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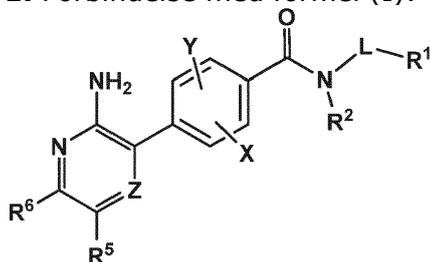
(54) Title **AMINOHETEROARYL BENZAMIDES AS KINASE INHIBITORS**

(56) References
Cited: WO-A2-2004/016597

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. Forbindelse med formel (I):



(I)

5 eller et farmasøytisk akseptabelt salt derav, hvori:

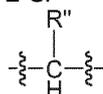
R^1 er en eventuelt substituert gruppe valgt fra C_{3-8} -sykloalkyl, 5-8-leddet heterosyklyl inneholdende 1-2 heteroatomer valgt fra N, O og S som ringledd, fenyl, -SO₂-fenyl, -C(O)-fenyl, -C(R⁸)₂-fenyl, og 5-6-leddet heteroaryling, hvori heterosyklylet og heteroarylet inneholder 1-2 heteroatomer valgt fra N, O og S som ringledd,

10

og hvori de valgfrie substituentene for R^1 er 1-3 grupper uavhengig valgt fra D, halo, hydroksy, amino, -N(R⁸)₂, CN, C₁₋₄-alkyl, C₁₋₄-alkoksy, -S(C₁₋₄-alkyl), C₁₋₄-haloalkyl, C₁₋₄-haloalkoksy, C₃₋₆-sykloalkyl, 3-6-leddet heterosyklyl inneholdende 1-2 heteroatomer valgt fra N, O og S, okso (unntatt på aromatiske ringer), COOR⁸, CON(R⁸)₂, -NR⁸-C(O)R⁸, -NR⁸-C(O)OR⁸-SO₂R⁸, -NR⁸SO₂R⁸, og SO₂N(R⁸)₂, hvor hver R⁸ uavhengig er H eller C₁₋₄-alkyl;

15

L er



20 hvori R'' er metyl eller etyl, og eventuelt er substituert med fluor, amino, hydroksy, metylamino, etylamino, dimetylamino, -OP(O)(OH)₂, metoksy eller etoksy;

20

X og Y er uavhengig valgt fra H, D, halo, CN, amino, hydroksy, C₁₋₄-alkyl, C₁₋₄-haloalkyl, C₁₋₄-alkoksy, og C₁₋₄-haloalkoksy;

R² er H, C₁₋₄-alkyl, eller aryl-C₁₋₂-alkyl-, hvori aryl og C₁₋₄-alkyl eventuelt er substituert med halo, CN, C₁₋₄-alkyl, C₁₋₄-haloalkyl, C₃₋₆-sykloalkyl, C₁₋₄-alkoksy, C₁₋₄-haloalkoksy, eller C₁₋₄-alkylsulfonyl; eller

25

R² og L er bundet sammen for å danne en heterosyklisk gruppe valgt fra morfolin, piperidin, tiomorfolin, piperazin, pyrrolidin som er knyttet til R¹ og som også eventuelt er substituert med én eller to grupper uavhengig valgt fra C₁₋₄-alkyl, C₁₋₄-alkoksy, okso, CN, COOR⁷, CON(R⁷)₂, og -SO₂R⁷, hvor hver R⁷ uavhengig er H eller C₁₋₄-alkyl;

30

Z er N eller CR⁴;

R⁴ er H, D, halo, C₁₋₄-alkyl, C₁₋₄-haloalkyl, eller C₁₋₄-alkoksy;

R⁵ er valgt fra -C(O)-R^{5a} og R^{5a}; hvori R^{5a} er et eventuelt substituert C₃₋₈-

sykloalkyl, C₃₋₈-sykloalkenyl, mettet eller umettet 3–8-leddet heterosyklisk ring

5 inneholdende 1–2 heteroatomer valgt fra N, O og S, fenyl eller 5–6-leddet

heteroarylring inneholdende 1–3 heteroatomer valgt fra N, O og S, hvori de

eventuelle substituentene for R⁵ er 1–4 grupper uavhengig valgt fra D, halo,

hydroksy, amino, CN, C₁₋₄-alkyl, C₁₋₄-alkoksy, C₁₋₄-haloalkyl, C₁₋₄-hydroksyalkyl,

C₁₋₄-haloalkoksy, C₃₋₆sykloalkyl, 3–6-leddet heterosyklil inneholdende 1–2

10 heteroatomer valgt fra N, O og S, okso (unntatt på atomatiske ringer), -COOR⁹,

-C(O)R⁹, CON(R⁹)₂, -NR⁹C(O)R⁹, -NR⁹CO₂R⁹, -SO₂R⁹, -NR⁹SO₂R⁹, og -SO₂N(R⁹)₂,

hvor hver R⁹ uavhengig er H eller C₁₋₄-alkyl eventuelt substituert med 1–3

grupper uavhengig valgt fra D, halo, OH, NH₂, NHMe og NMe₂; og to

substituenten på det samme eller tilstøtende karbonatomer til R⁵ kan eventuelt

15 tas sammen for å danne en 5–6-leddet ring som kan være mettet eller

aromatisk og inneholder 1–2 heteroatomer valgt fra N, O og S og som eventuelt

kan substitueres med 1–2 grupper uavhengig valgt fra D, Me, halo, OH, okso,

O(C₁₋₄-alkyl), NH₂, C₁₋₄-alkylamino, di(C₁₋₄-alkyl)amino; og

R⁶ er H, D, halo, C₁₋₄-alkyl, eller C₁₋₄-haloalkyl.

20

2. Forbindelsen ifølge krav 1, eller et farmasøytisk akseptabelt salt derav, hvor Z er N.

25 **3.** Forbindelsen ifølge krav 1 eller krav 2, eller et farmasøytisk akseptabelt salt derav, hvori R² er H eller Me.

4. Forbindelse ifølge et hvilket som helst av krav 1–3, eller et farmasøytisk akseptabelt salt derav, hvori R⁶ er H.

30 **5.** Forbindelse ifølge hvilket som helst av kravene 1 til 4 eller et farmasøytisk akseptabelt salt derav, hvori R⁵ er valgt fra -C(O)-R^{5a} og R^{5a}; hvori R^{5a} er valgt fra C₃₋₈sykloalkyl, 5–8-leddet heterosyklil inneholdende 1-2 heteroatomer valgt fra N, O og S, fenyl, og 5–6-leddet heteroaryl, og er eventuelt substituert med 1–3 grupper uavhengig valgt fra D, halo, CN, hydroksy, C₁₋₄-alkoksy, C₁₋₄-alkyl, C₁₋₄-haloalkyl, C₁₋₄-hydroksyalkyl, C₁₋₄-haloalkoksy, -SO₂R', -NR'-C(O)-R', og -SO₂NR'₂, hvor hver R' uavhengig er H eller C₁₋₄-alkyl.

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5 **6.** Forbindelse ifølge hvilket som helst av kravene 1-4, eller et farmasøytisk akseptabelt salt derav, hvori R^5 er valgt fra $-C(O)-R^{5a}$ og R^{5a} ; hvori R^{5a} er valgt fra syklobutyl, syklopentyl, sykloheksyl, sykloheksenyl, tetrahydropyran, dihydropyran, tetrahydrofuran, oksetan, azetidin, pyrrolidin, piperidin, piperazin, morfolin, tetrahydrotiopyran (tiasykloheksan) og tetrahydrotiofuran (tiasyklopentan), idet hver av disse eventuelt er substituert med 1-3 grupper uavhengig valgt fra halo, D, CN, hydroksy, C_{1-4} -alkyl, C_{1-4} -alkoksy, C_{1-4} -haloalkyl, C_{1-4} -hydroksyalkyl, C_{1-4} -haloalkoksy, okso, $COOR^9$, $CON(R^9)_2$, $-NHC(O)R^9$, $-NHCOOR^9$, $-NHSO_2R^9$, og $-SO_2R^9$, hvor hver R^9 uavhengig er H eller C_{1-4} -alkyl.

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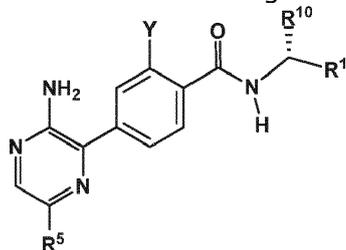
15 **7.** Forbindelsen ifølge et hvilket som helst av kravene 1-6, eller et farmasøytisk akseptabelt salt derav, hvori R^1 er fenyl, og er eventuelt substituert med en til tre grupper uavhengig valgt fra halo, D, CN, C_{1-4} -alkoksy, C_{1-4} -alkyl, C_{1-4} -haloalkyl, C_{1-4} -haloalkoksy, $-SO_2R^1$, $-N(R^1)_2$, $-NR^1-C(O)-R^1$, og $-SO_2NR^1_2$, hvor hver R^1 uavhengig er H eller C_{1-4} -alkyl.

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8. Forbindelsen ifølge krav 1-7, eller et farmasøytisk akseptabelt salt derav, hvori Y er H, metyl eller halo.

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9. Forbindelsen ifølge krav 1, hvilken er en forbindelse med formel IB:



(IB)

25 hvori R^5 er en 4-7-leddet syklisk eter eller C_{5-6} -sykloalkyl, og R^5 kan substitueres med opptil fire grupper uavhengig valgt fra D, F, Cl, CN, amino, $-CH_2OH$, $-NHC(O)Me$, $-NHCOOMe$, $-NHSO_2Me$, Me, OMe, OH, oxo, Et, iPr, OEt, og CF_3 ;

25

Y er H, F, Cl, eller Me;

R^{10} er $-CH_2-R^*$, hvor R^* er H, $-OH$, F, $-NH_2$, $-NHMe$, $-OP(O)(OH)_2$, $-NMe_2$, eller $-OMe$; og

R^1 er fenyl, eventuelt substituert med 1-2 grupper uavhengig valgt fra halo, CN, C_{1-4} -alkyl, C_{1-4} -alkoksy, C_{1-4} -haloalkyl, C_{1-4} -haloalkoksy, $COOR^8$, $CON(R^8)_2$, og $-SO_2R^8$, hvor hver R^8 uavhengig er H eller C_{1-4} -alkyl;

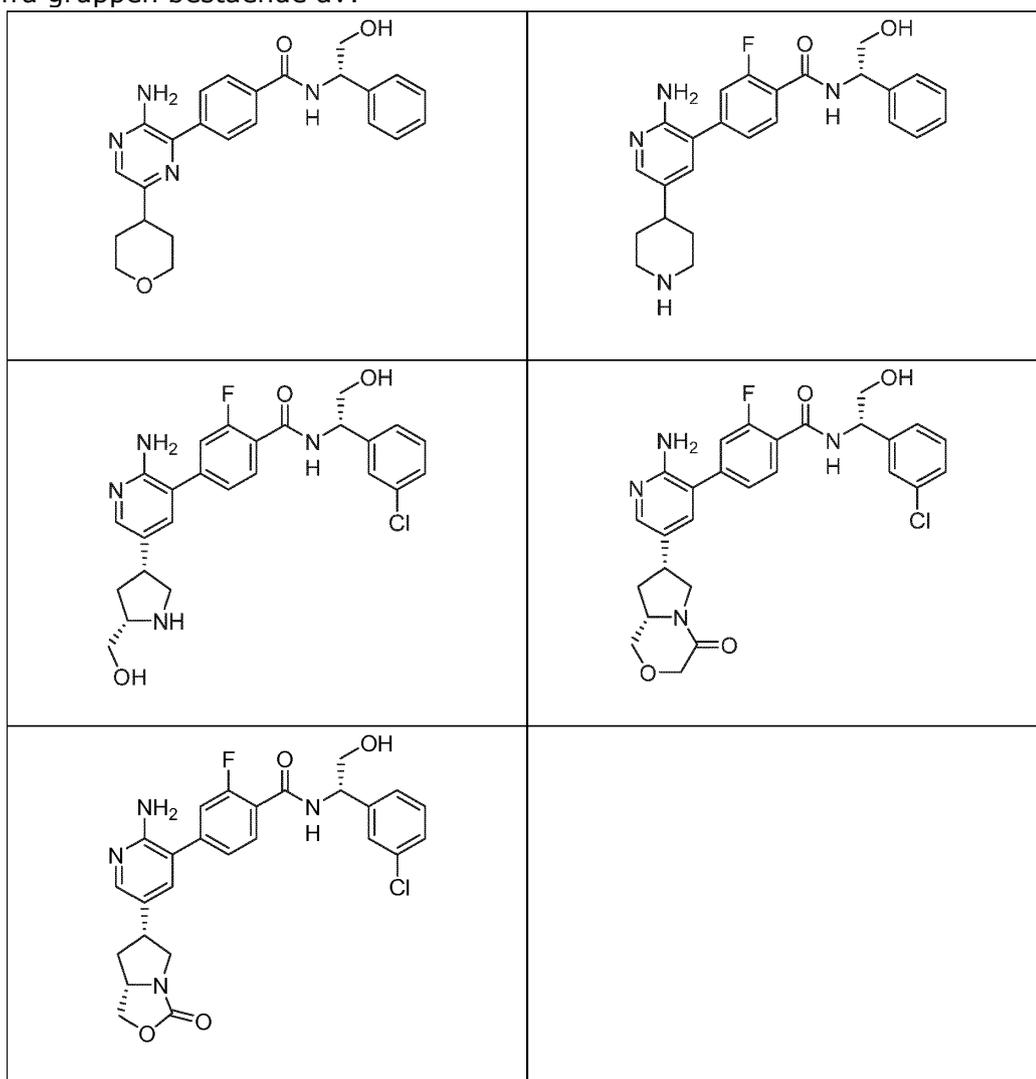
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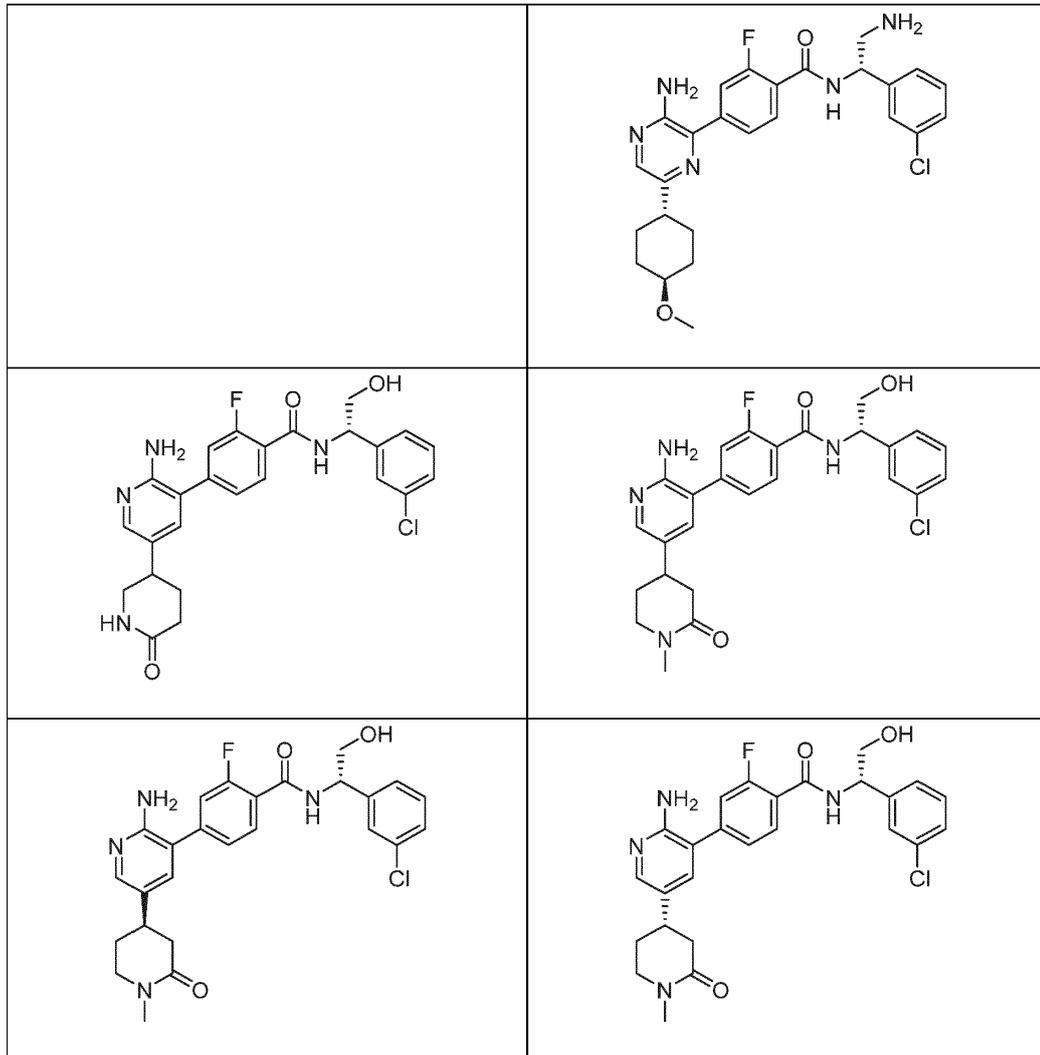
eller et farmasøytisk akseptabelt salt derav.

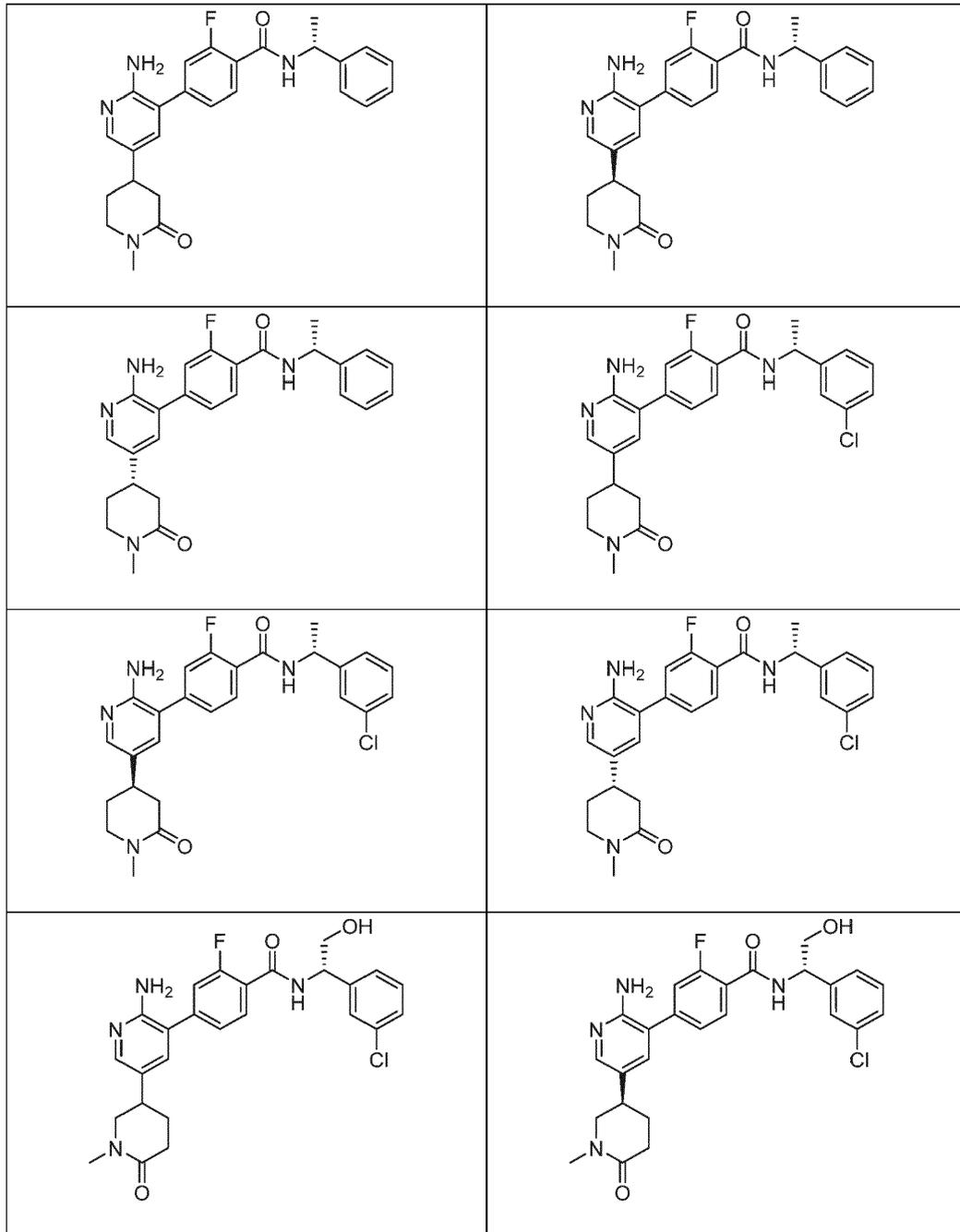
10. Forbindelsen ifølge hvilket som helst av kravene 1-4 eller 9, hvori R⁵er sykloheksyl substituert med 1-3 grupper uavhengig valgt fra D, F, Cl, CN, amino, Me, NHSO₂Me, NHCOMe, OMe, OH, Et, CN, -CH₂OH, og CF₃.

