-4-[1-metyl-5-[1-metyl-5-[[metyl(oxetan-3-yl)amino]metyl]pyrazol-3-yl]amino]-6-okso-3-pyridyl]-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,
- 30 (S)-2-(3'-(hydroksymetyl)-5-((5-(1-metoksypropan-2-yl)-4,5,6,7-tetrahydropyrazolo[1,5-a]pyrazin-2-yl)amino)-1-metyl-6-okso-1,6-dihydro-[3,4'-bipyridin]-2'-yl)-7,7-dimetyl-2,3,4,6,7,8-heksahydro-1H-cyklopenta[4,5]pyrrolo[1,2-a]pyrazin-1-on,

- 3-[3-(hydroksymetyl)-4-[5-[[5-(2-metoksyetyl)-6,7-dihydro-4H-pyrazolo[1,5-a]pyrazin-2-yl]amino]-1-metyl-6-okso-3-pyridyl]-2-pyridyl]-7,7-dimetyl-6,8-dihydrocyklopenta[3,4]tieno[1,3-d]pyridazin-4-on,
- 5 3-[3-(hydroksymetyl)-4-[5-[[5-(2-metoksyetyl)-6,7-dihydro-4H-pyrazolo[1,5-a]pyrazin-2-yl]amino]-1-metyl-6-okso-pyridazin-3-yl]-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,
- 3-[3-(hydroksymetyl)-4-[5-[(6-metoksypyridazin-3-yl)amino]-1-metyl-6-okso-3-pyridyl]-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,
- 10 3-[4-[6-[(1,3-dimetylin-dazol-5-yl)amino]-4-metyl-5-okso-pyrazin-2-yl]-3-(hydroksymetyl)-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,
- 3-[3-(hydroksymetyl)-4-[5-[[5-(2-metoksyetyl)-6,7-dihydro-4H-pyrazolo[1,5-a]pyrazin-2-yl]amino]-1-metyl-6-okso-3-pyridyl]-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]tieno[1,3-c]pyridin-4-on,
- 15 3-[3-(hydroksymetyl)-4-[5-[[5-(3-metoksypropyl)-6,7-dihydro-4H-pyrazolo[1,5-a]pyrazin-2-yl]amino]-1-metyl-6-okso-3-pyridyl]-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,
- 3-[3-(hydroksymetyl)-4-[1-metyl-5-[(5-metylisotiazol-3-yl)amino]-6-okso-3-pyridyl]-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,
- 20 3-[4-[5-[(5-cyklopropylisoksazol-3-yl)amino]-1-metyl-6-okso-3-pyridyl]-3-(hydroksymetyl)-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,
- 25 3-[3-(hydroksymetyl)-4-[1-metyl-5-[[5-metyl-1-(oxetan-3-yl)pyrazol-3-yl]amino]-6-okso-3-pyridyl]-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,
- 30 3-[3-(hydroksymetyl)-4-[1-metyl-5-[(5-metyl-6-okso-4,7-dihidropirazolo[1,5-a]pyrazin-2-yl)amino]-6-okso-3-pyridyl]-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,

- 3-[4-[5-[[5-(3-hydroksyazetidin-1-yl)-2-pyridyl]amino]-1-metyl-6-okso-3-pyridyl]-3-(hydroksymetyl)-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,
- 5 3-[3-(hydroksymetyl)-4-[1-metyl-5-[[1-metyl-5-(pyrrolidin-1-karbonyl)pyrazol-3-yl]amino]-6-okso--pyridyl]-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,
- 3-[3-(hydroksymetyl)-4-[5-[[5-(metoksymetyl)-1-metyl-pyrazol-3-yl]amino]-1-metyl-6-okso-3-pyridyl]-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,
- 10 3-[3-(hydroksymetyl)-4-[1-metyl-5-[(5-metyl-6-okso-4,7-dihydropyrazolo[1,5-a]pyrazin-2-yl)amino]-6-okso-3-pyridyl]-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]tieno[1,3-c]pyridin-4-on,
- (R)-2-(5-((4,5-dimetyl-4,5,6,7-tetrahydropyrazolo[1,5-a]pyrazin-2-yl)amino)-3'-(hydroksymetyl)-1-metyl-6-okso-1,6-dihydro-[3,4'-bipyridin]-2'-yl)-7,7-dimetyl-2,3,4,6,7,8-heksahydro-1H-cyklopenta[4,5]pyrrolo[1,2-a]pyrazin-1-on,
- 15 (S)-2-(5-((4,5-dimetyl-4,5,6,7-tetrahydropyrazolo[1,5-a]pyrazin-2-yl)amino)-3'-(hydroksymetyl)-1-metyl-6-okso-1,6-dihydro-[3,4'-bipyridin]-2'-yl)-7,7-dimetyl-2,3,4,6,7,8-heksahydro-1H-cyklopenta[4,5]pyrrolo[1,2-a]pyrazin-1-on,
- 3-[4-[5-[[5-[(3S,5R)-3,5-dimetyl morfolin-4-karbonyl]-2-pyridyl]amino]-1-metyl-6-okso-3-pyridyl]-3-(hydroksymetyl)-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,
- 20 3-[4-[5-[[5-[(3S,SR)-3,5-dimetyl morfolin-4-karbonyl]-2-pyridyl]amino]-1-metyl-6-okso-pyridazin-3-yl]-3-(hydroksymetyl)-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,
- 25 2-[4-[5-[[5-[(3S,SR)-3,5-dimetyl morfolin-4-karbonyl]-2-pyridyl]amino]-1-metyl-6-okso-3-pyridyl]-3-(hydroksymetyl)-2-pyridyl]-3,4,6,7,8,9-heksahydropyrazino[1,2-a]indol-1-on,
- 30 3-[3-(hydroksymetyl)-4-[5-[[5-(3-metoksyazetidin-1-yl)-2-pyridyl]amino]-1-metyl-6-okso-3-pyridyl]-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,