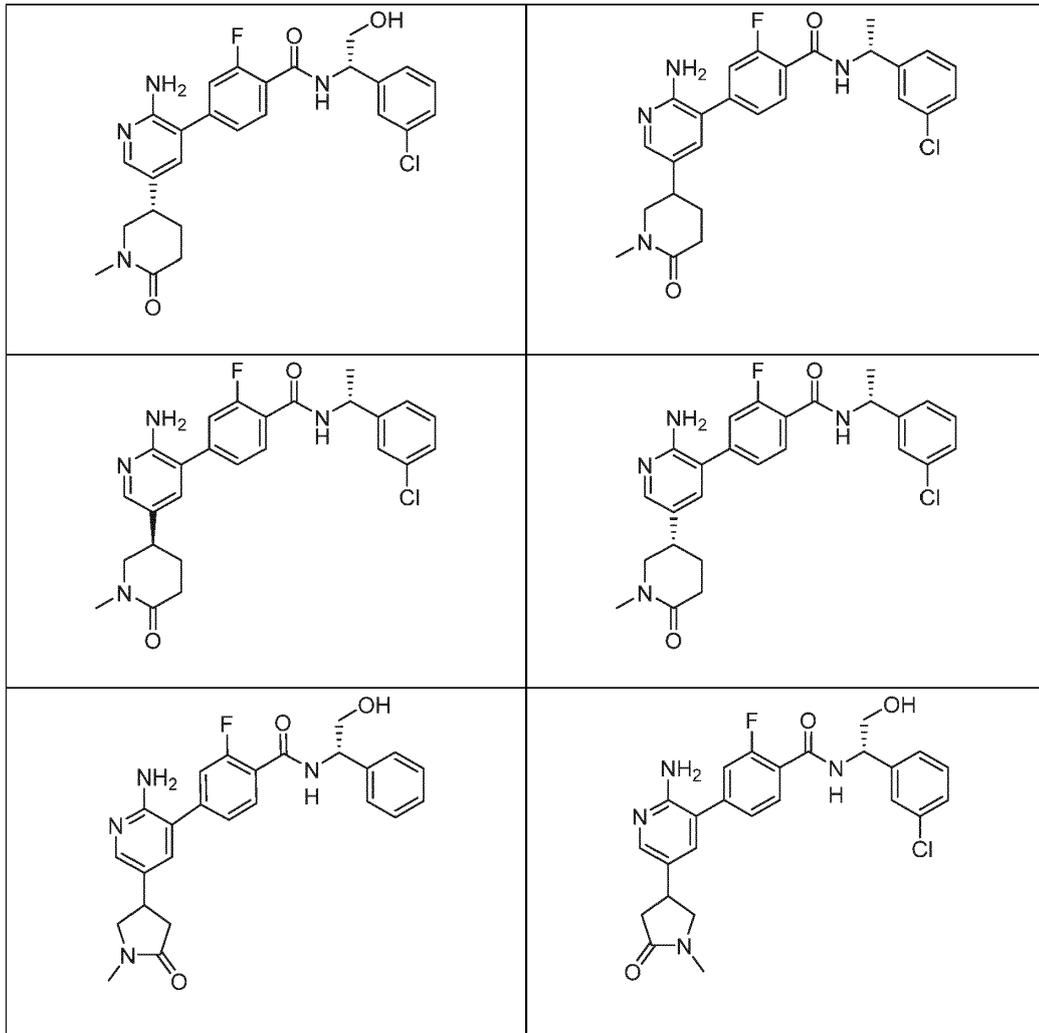
5 **11.** Forbindelse ifølge krav 1, hvori R¹ er fenyl substituert med 0, 1 eller 2 grupper uavhengig valgt fra F, Cl, Br, I, SMe, SO₂Me, og CH₃.

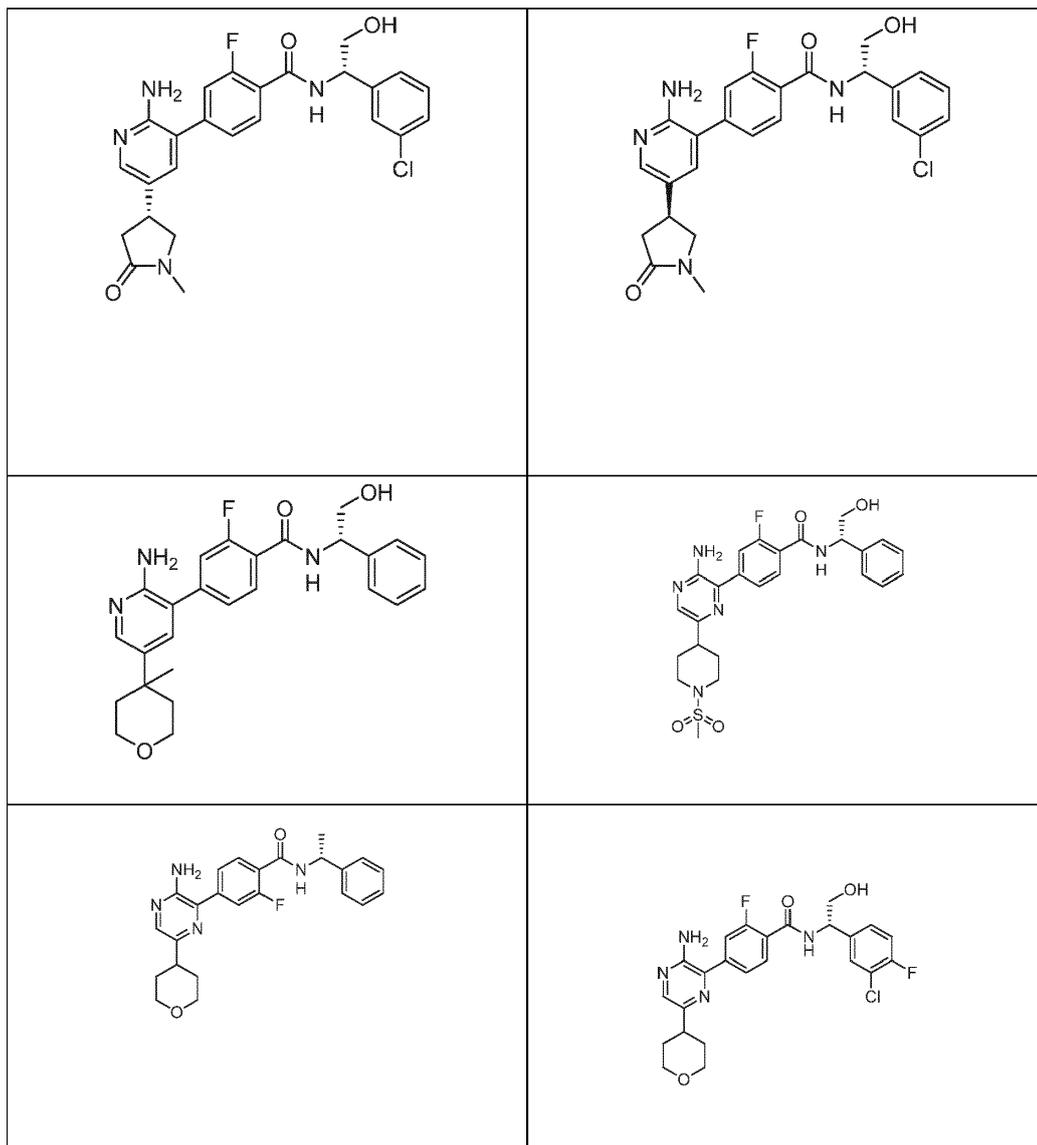
12. Forbindelsen ifølge krav 1, eller et farmasøytisk akseptabelt salt derav, valgt fra gruppen bestående av:

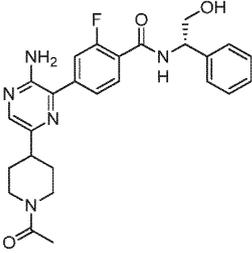
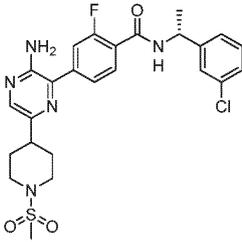
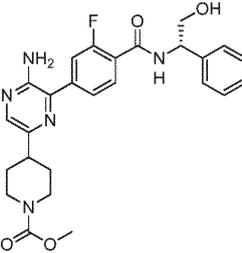
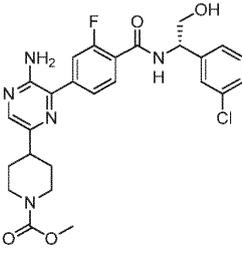
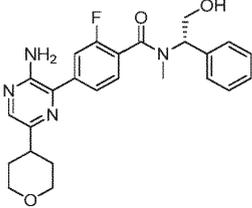
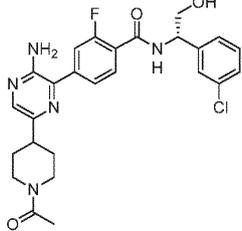




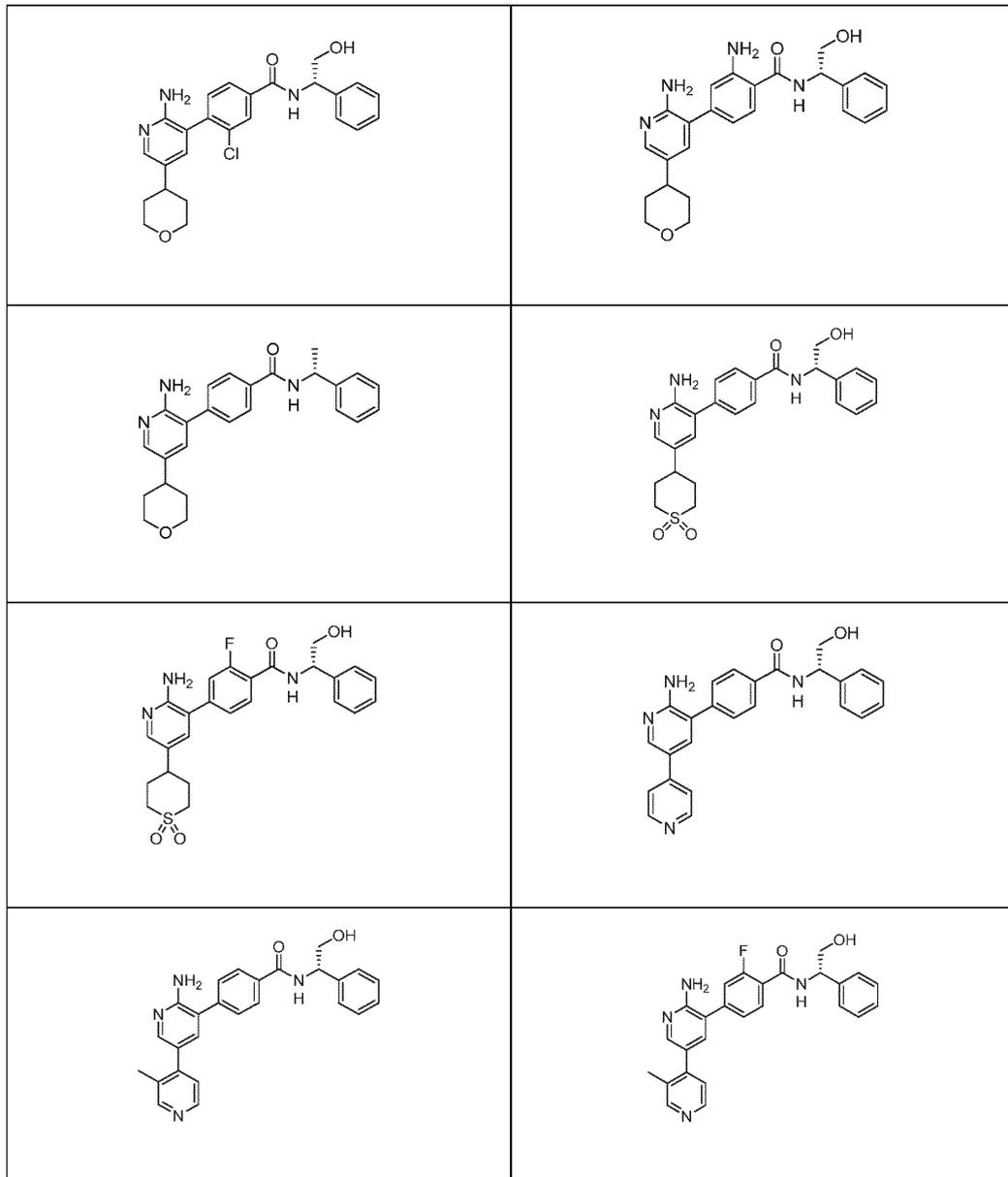


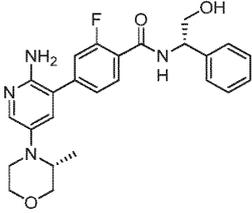
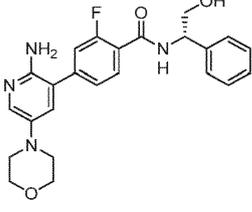
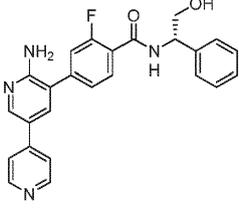
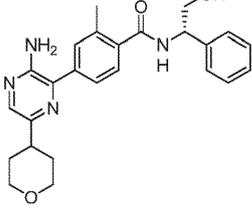
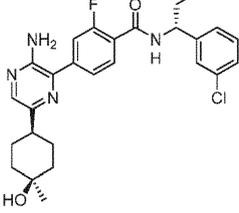
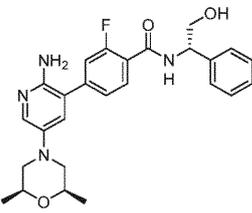
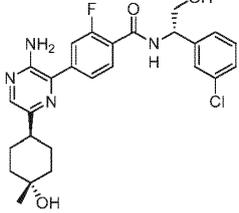


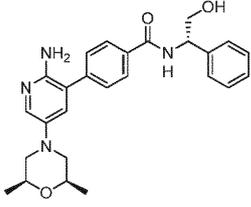
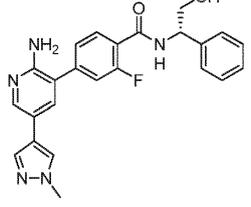
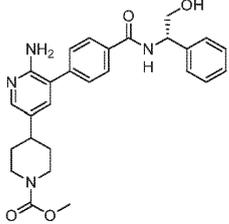
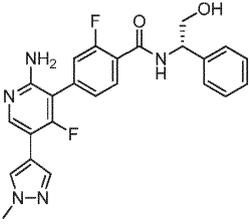
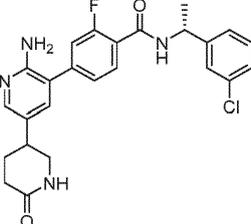
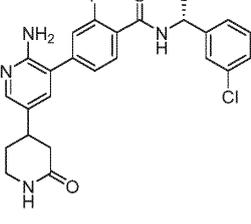


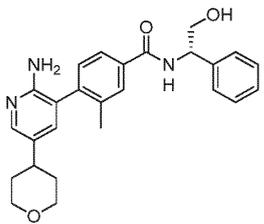
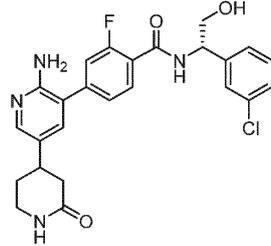
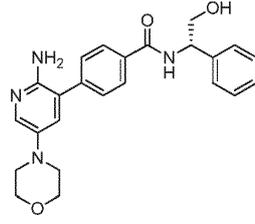
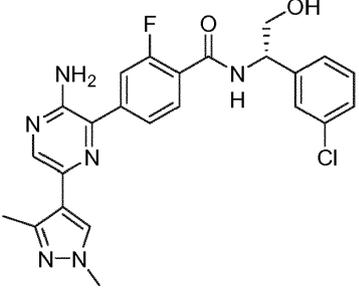
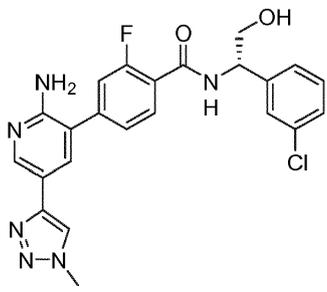
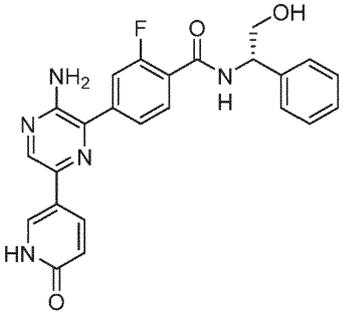
	
	
	
	

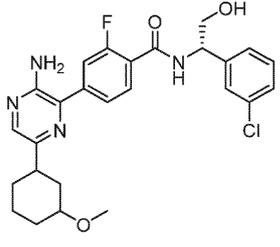
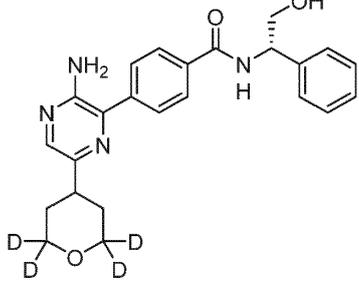
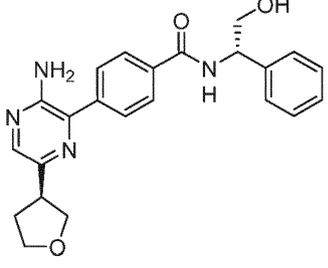
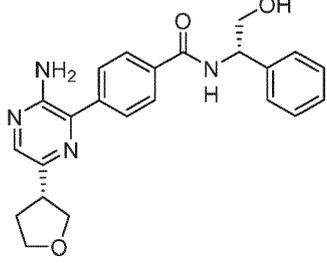
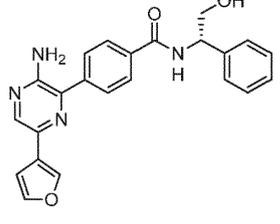
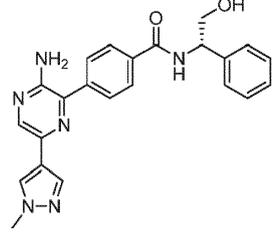
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<chem>CC1(C)N(C1)S(=O)(=O)c2cc(N)nc2C3=CC=C(C=C3)C(=O)N[C@@H](O)C4=CC=CC=C4</chem>	
<chem>CC1(C)N(C1)S(=O)(=O)c2cc(N)nc2C3=CC=C(C=C3)C(C)=CC(=O)N[C@@H](O)C4=CC=CC=C4</chem>	<chem>CC1(C)N(C1)S(=O)(=O)c2cc(N)nc2C3=CC=C(C=C3)C(Cl)=CC(=O)N[C@@H](O)C4=CC=CC=C4</chem>
<chem>CC1(C)N(C1)S(=O)(=O)C(=O)OC2=CC=C(C=C2)c3cc(N)nc3C4=CC=C(C=C4)C(F)=CC(=O)N[C@@H](O)C5=CC=CC=C5</chem>	<chem>CC1(C)N(C1)S(=O)(=O)c2cc(N)nc2C3=CC=C(C=C3)C(F)(F)=CC(=O)N[C@@H](O)C4=CC=CC=C4</chem>

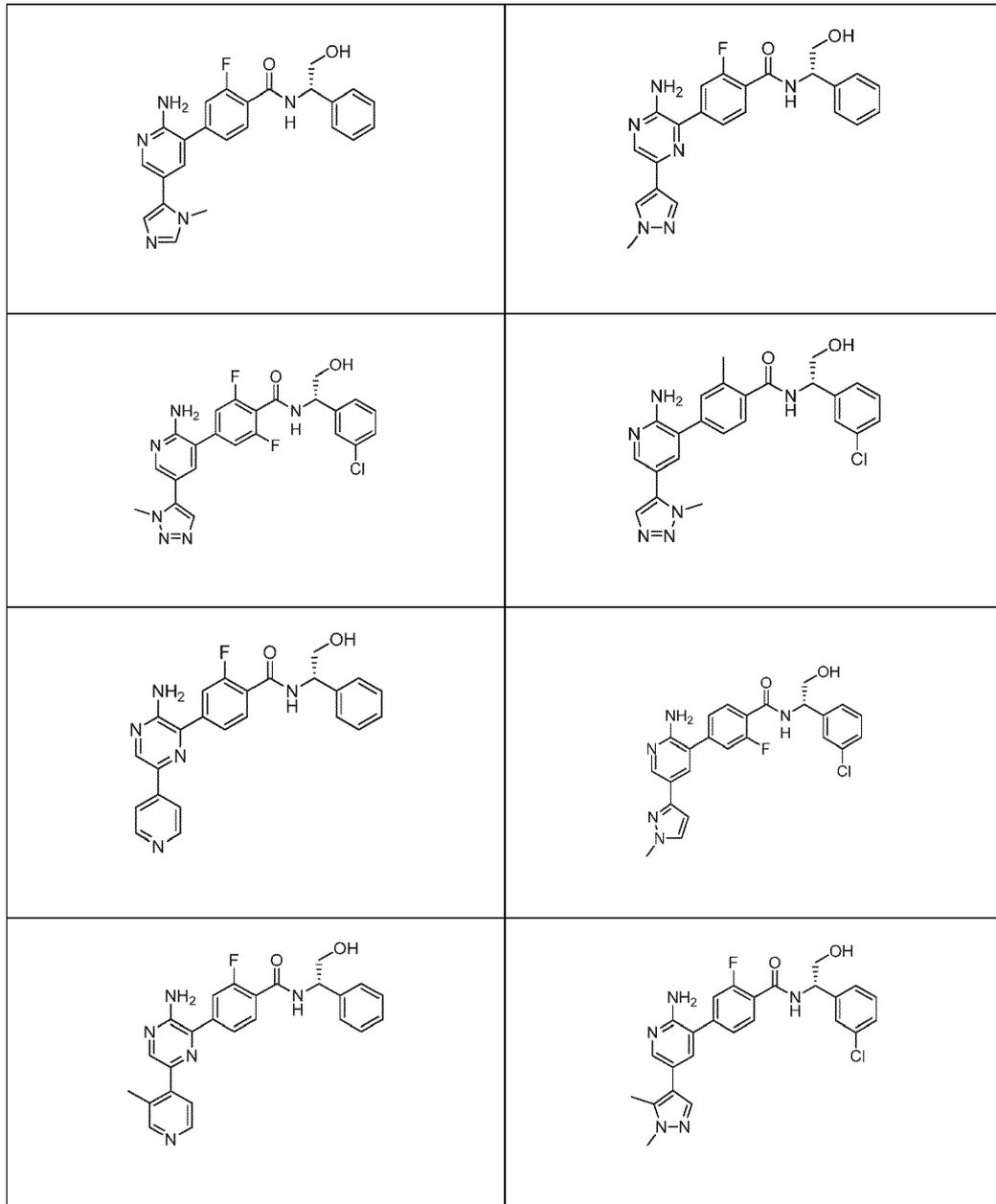


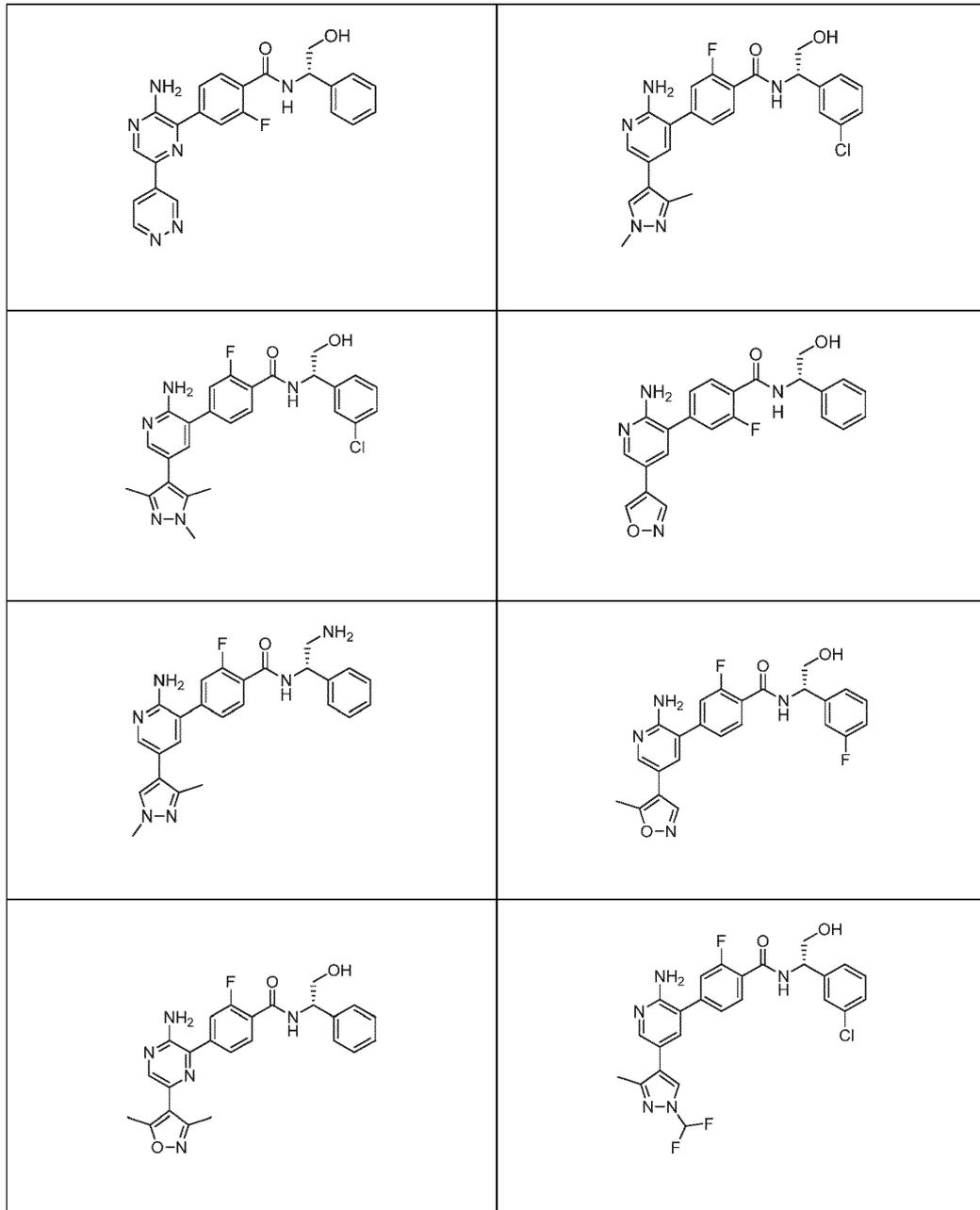
	
	
	
	

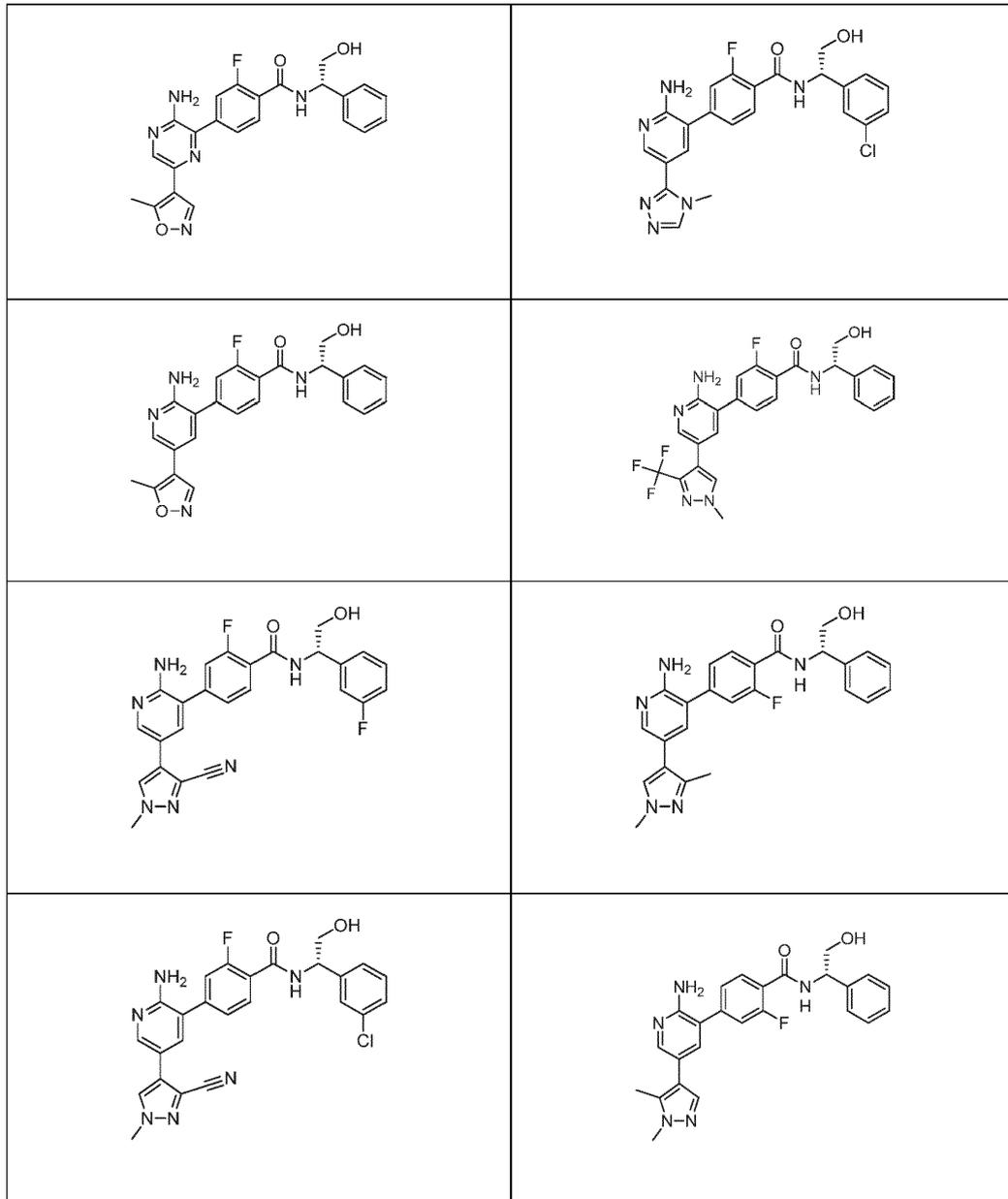
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 <chem>COC(=O)N1CCN(CC1)C2=NC(=C(C=C2)C(=O)N[C@@H](O)Cc3ccccc3)N</chem>	 <chem>COC(=O)N1CCN(CC1)C2=NC(=C(C=C2)C(=O)N[C@@H](O)Cc3ccccc3)N(F)c4cc(F)ccc4</chem>
	 <chem>NC(=O)N1CCN(CC1)C2=NC(=C(C=C2)C(=O)N[C@@H](O)Cc3ccc(Cl)cc3)N(F)c4ccccc4</chem>
	 <chem>NC(=O)N1CCN(CC1)C2=NC(=C(C=C2)C(=O)N[C@@H](O)Cc3ccc(Cl)cc3)N(F)c4ccccc4</chem>

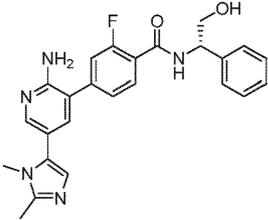
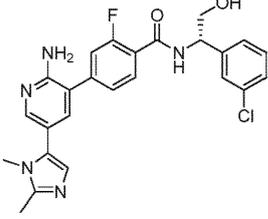
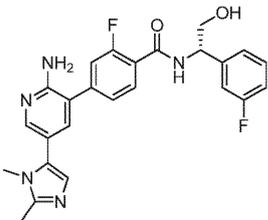
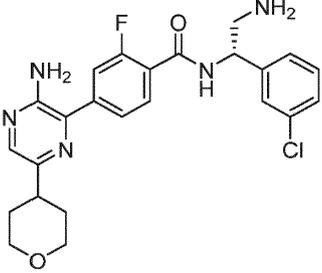
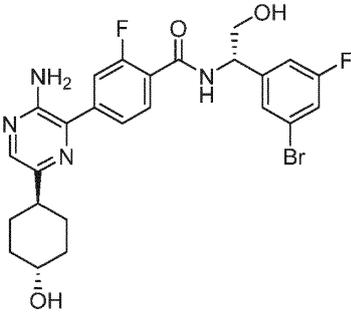
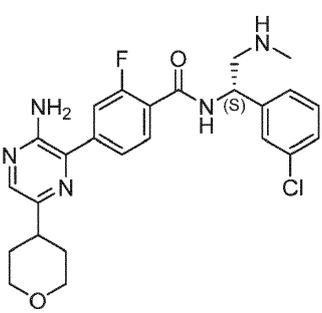
	
	
	
	

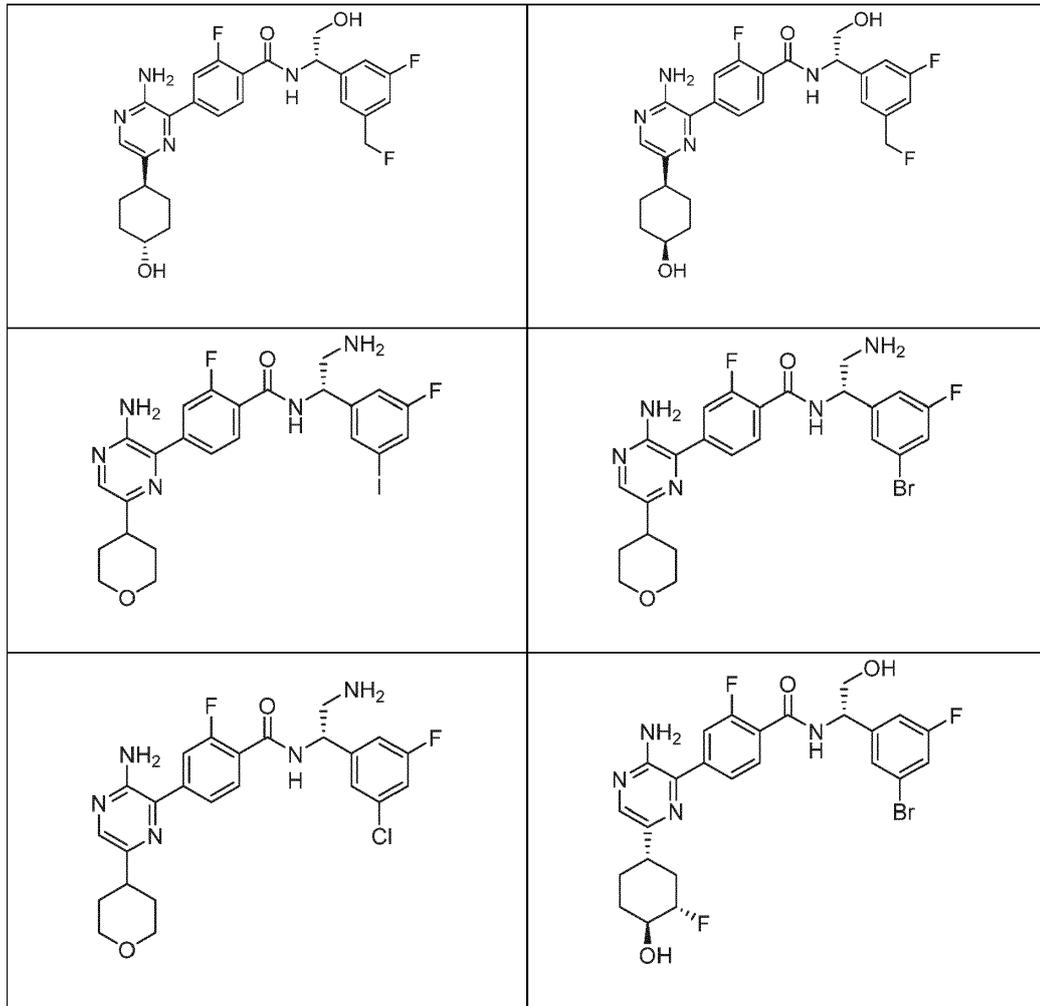
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	 <chem>C1C(C(C1)O)C2=CN(C(=O)N[C@@H](c3ccccc3)O)c3cc(F)ccc3N2</chem>
 <chem>C1CCOC1c2nc(N)c3cc(F)ccc3n2C(=O)N[C@@H](c4ccccc4)O</chem>	 <chem>C1CCOC1c2nc(N)c3cc(F)ccc3n2C(=O)N[C@@H](c4ccccc4)O</chem>
 <chem>C1CCOC1c2nc(N)c3cc(F)ccc3n2C(=O)N[C@@H](c4ccccc4)O</chem>	 <chem>C1CCOC1c2nc(N)c3cc(F)ccc3n2C(=O)N[C@@H](c4ccccc4)O</chem>