- 3-[4-[5-[[5-[(3S,5S)-3,5-dimetylmorfolin-4-karbonyl]-2-pyridyl]amino]-1-metyl-6-okso-pyridazin-3-yl]-3-(hydroksymetyl)-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,
- 5 3-[4-[5-[(1,3-dimetylpyrazolo[3,4-c]pyridin-5-yl)amino]-1-metyl-6-okso-3-pyridyl]-3-(hydroksymetyl)-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,
- 3-[4-[5-[(2,3-dimetylpyrazolo[3,4-c]pyridin-5-yl)amino]-1-metyl-6-okso-3-pyridyl]-3-(hydroksymetyl)-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,
- 10 3-[3-(hydroksymetyl)-4-[5-[[5-(2-metoksyetyl)-6,7-dihydro-4H-pyrazolo[1,5-a]pyrazin-2-yl]amino]-1,2-dimetyl-6-okso-3-pyridyl]-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,
- 3-[4-(hydroksymetyl)-5-[5-[[5-(2-metoksyetyl)-6,7-dihydro-4H-pyrazolo[1,5-a]pyrazin-2-yl]amino]-1-metyl-6-okso-3-pyridyl]-3-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,
- 15 3-[3-(hydroksymetyl)-2-[5-[[5-(2-metoksyetyl)-6,7-dihydro-4H-pyrazolo[1,5-a]pyrazin-2-yl]amino]-1-metyl-6-okso-3-pyridyl]-4-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,
- 3-[4-[5-[(6,6-dimetyl-4,7-dihydropyrazolo[5,1-c][1,4]oksazin-2-yl)amino]-1-metyl-6-okso-pyridazin-3-yl]-3-(hydroksymetyl)-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]tieno[1,3-c]pyridin-4-on,
- 20 3-[3-(hydroksymetyl)-4-[4-metyl-6-[(3-metylisotiazol-5-yl)amino]-5-okso-pyrazin-2-yl]-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,
- 25 3-[4-[5-[(5-etyl-1,3,4-tiadiazol-2-yl)amino]-1-metyl-6-okso-3-pyridyl]-3-(hydroksymetyl)-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,
- 30 3-[3-(hydroksymetyl)-4-[1-metyl-5-[(1-metyltriazol-4-yl)amino]-6-okso-3-pyridyl]-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]tieno[1,3-c]pyridin-4-on,

3-[4-[5-[(5-cyklopropyl-1,3,4-tiadiazol-2-yl)amino]-1-metyl-6-okso-3-pyridyl]-3-(hydroksymetyl)-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,

5 3-[4-[5-[(6,6-dimetyl-4,7-dihydropyrazolo[5,l-c][1,4]oksazin-2-yl)amino]-1-metyl-6-okso-3-pyridyl]-3-(hydroksymetyl)-2-pyridyl]-7,7-dimetyl-6,8-dihydrocyklopenta[3,4]tieno[1,3-d]pyridazin-4-on,

2-[3-(hydroksymetyl)-4-[5-[[5-(metoksymetyl)-1-metyl-pyrazol-3-yl]amino]-1-metyl-6-okso-3-pyridyl]-2-pyridyl]-3,4,6,7,8,9-heksahydropyrido[3,4-b]indolizin-1-on,

10 3-[4-[5-[(1,2-dimetylimidazol-4-yl)amino]-l-metyl-6-okso-3-pyridyl]-3-(hydroksymetyl)-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on,

15 3-[2-[[5-[2-(7,7-dimetyl-4-okso-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-3-yl)-3-(hydroksymetyl)-4-pyridyl]-1-metyl-2-okso-3-pyridyl]amino]-6,7-dihydro-4H-pyrazolo[1,5-a]pyrazin-5-yl]propannitril,

3-[3-(hydroksymetyl)-4-[5-[[5-[4-(2-metoksyetyl)piperazin-1-yl]-2-pyridyl]amino]-1-metyl-6-okso-3-pyridyl]-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on og

20 3-[3-(hydroksymetyl)-4-[5-[[5-[(2S)-4-(2-metoksyetyl)-2-metyl-piperazin-1-yl]-2-pyridyl]amino]-1-metyl-6-okso-3-pyridyl]-2-pyridyl]-7,7-dimetyl-1,2,6,8-tetrahydrocyklopenta[3,4]pyrrolo[3,5-b]pyrazin-4-on.