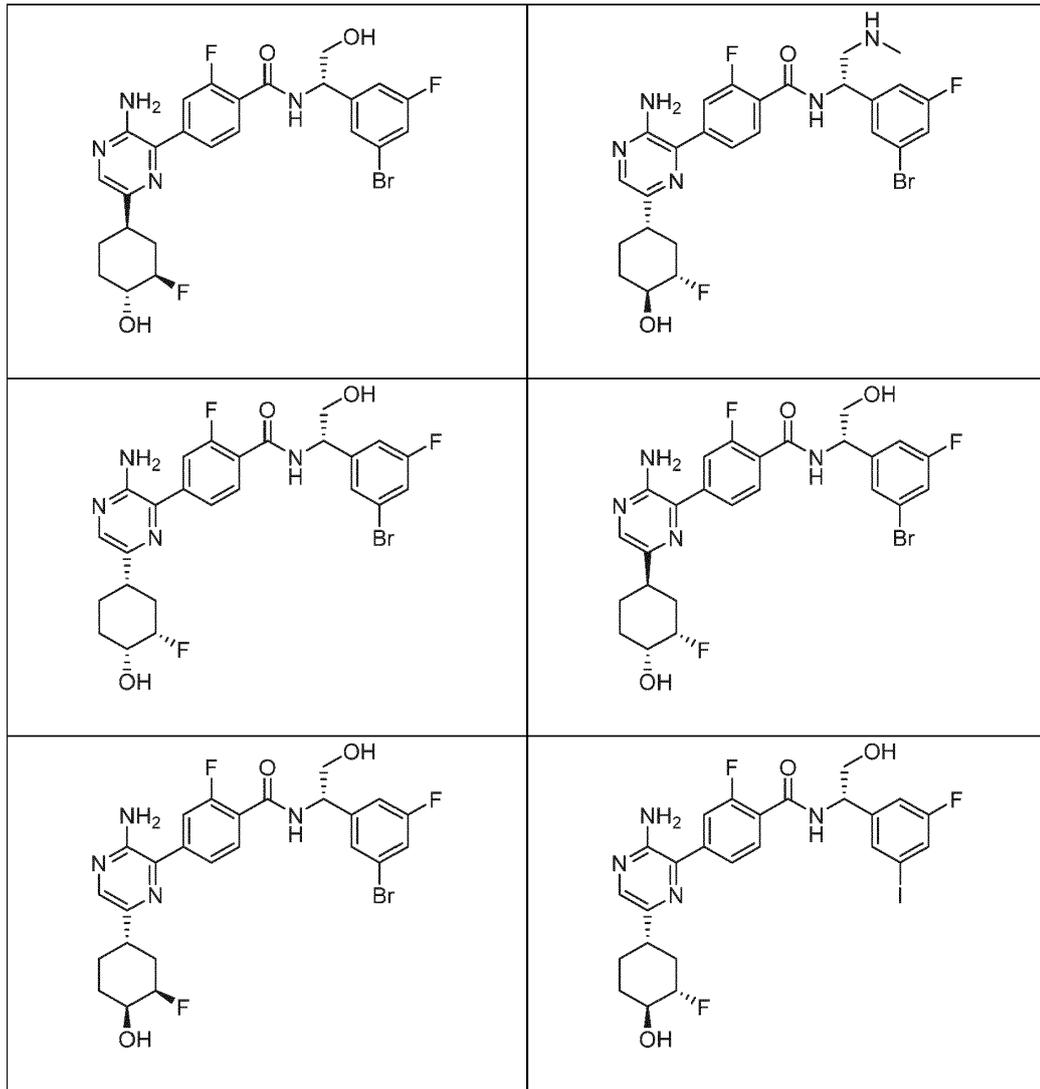


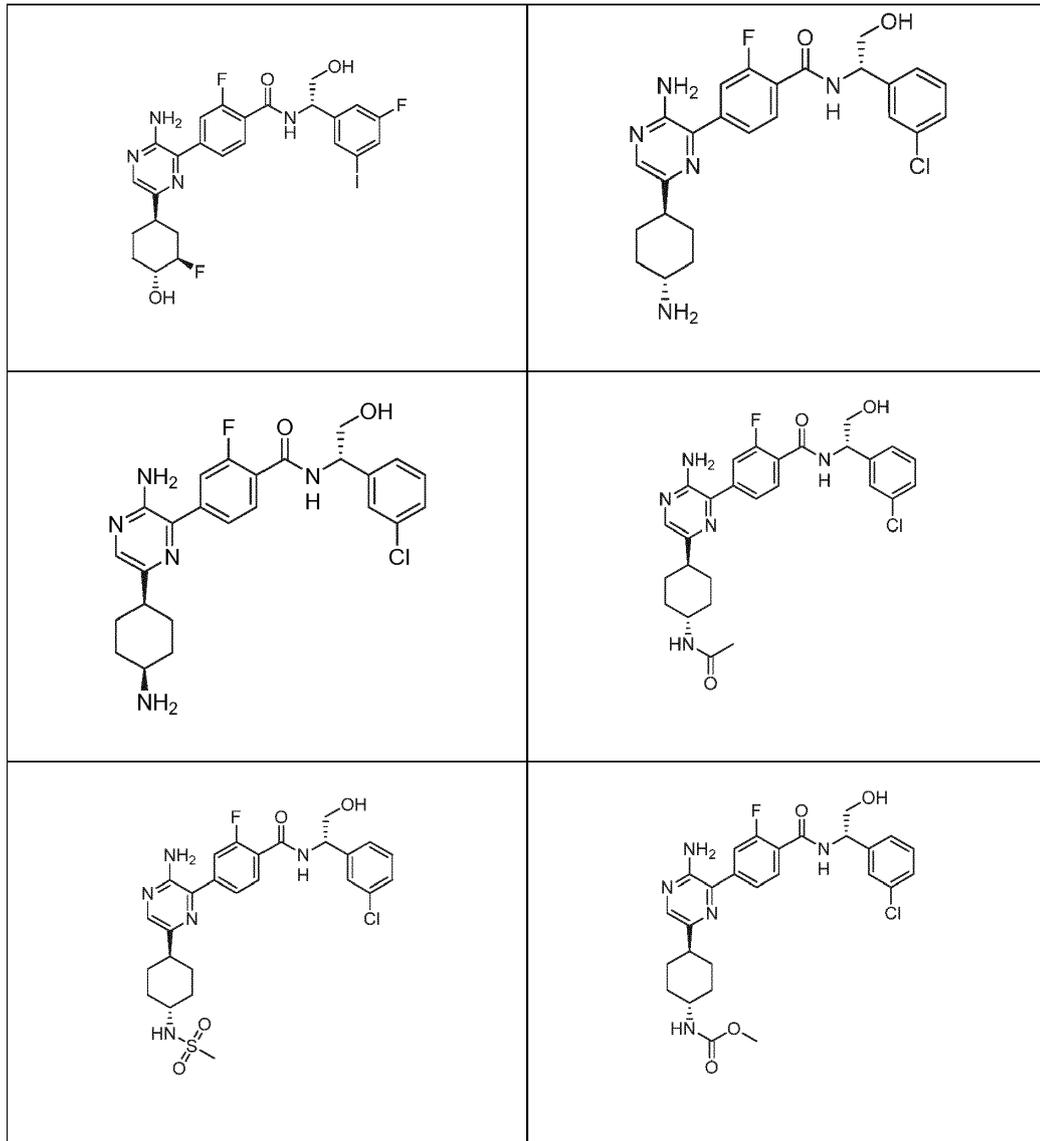


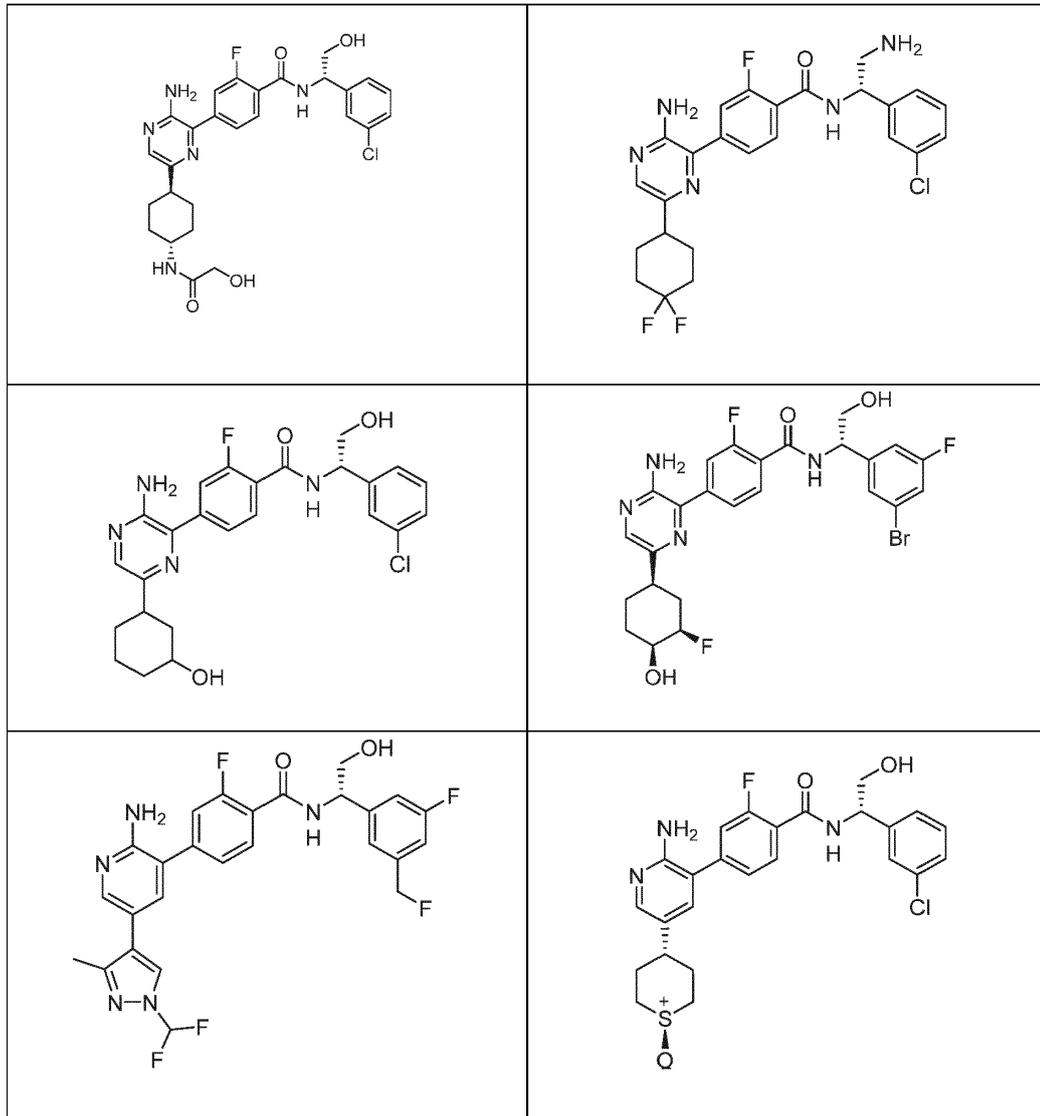


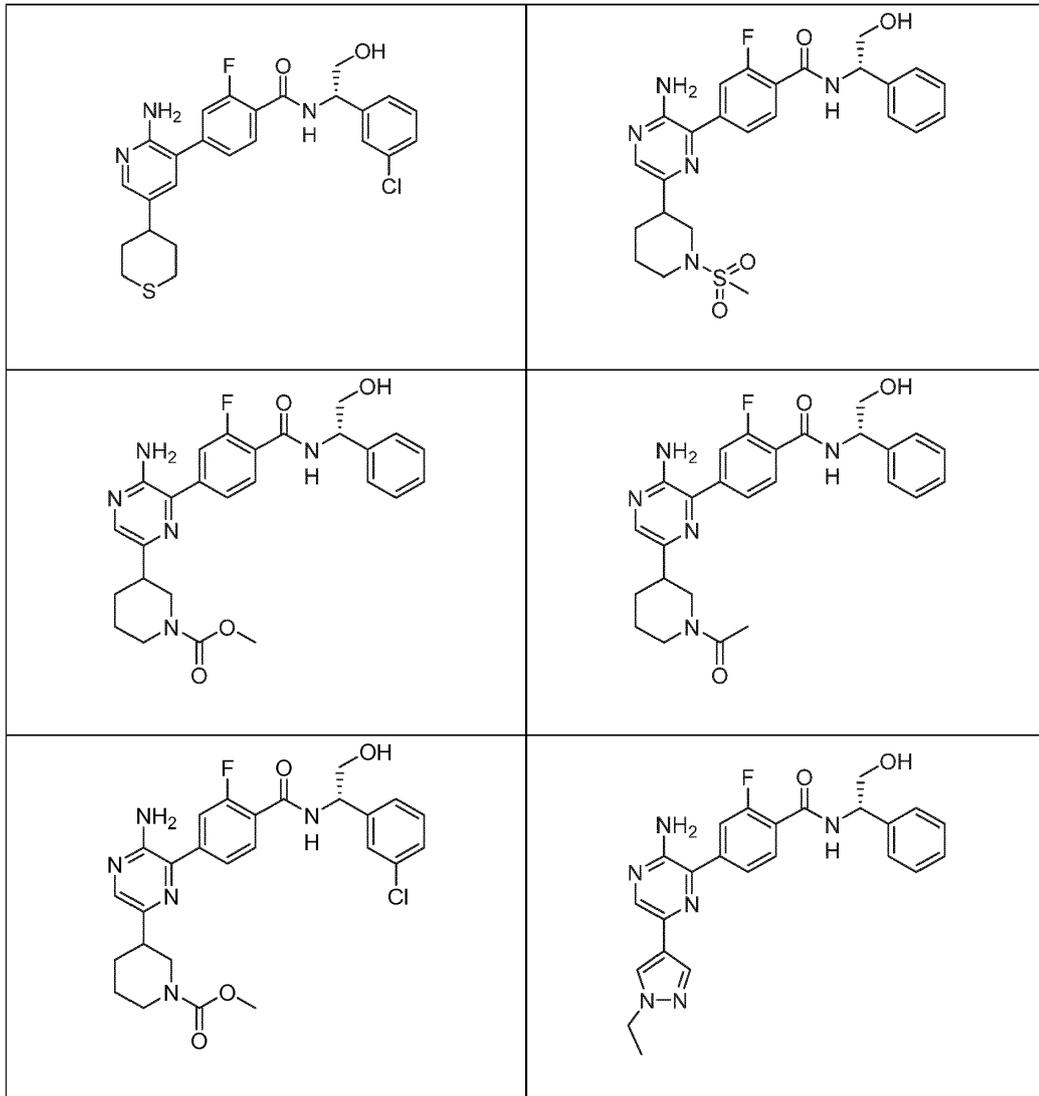
	
	
	
	

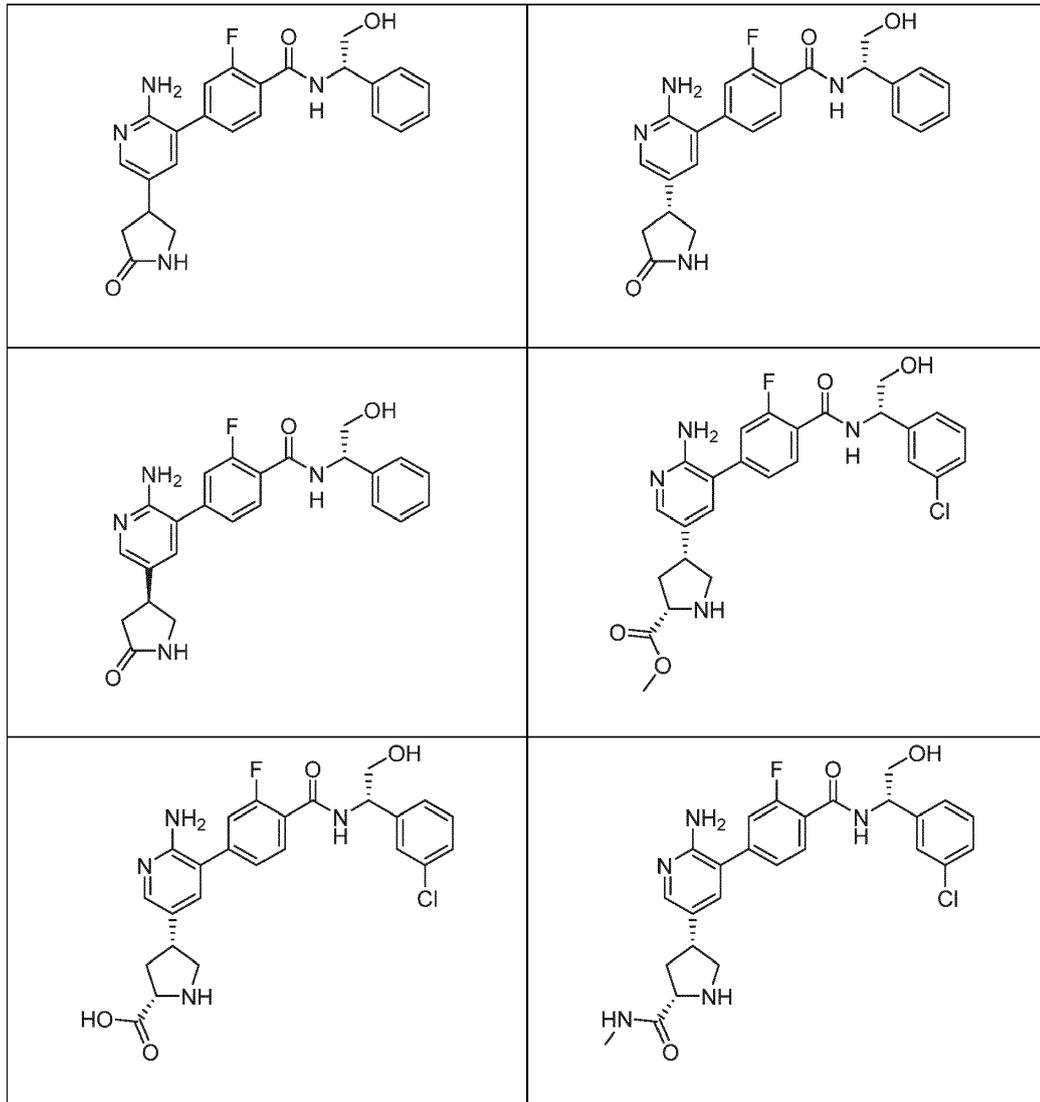


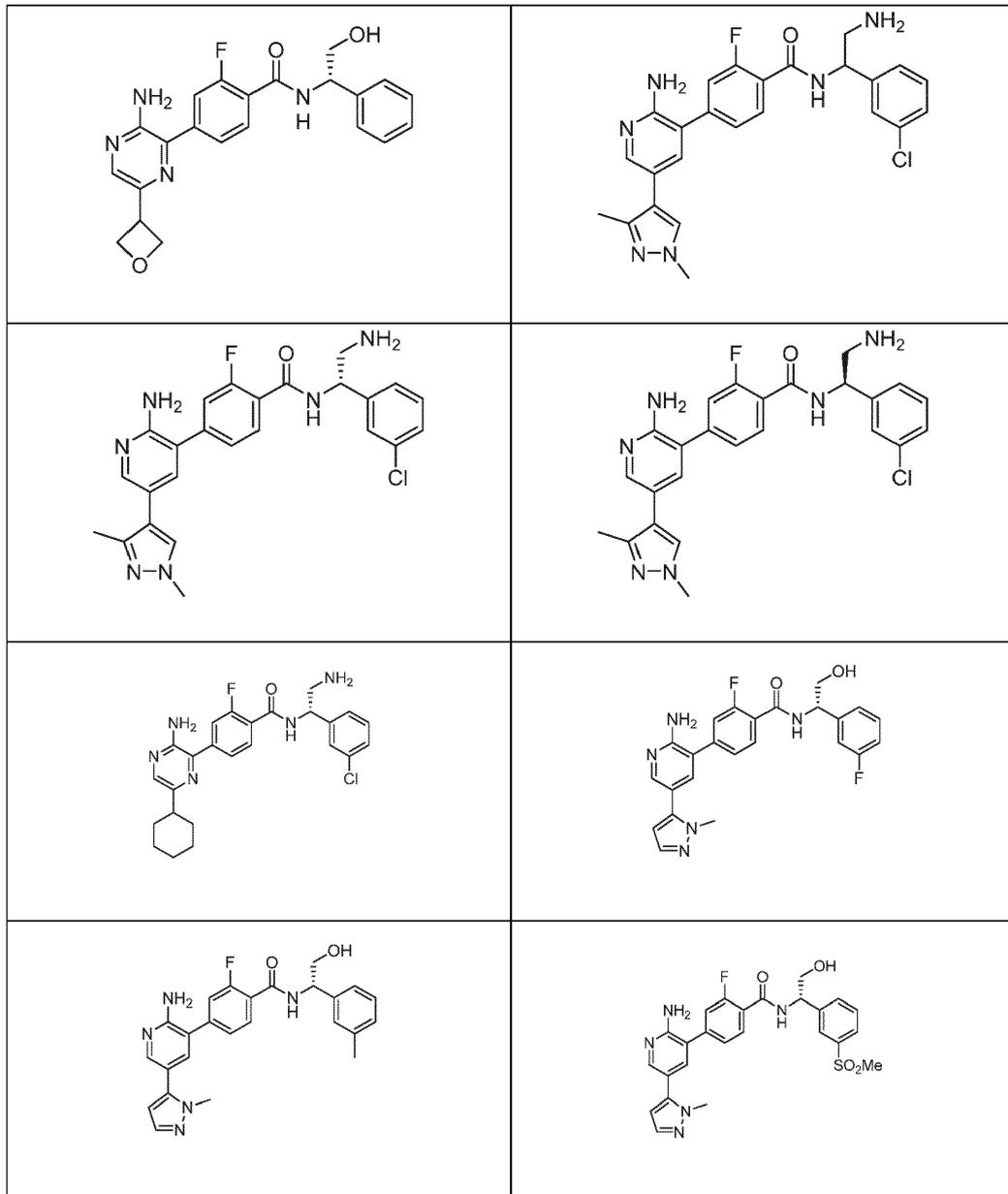


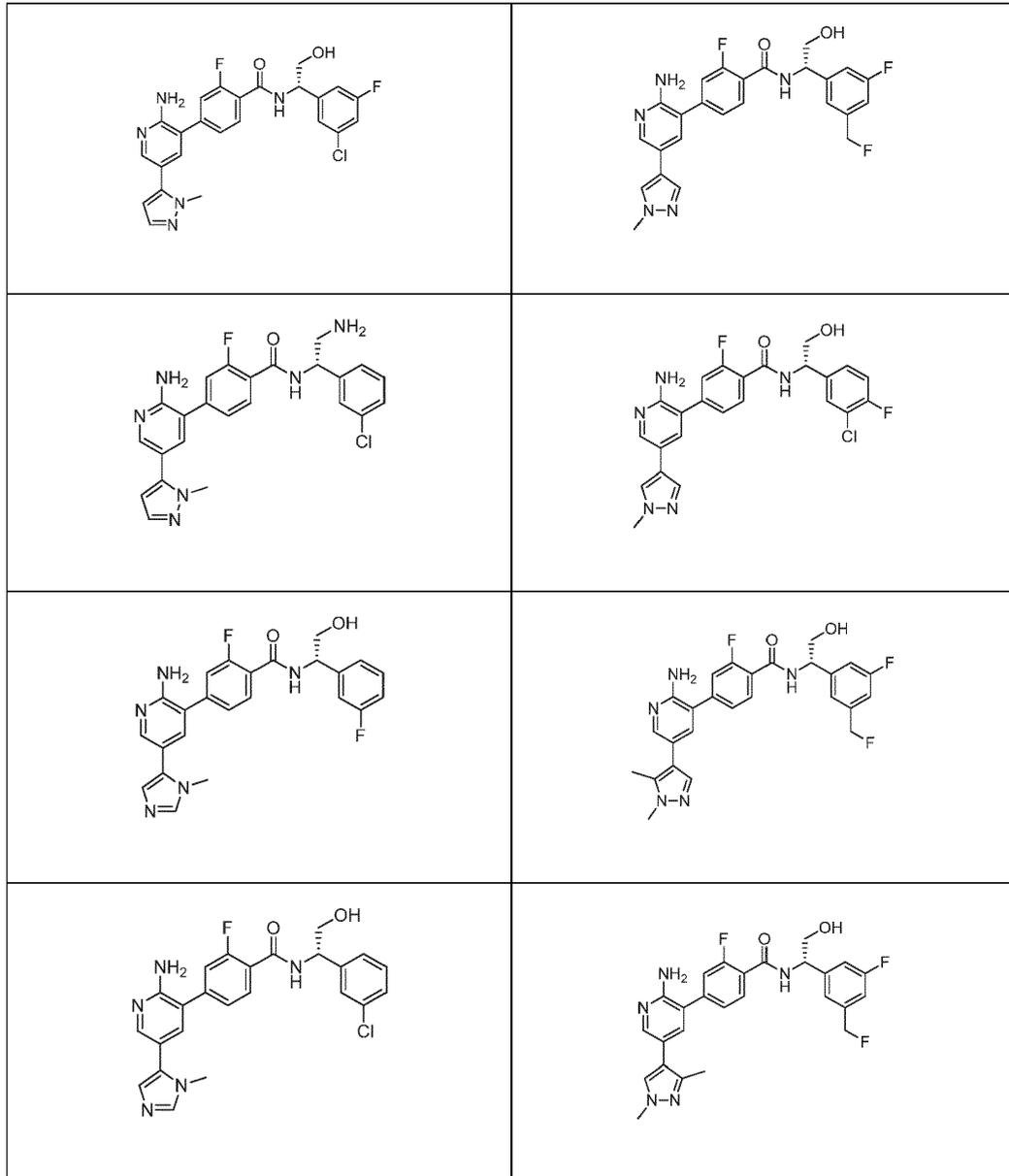


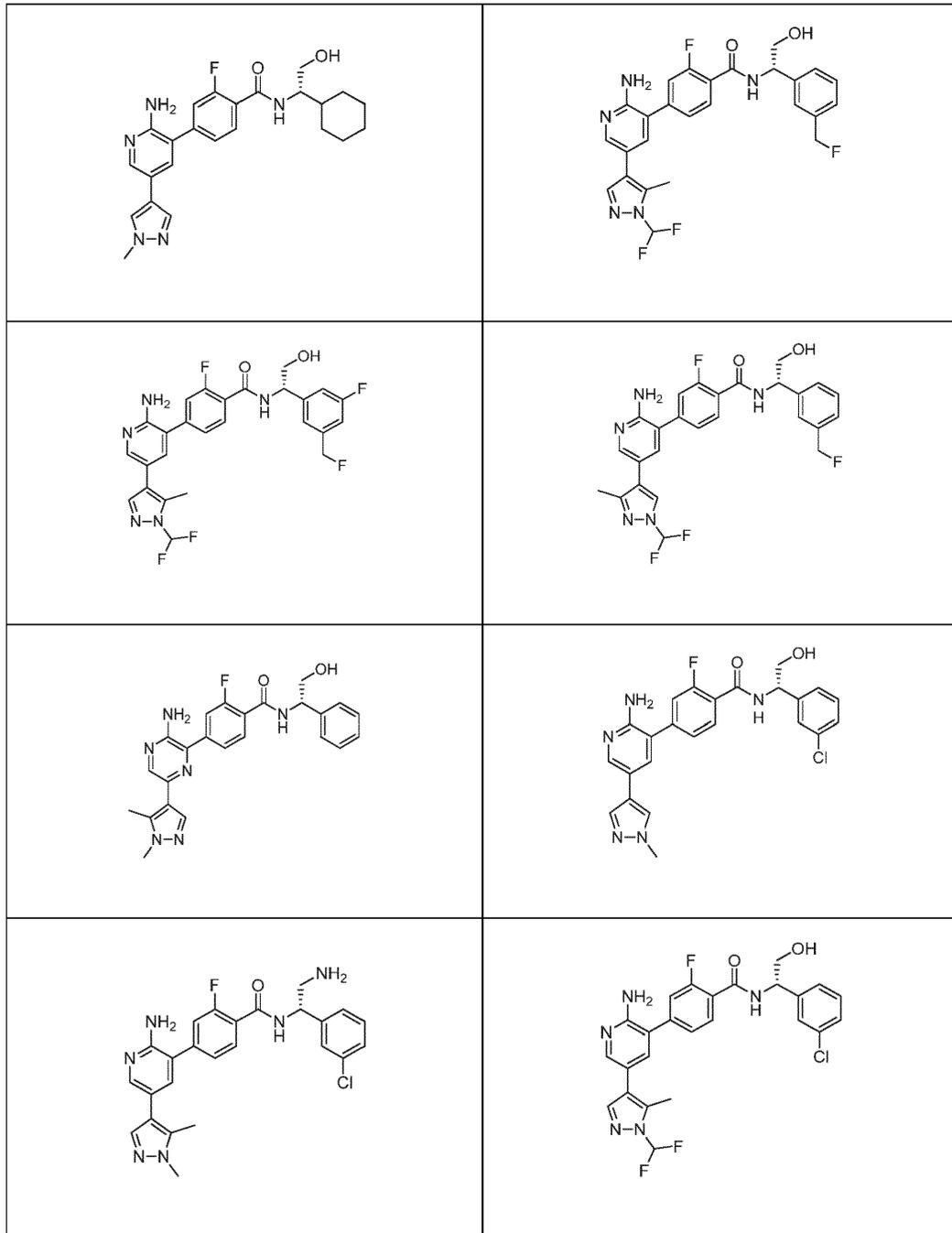


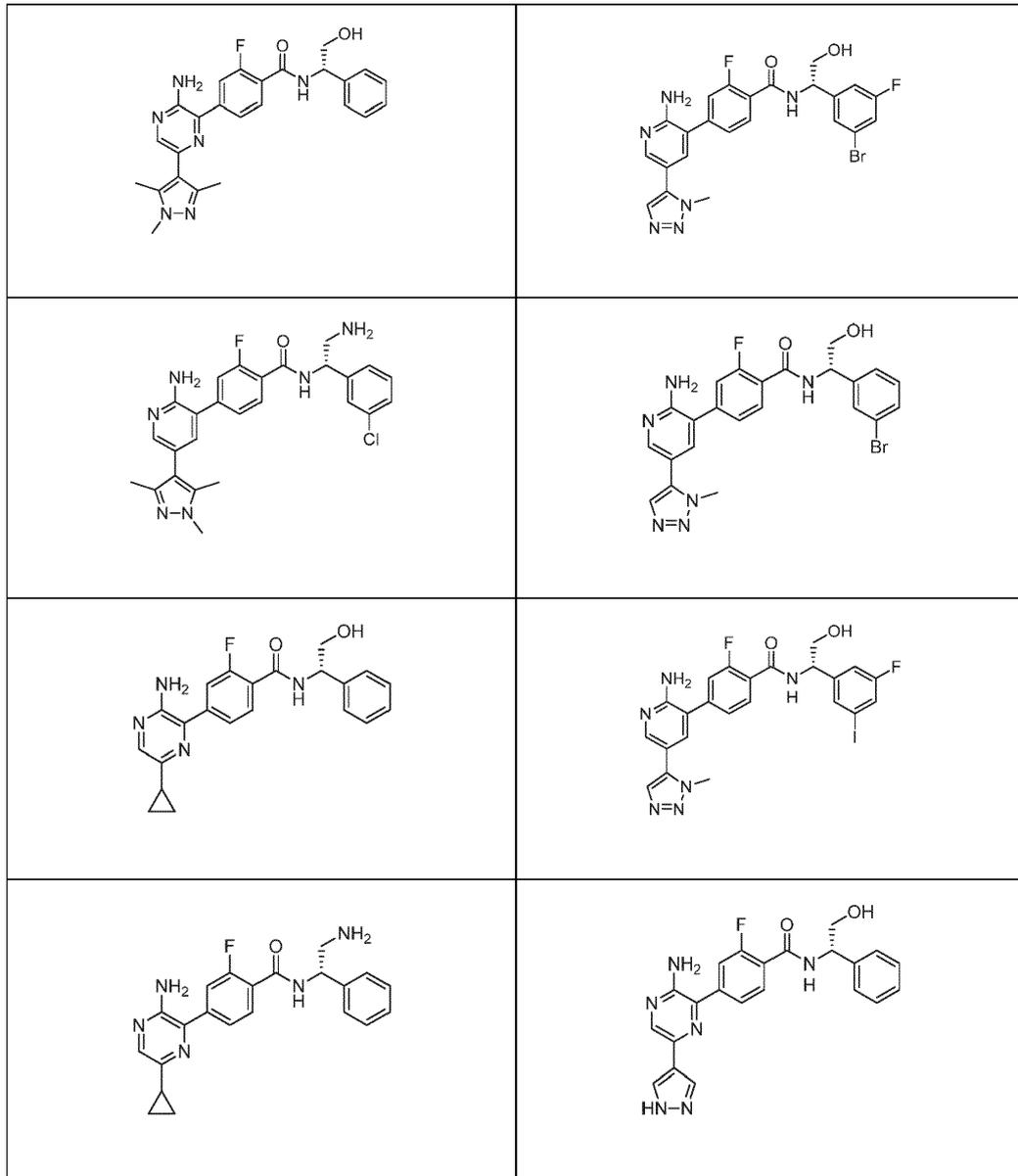


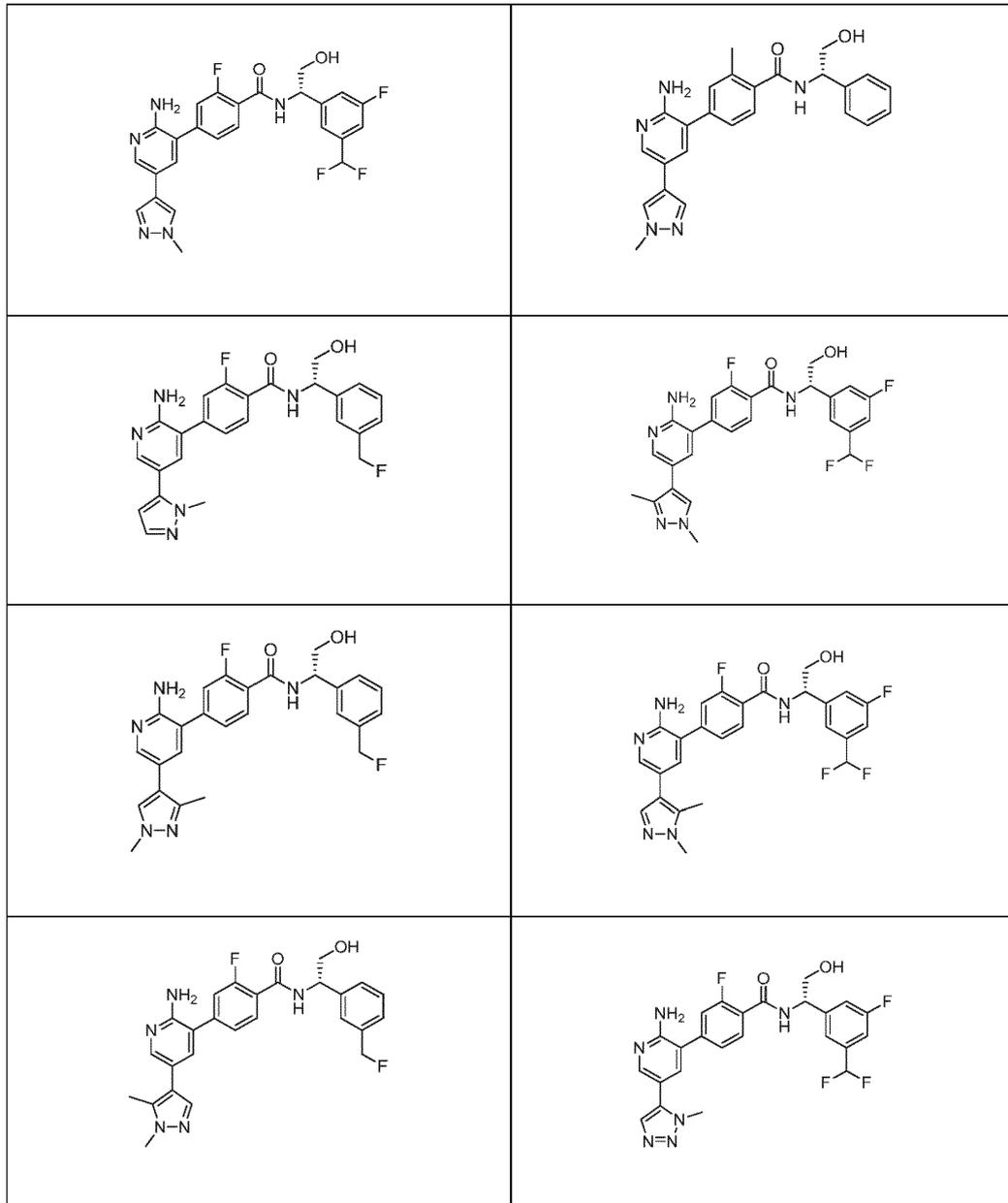


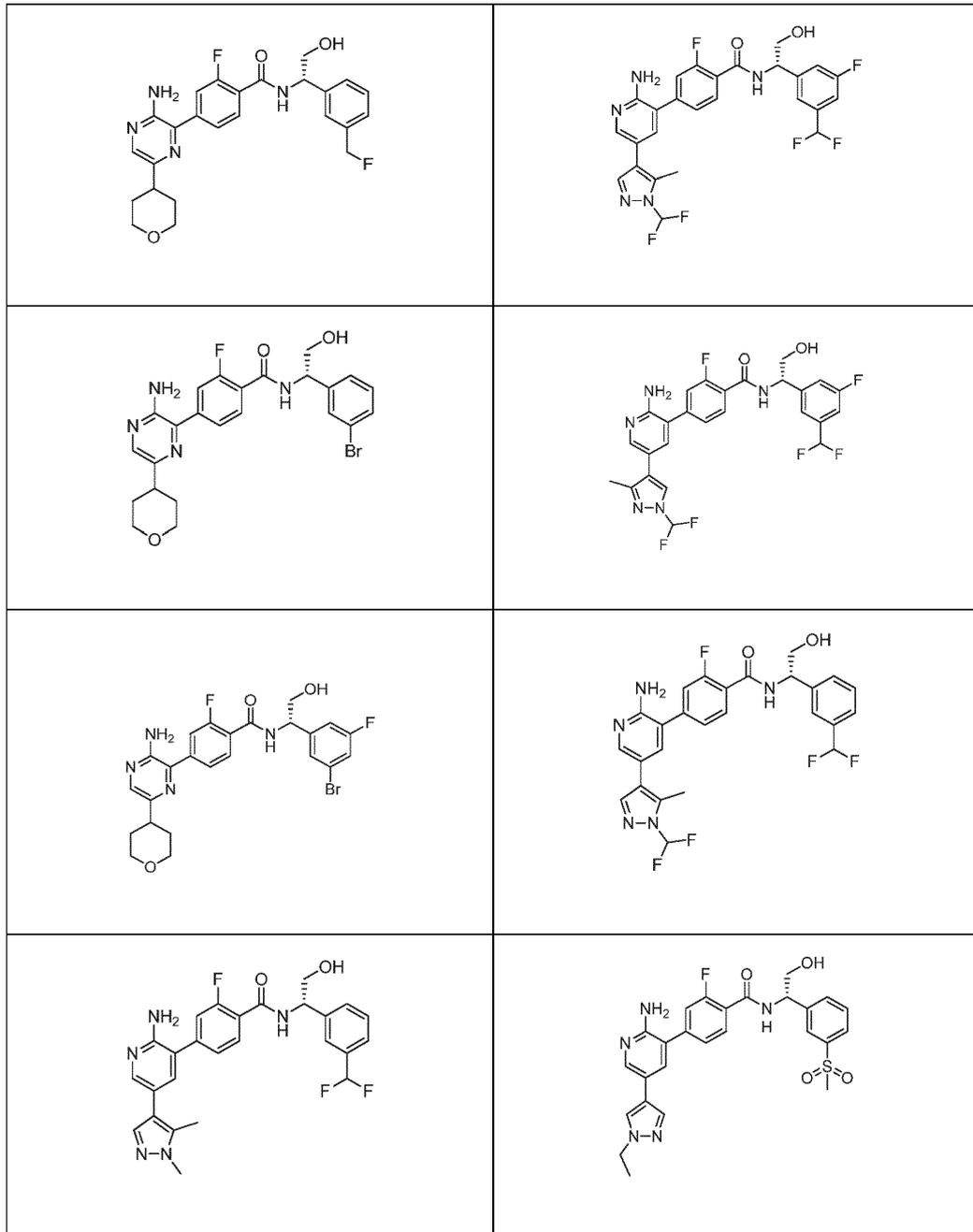


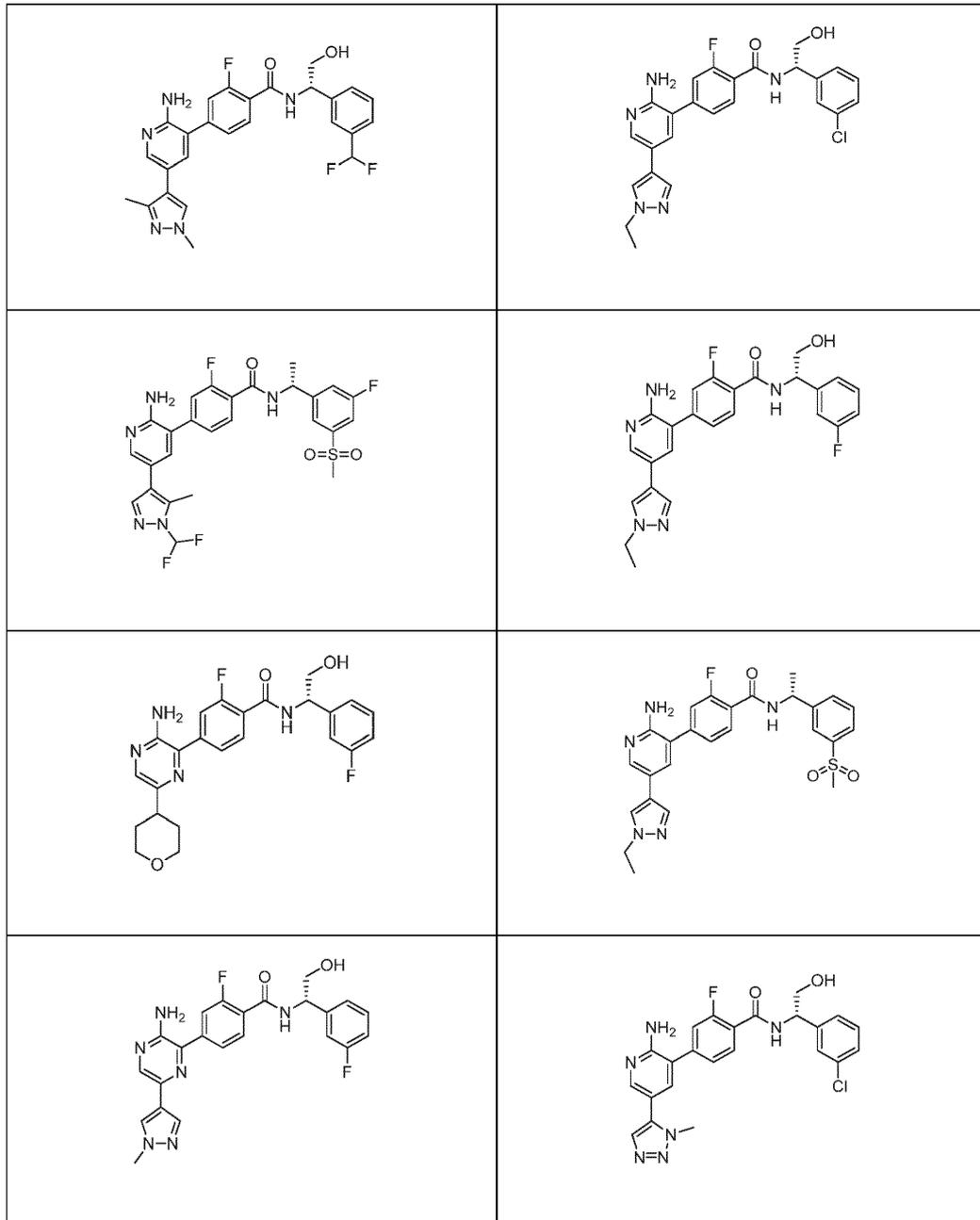


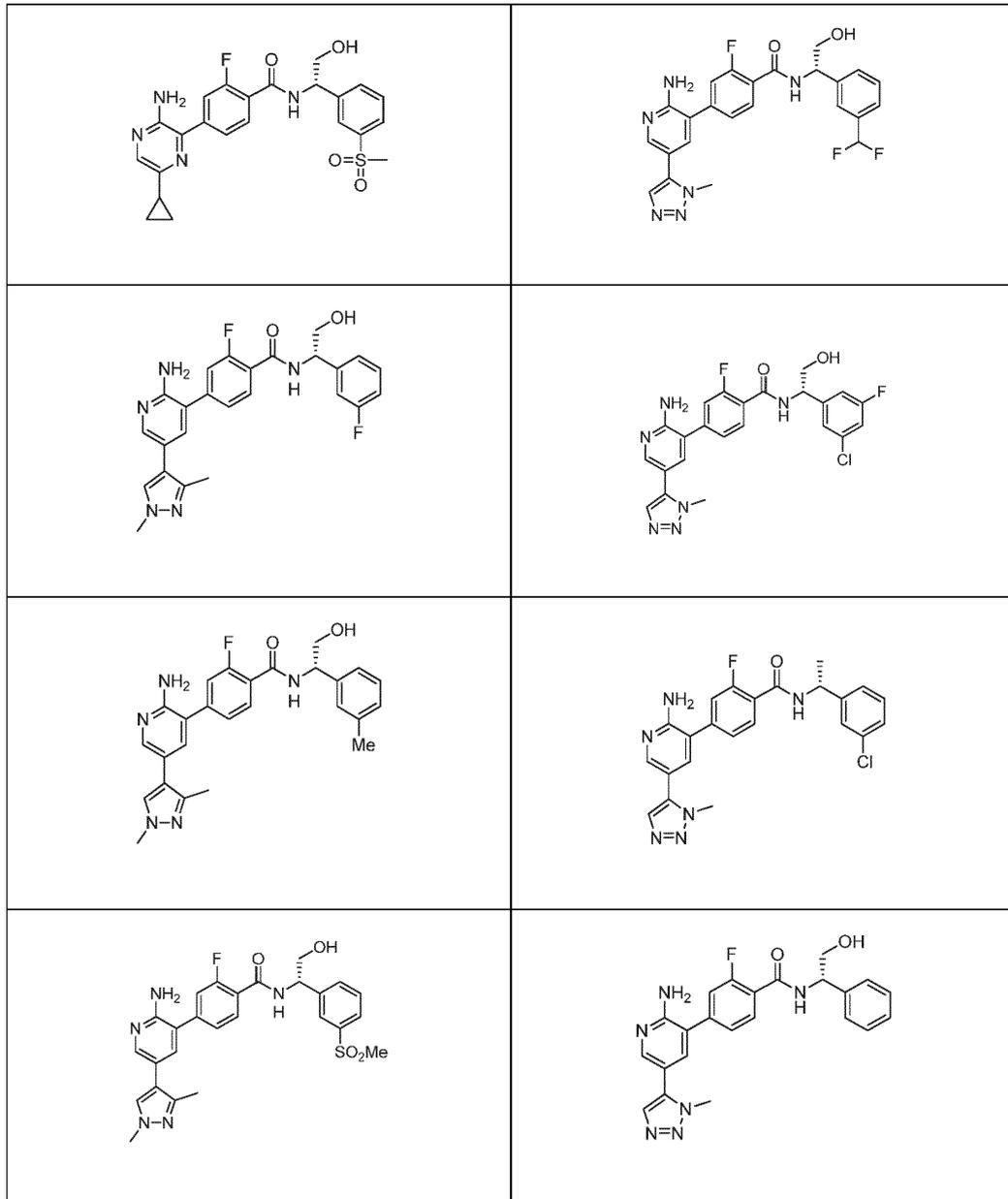