25 **18.** Et farmasøytisk preparat omfattet av en forbindelse ifølge hvilket som helst ett av kravene 1 til 17 og en farmasøytisk akseptabel bærer, glidemiddel, fortynningsmiddel eller tilsetningsmiddel.

19. Det farmasøytiske preparatet ifølge krav 18, som videre omfatter et terapeutisk middel.

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20. En fremgangsmåte for fremstilling av et farmasøytisk preparat som omfatter kombinerings av en forbindelse ifølge hvilket som helst ett av kravene 1 til 17 med en farmasøytisk akseptabel bærer.

21. Sett for behandling av en lidelse mediert av Bruton's tyrosinkinase, omfattende:

- a) et farmasøytisk preparat ifølge krav 18; og
- b) instruksjoner for anvendelse.

5

22. Det farmasøytiske preparatet ifølge krav 18 for anvendelse som et medikament ved behandling av en sykdom eller lidelse valgt fra immunlidelser, kreft, kardiovaskulær sykdom, viral infeksjon, inflammasjon, metabolisme/endokrin funksjon lidelser og nevrologiske lidelser og mediert av Bruton's tyrosinkinase.

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23. Anvendelse av et farmasøytisk preparat ifølge krav 18 ved fremstilling av et medikament for behandling av immunlidelser, kreft, kardiovaskulær sykdom, viral infeksjon, inflammasjon, metabolisme/endokrin funksjon lidelser og nevrologiske lidelser; og hvor medikamentet medierer Bruton's tyrosinkinase.

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24. Det farmasøytiske preparatet for anvendelse ifølge krav 22, hvor sykdommen eller lidelsen er en immun lidelse.

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25. Det farmasøytiske preparatet for anvendelse ifølge krav 22, hvor immun lidelsen er revmatoid artritt.

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26. Det farmasøytiske preparatet for anvendelse ifølge krav 22, hvor sykdommen eller lidelsen er systemisk og lokal inflammasjon, artritt, inflammasjon relatert til immun undertrykkelse, organ transplantat avvisning, allergier, ulcerativ kolitt, Crohn's sykdom, dermatitt, astma, systemisk lupus erytematosus, Sjögren's Syndrom, multippel sklerose, sklerodermi/systemisk sklerose, idiopatisk trombocytopen purpura (ITP), anti-nøytrofil cytoplasmatiske antistoffer (ANCA) vaskulitt, kronisk obstruktiv lungesykdom (KOLS), psoriasis.

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27. Det farmasøytiske preparatet for anvendelse ifølge krav 22, hvor sykdommen eller lidelsen er kreft valgt fra bryst, eggstokk, livmorhals, prostata, testikkel, genitourinær kanal, spiserør, strupehode, glioblastom, nevroblastom, mage, hud, keratoacanthoma, lunge, epidermoid karsinom, stor celle karsinom, ikke-små celle lungekarsinom (NSCLC), små celle karsinom, lunge adenokarsinom, ben, kolon, adenom, bukspyttkjertel, adenokarsinom, thyroid, follikulær karsinom, udiffereensierte karsinom, papillær karsinom, seminom, melanom, sarkom, blære karsinom, lever karsinom og biliære passasjer, nyre karsinom, pankreatisk, myeloid lidelser, lymfom, hårete celler,

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- buckalt hulrom, naso-faryngeal, svelg, leppe, tunge, munn, tynntarm, kolon-rektum, tykktarm, rektum, hjerne og sentralnervesystem, Hodgkin's, leukemi, bronchus, thyroid, lever og intrahepatisk gallegang, hepatocellulær, gastrisk, gliom/glioblastom, endometrial, melanom, nyre og nyre- bekken, urinblære, uterin corpus, uterin
- 5 livmorhals, multippelt myelom, akutt myelogen leukemi, kronisk myelogen leukemi, lymfocytisk leukemi, kronisk lymfoid leukemi (CLL), myeloid leukemi, oralt hulrom og svelg, ikke-Hodgkins lymfom, melanom og villous kolon adenom.

- 28.** Det farmasøytiske preparatet for anvendelse ifølge krav 22, som videre omfatter
- 10 administrering av et ytterligere terapeutisk middel valgt fra et anti-inflammatorisk middel, et immunomodulerende middel, kjemoterapeutisk middel, en apoptose-fremmer, en neurotropisk faktor, et middel for behandling av kardiovaskulær sykdom, et middel for behandling av leversykdom, en anti-viralt middel, et middel for
- 15 behandling av blodlidelser, et middel for behandling av diabetes og et middel for behandling av immundefekte lidelser.