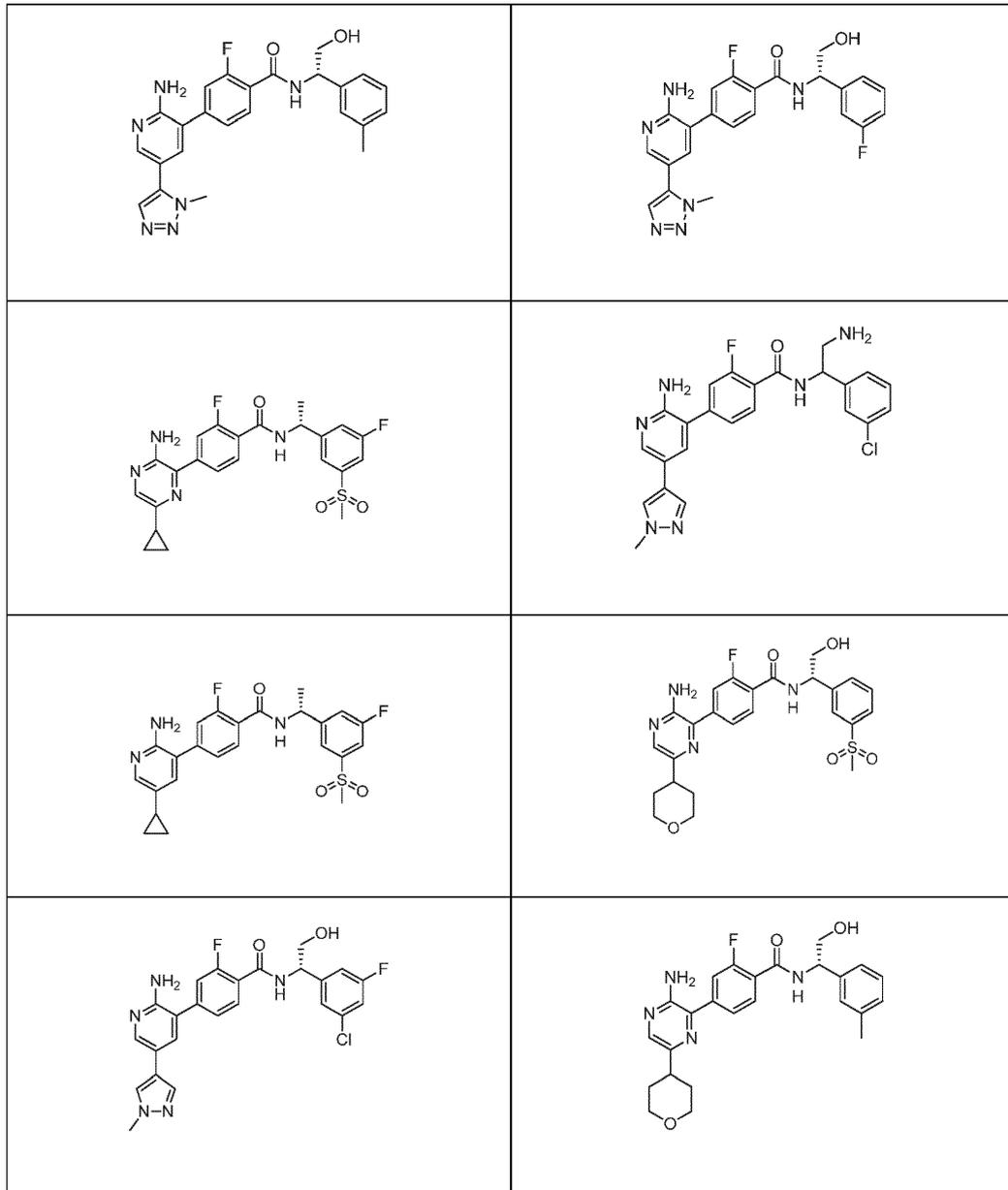


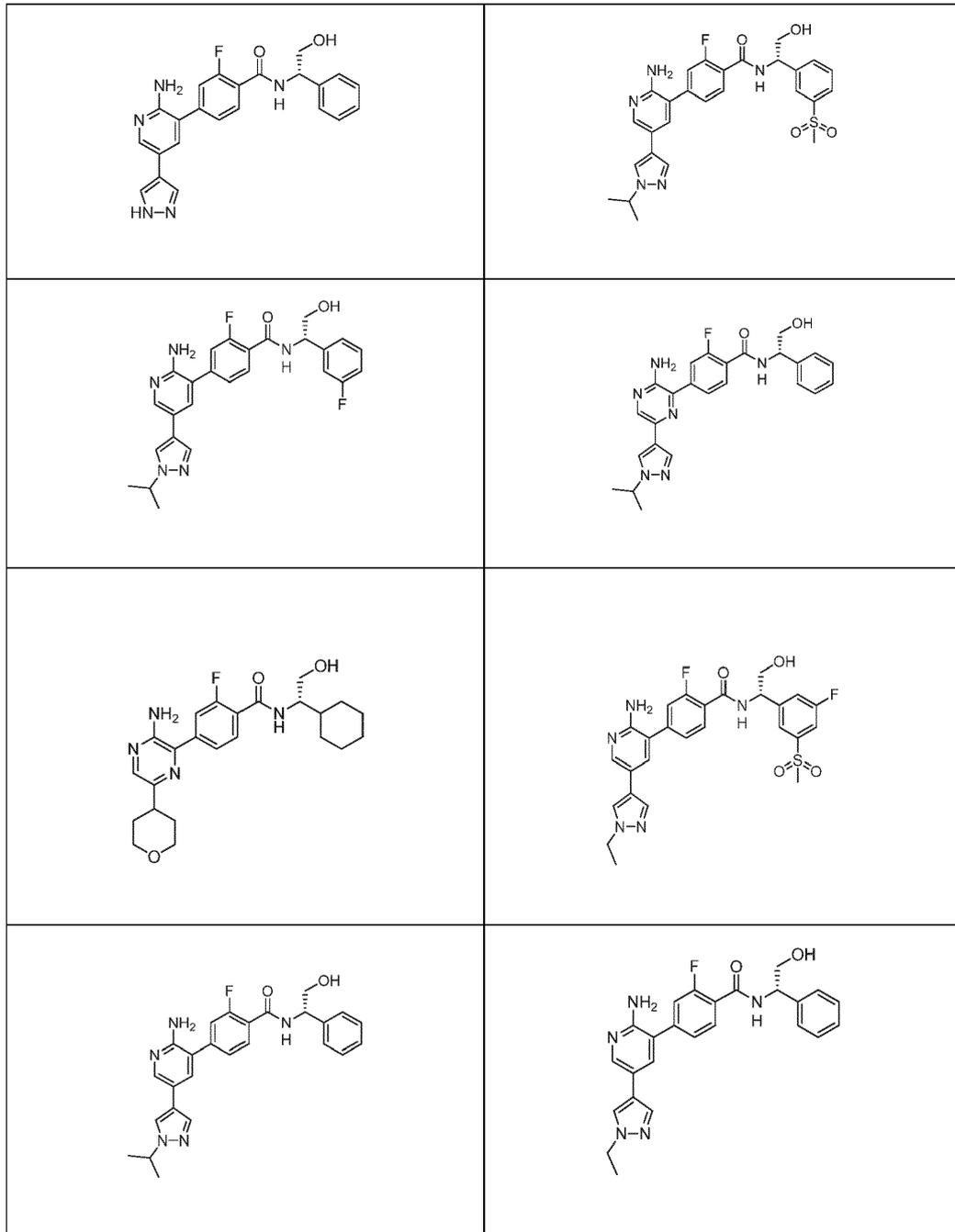


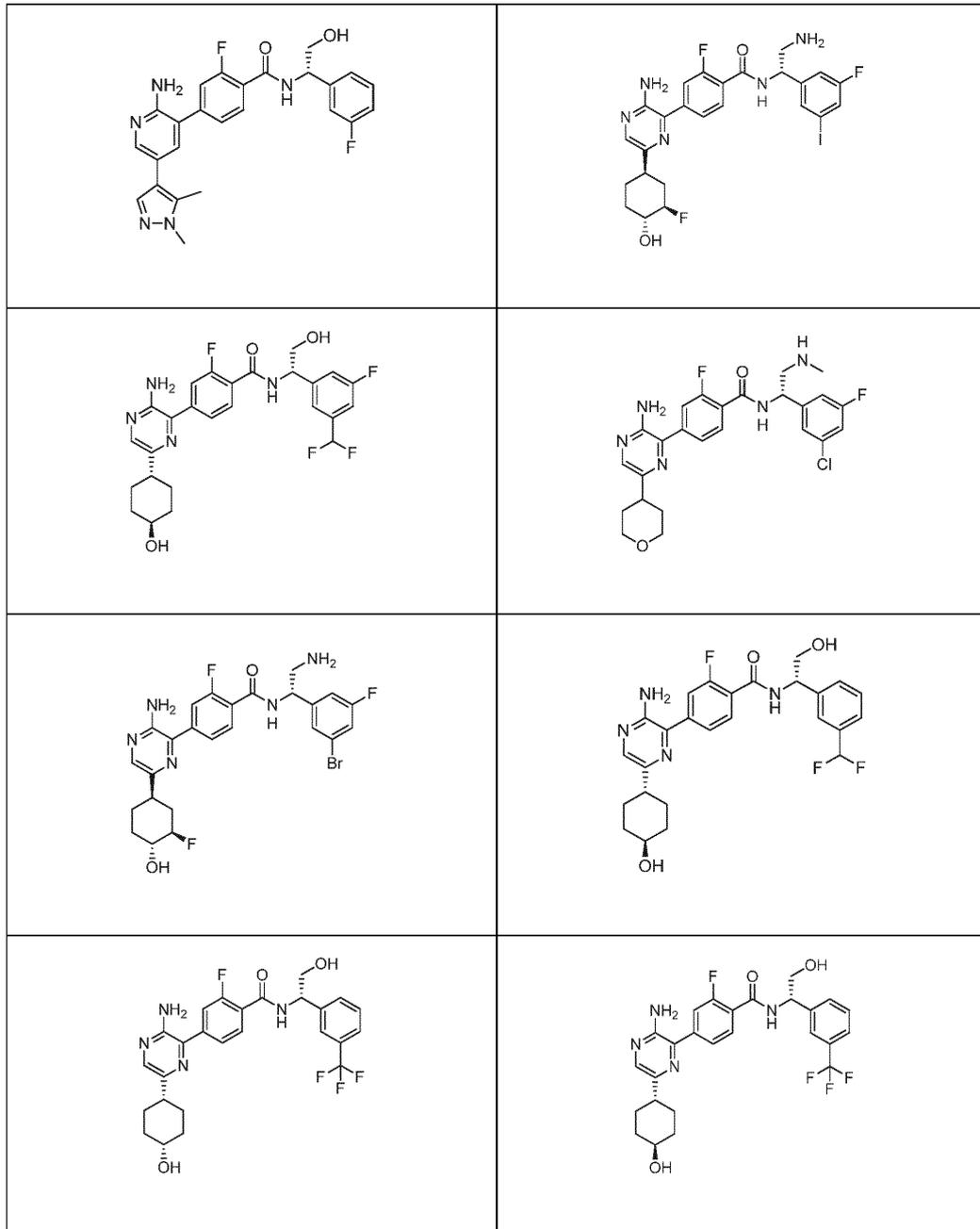


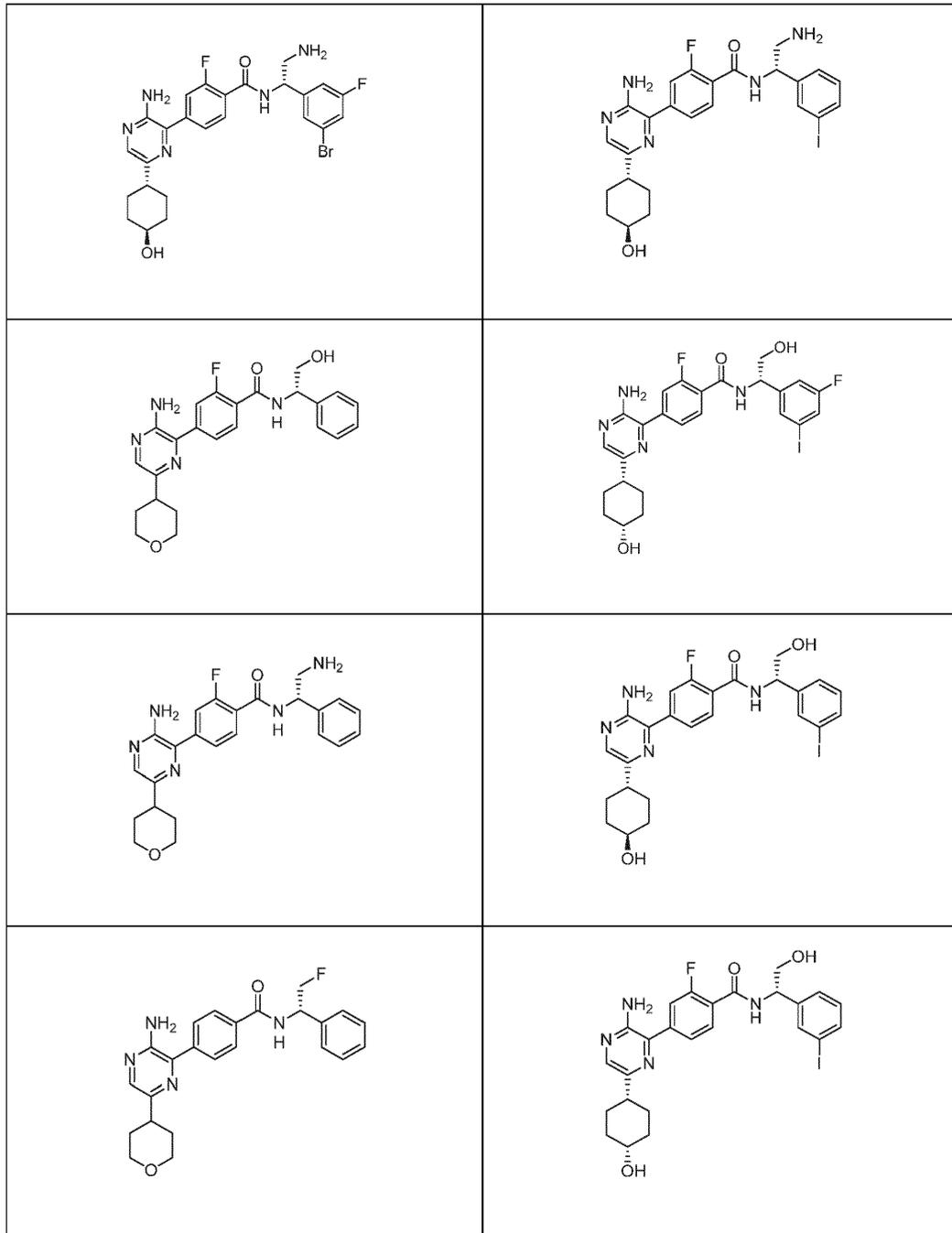


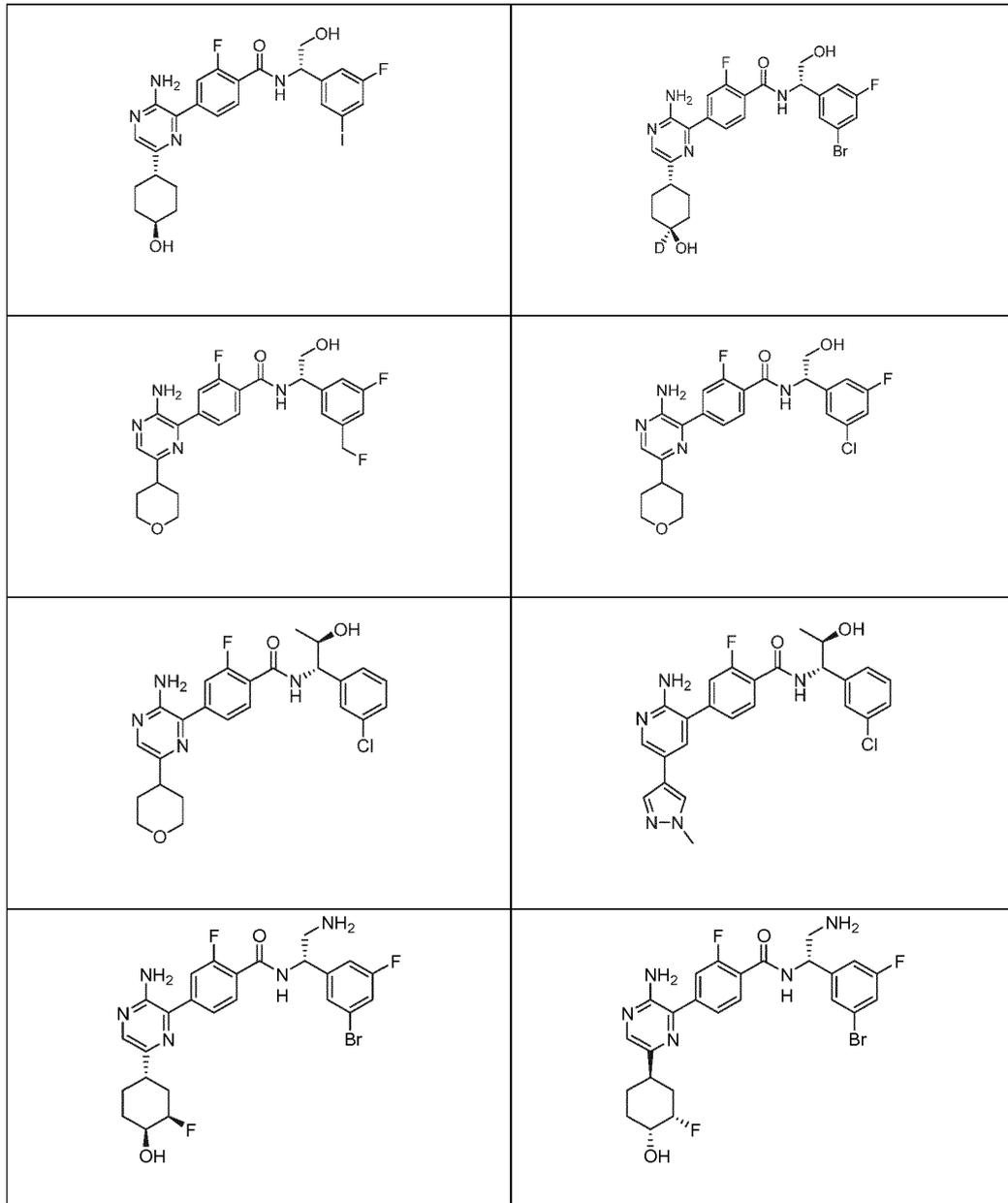


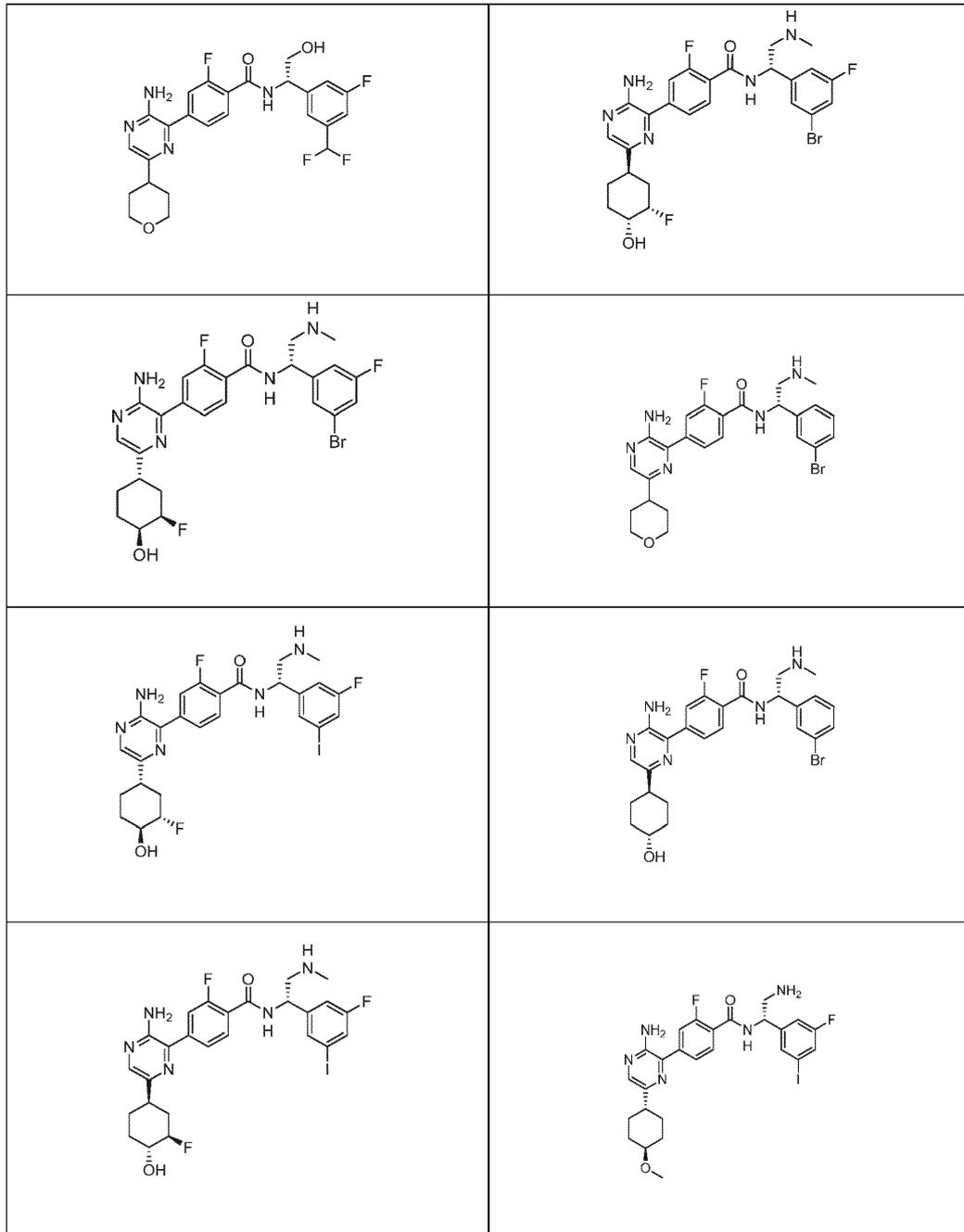


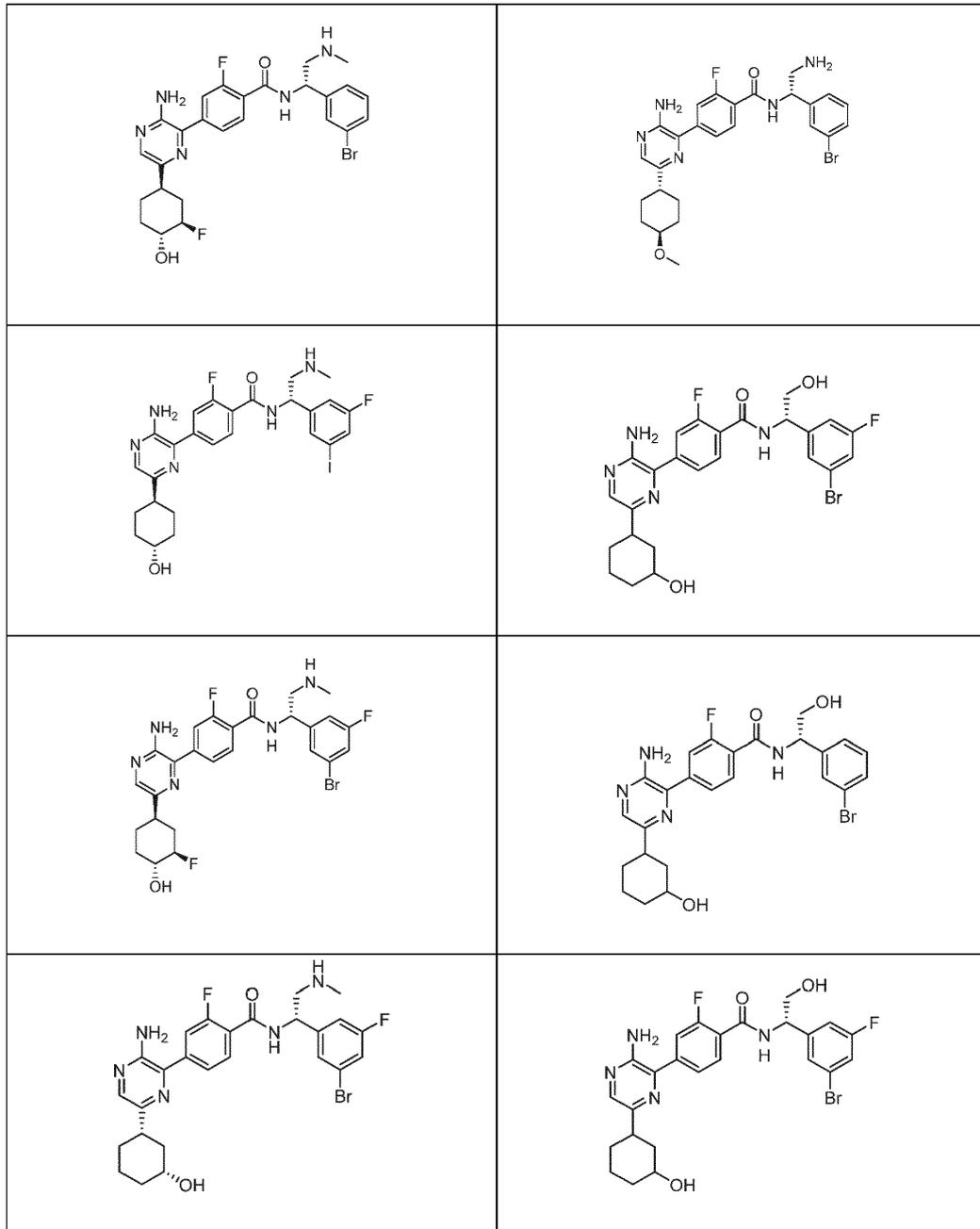


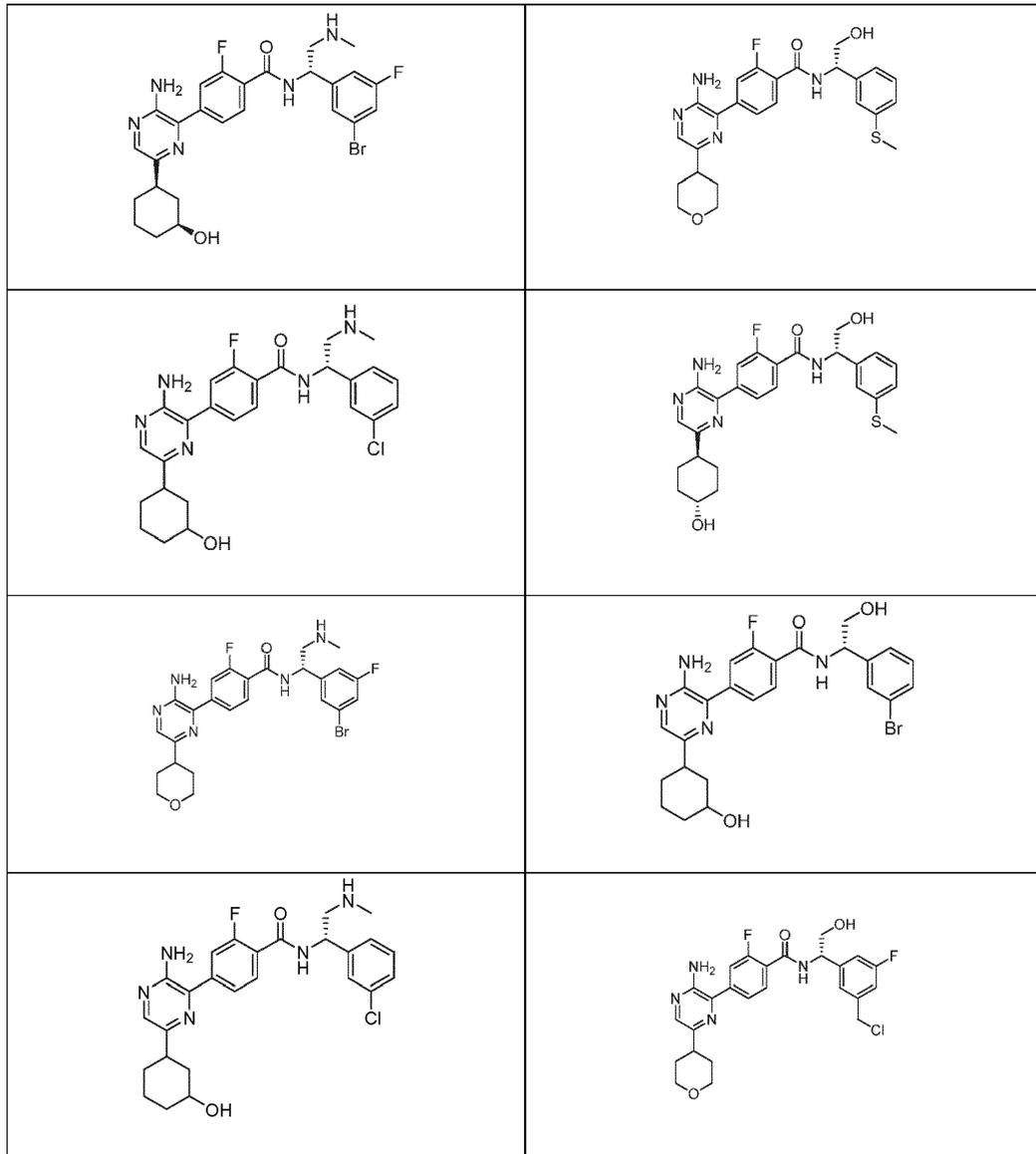


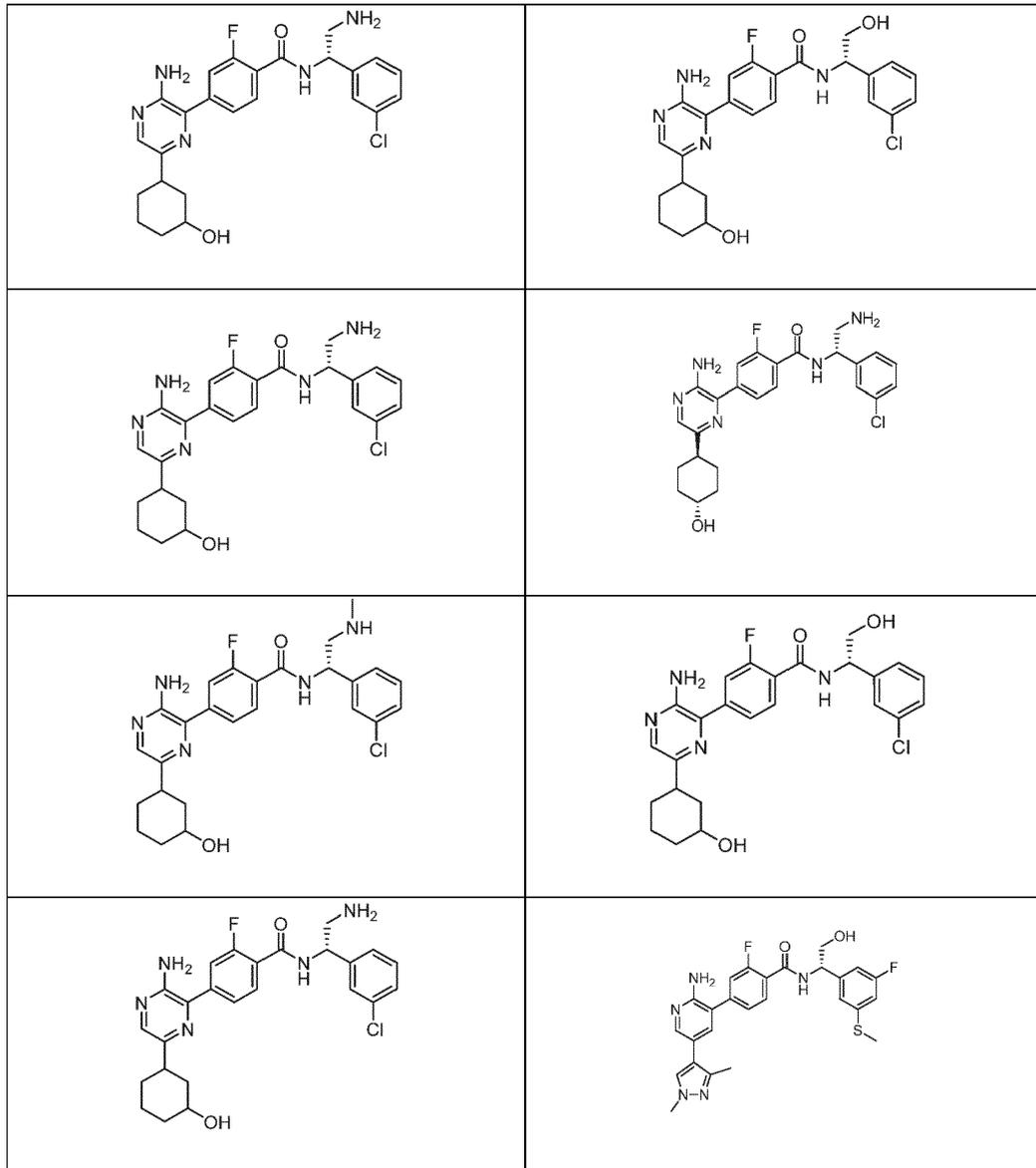


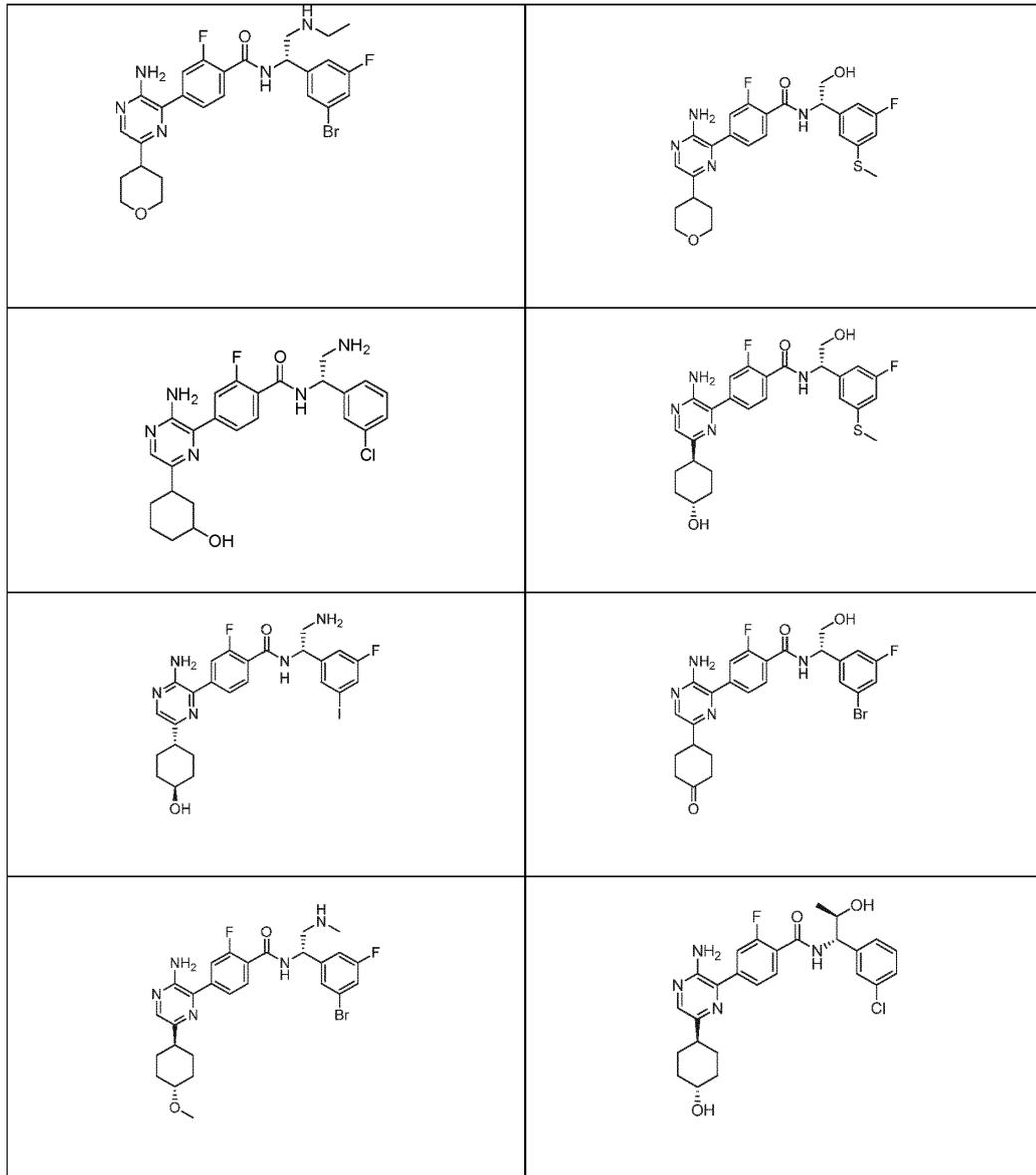


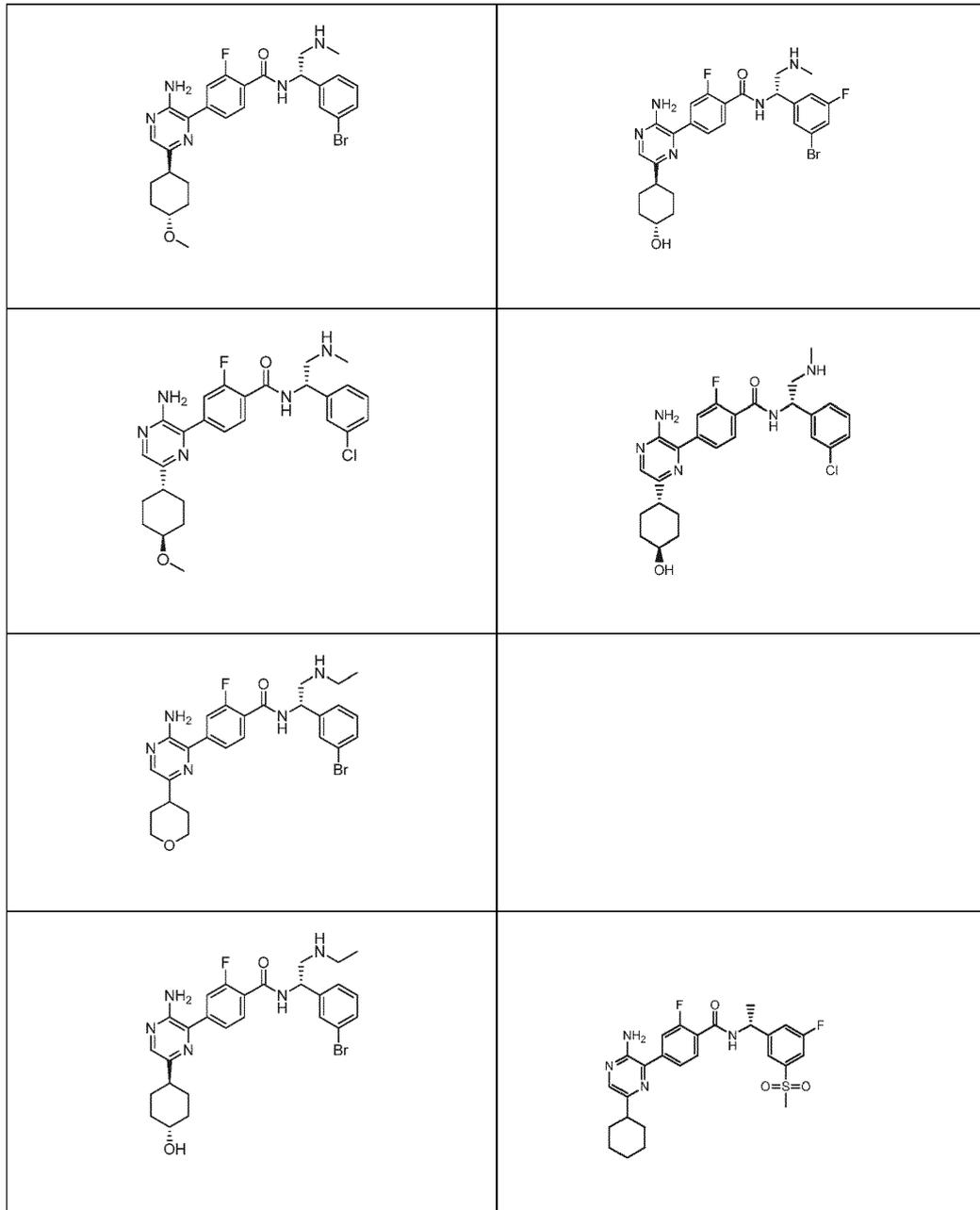


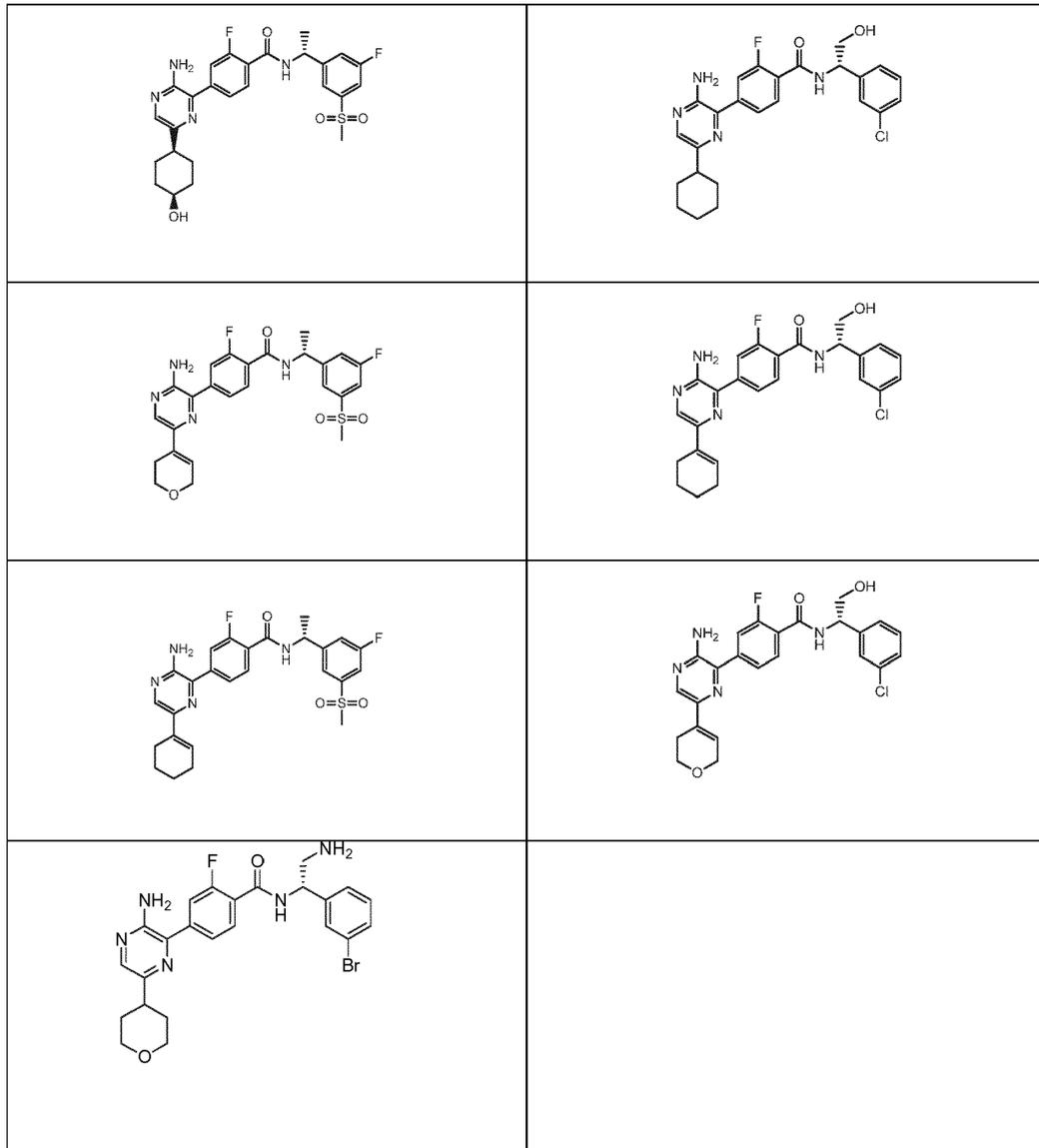


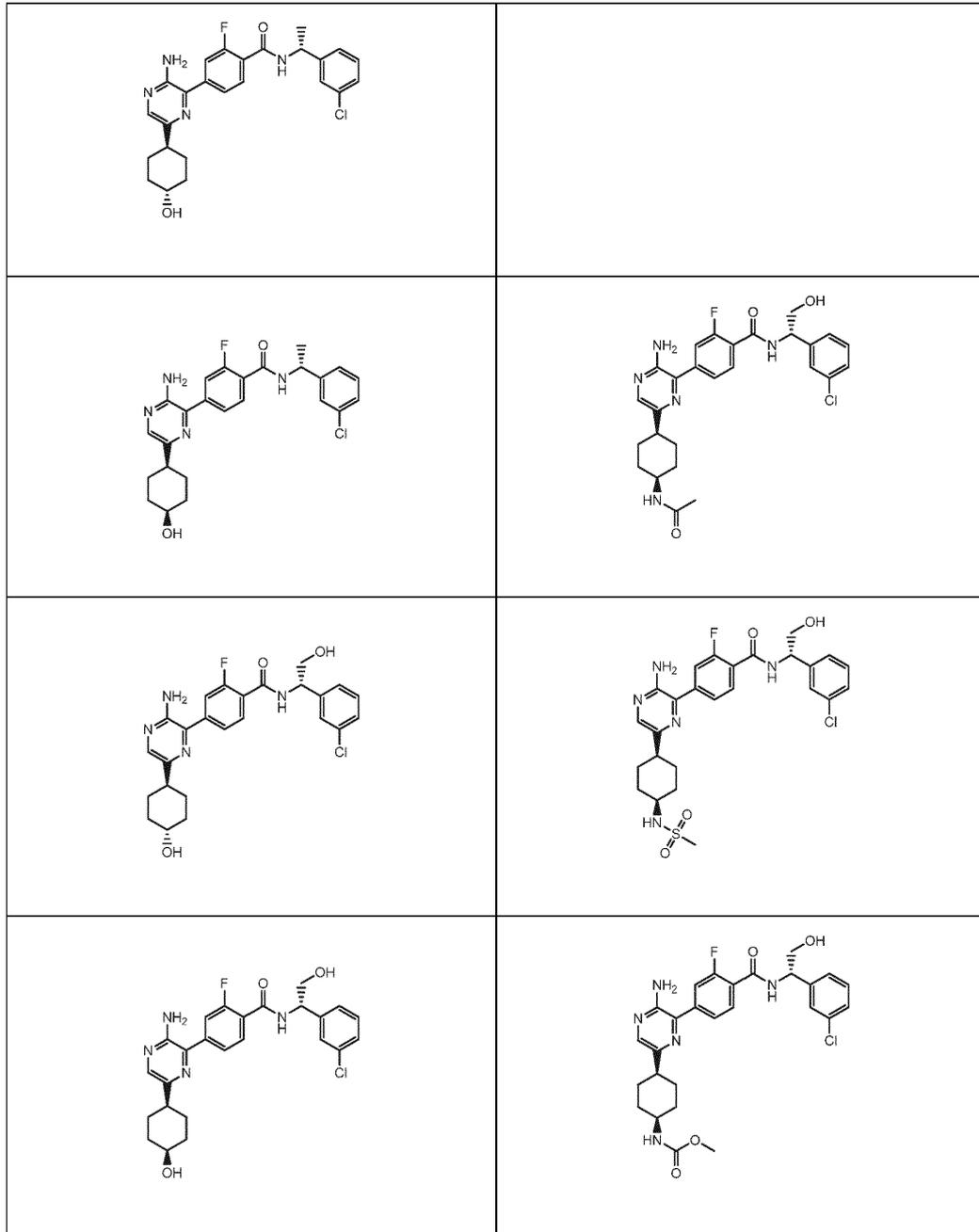


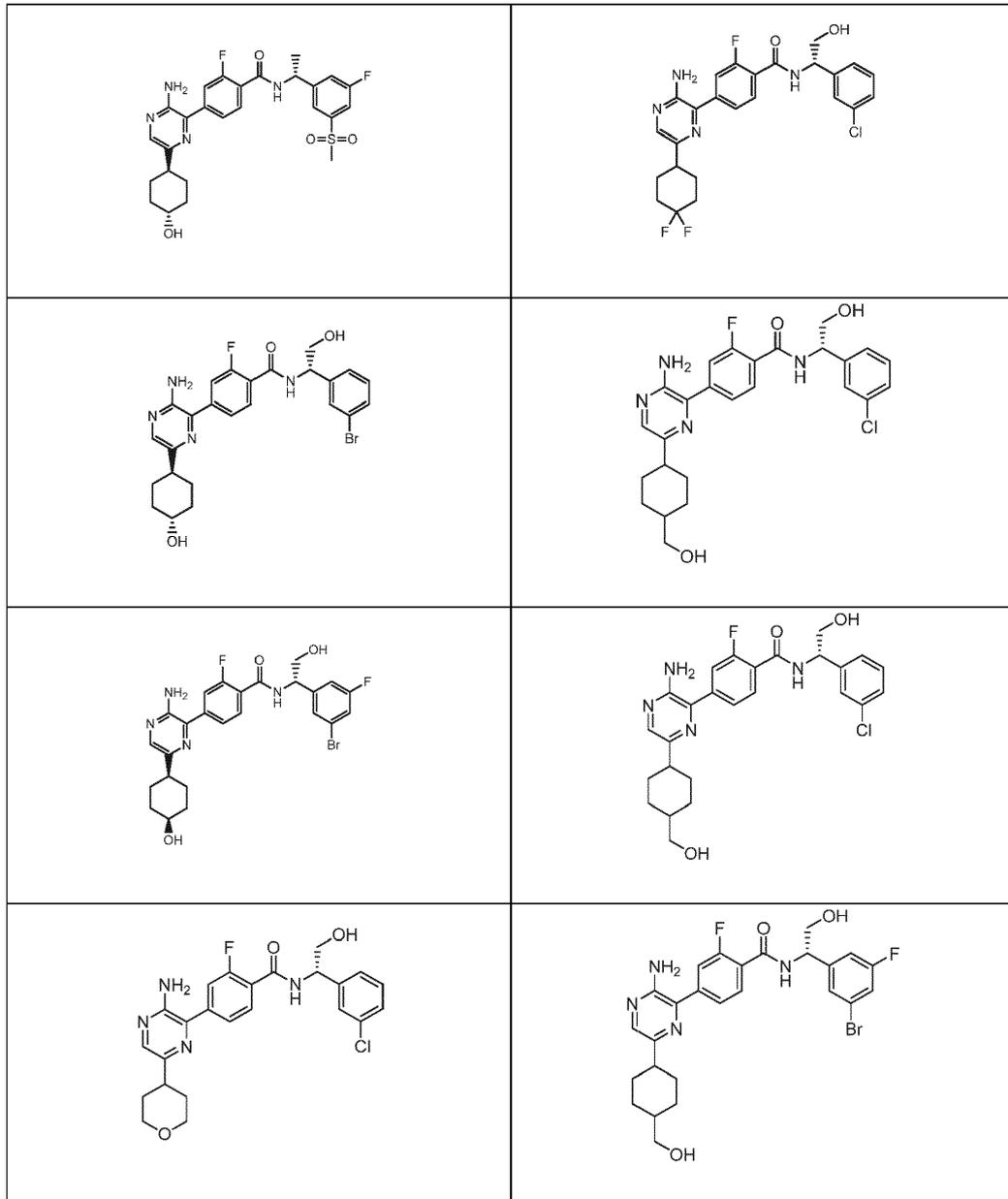


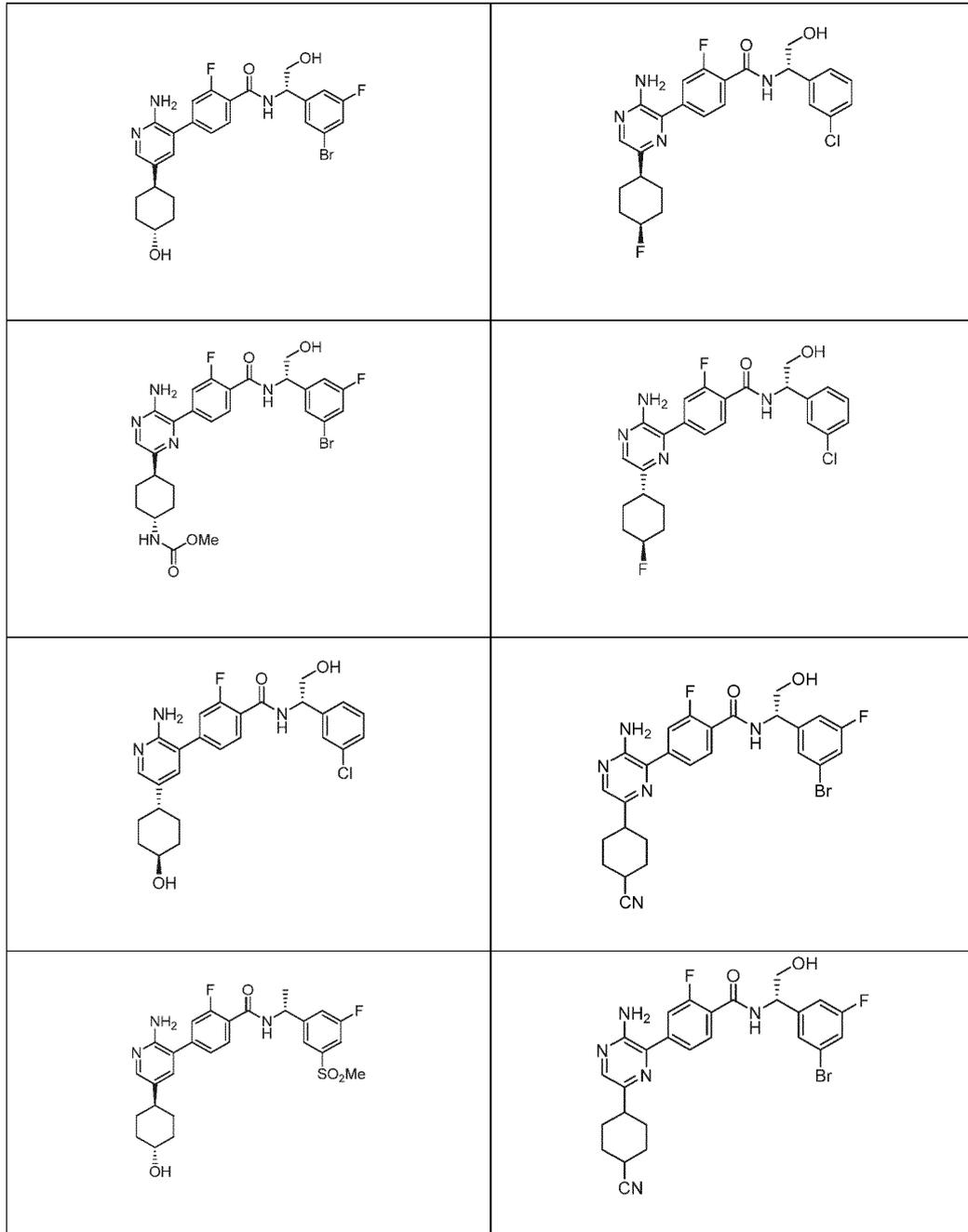


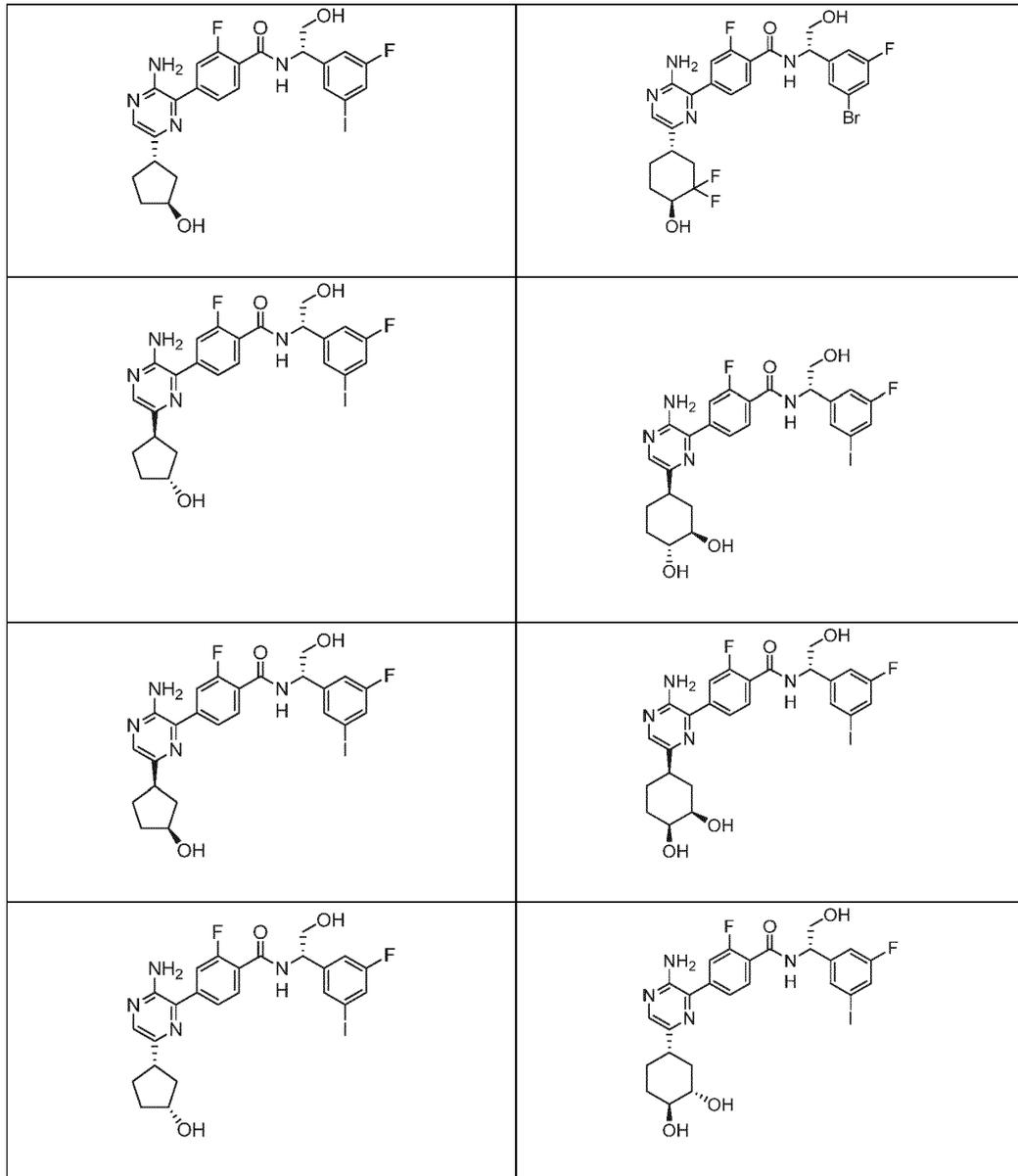


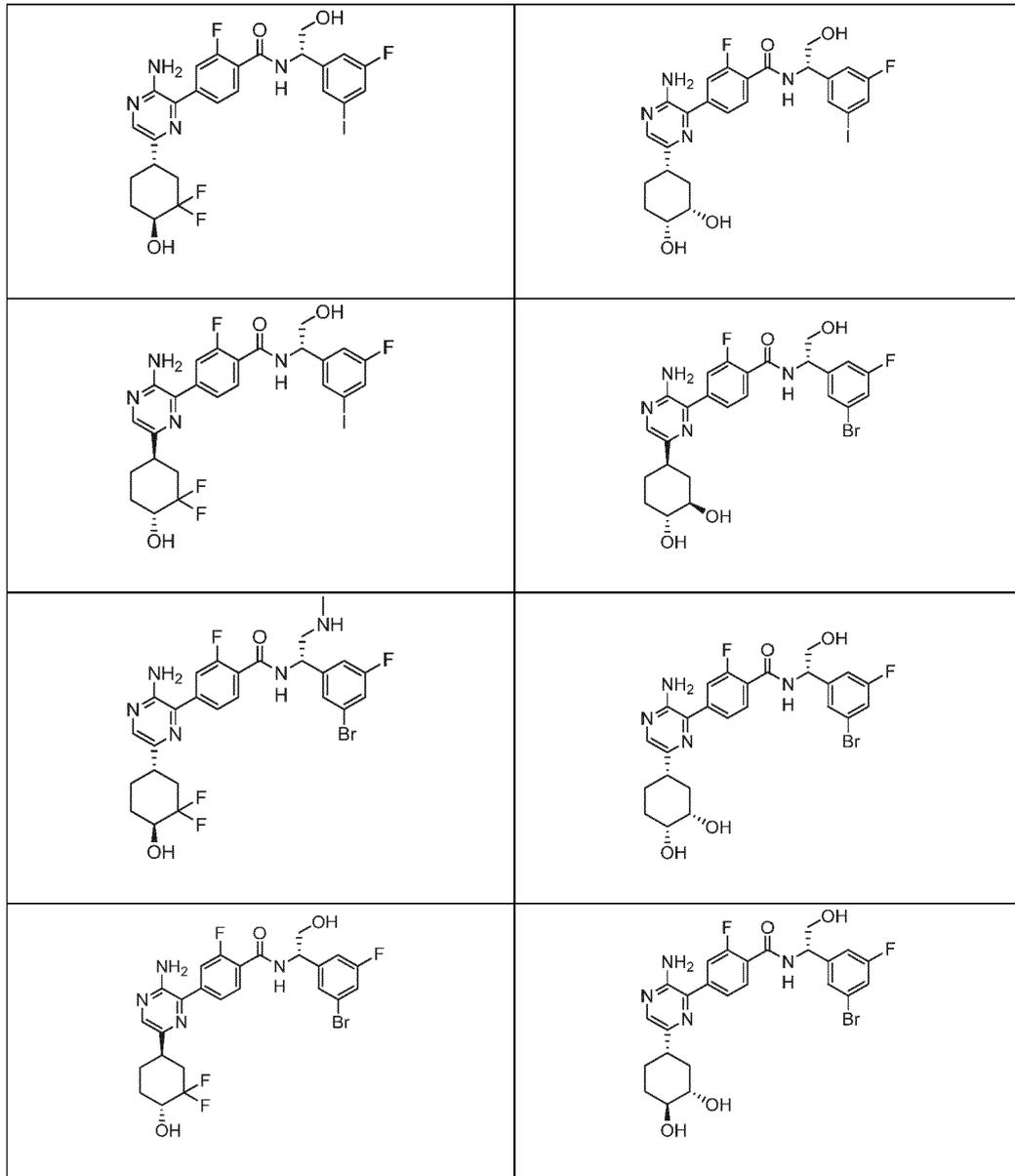


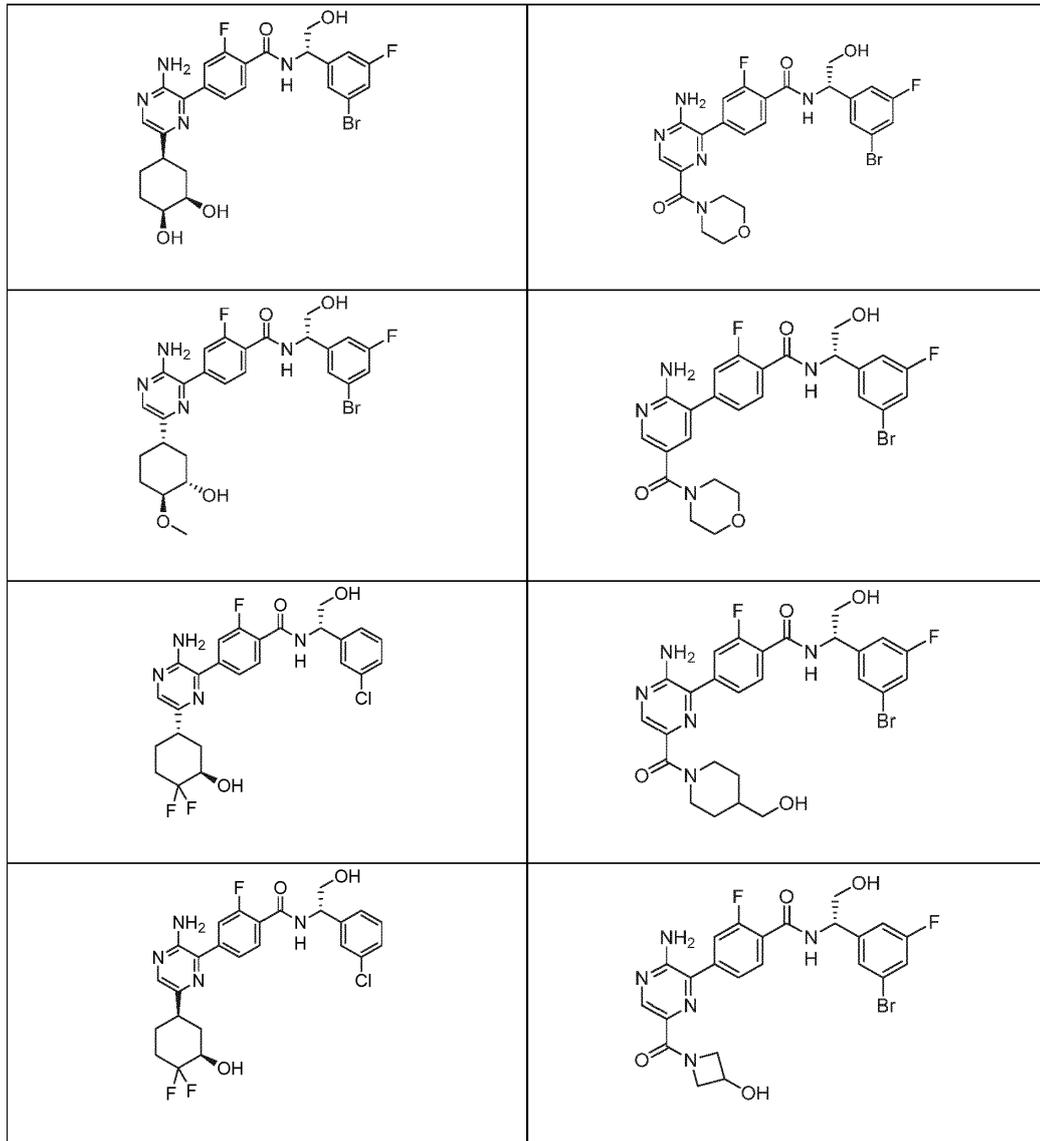


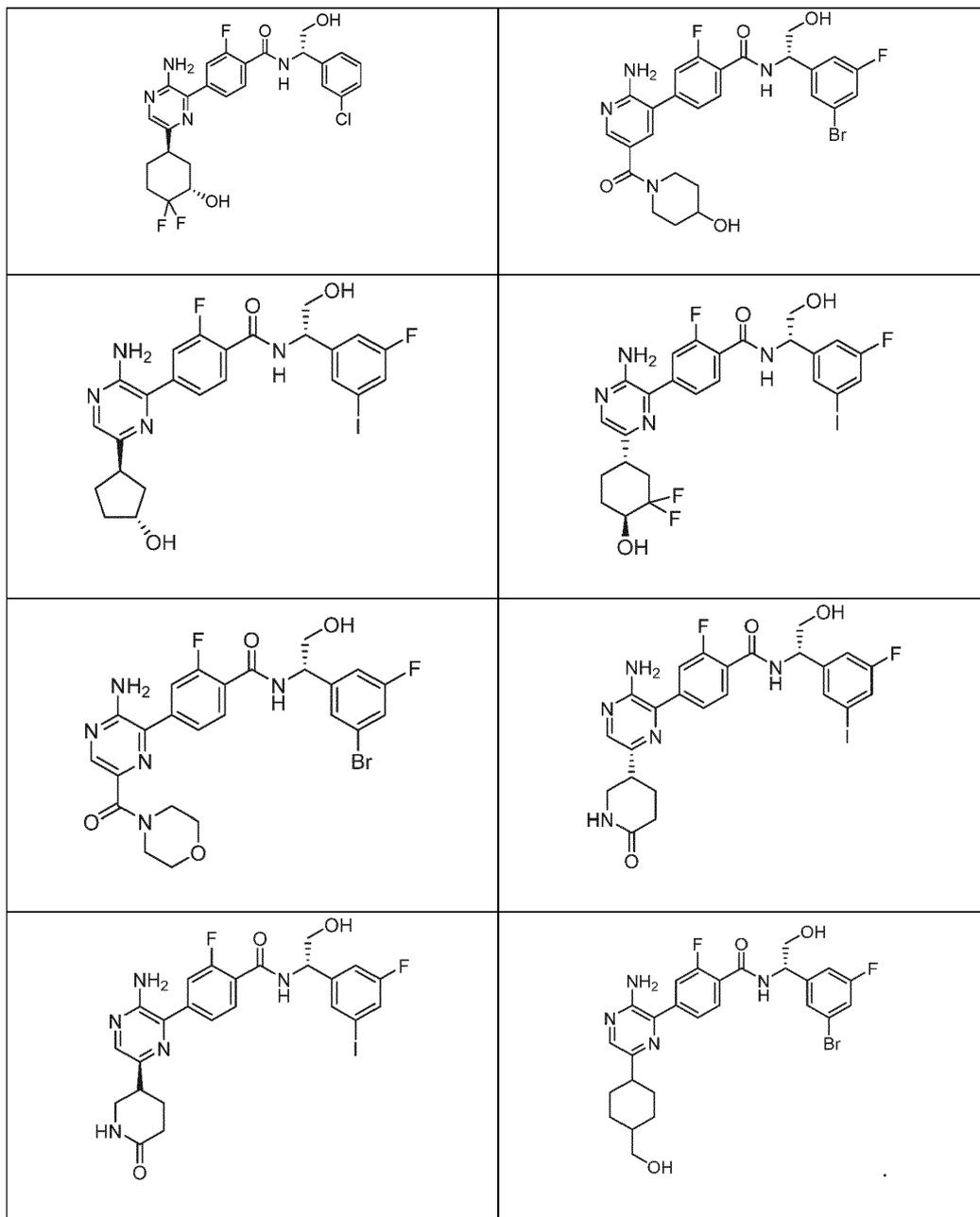




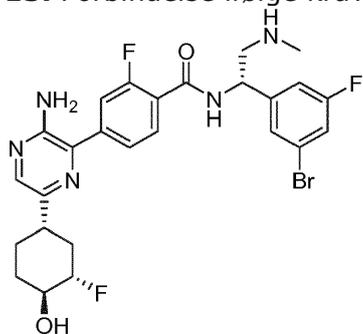








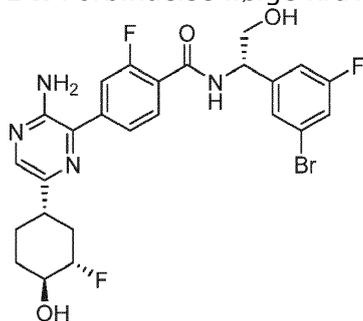
13. Forbindelse ifølge krav 1, hvilken er:



53

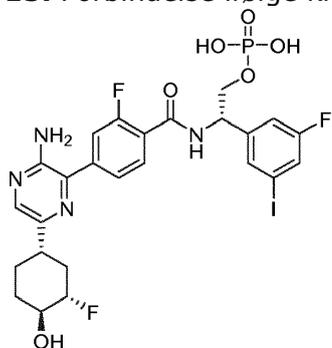
eller et farmasøytisk akseptabelt salt derav.

14. Forbindelse ifølge krav 1, hvilken er:



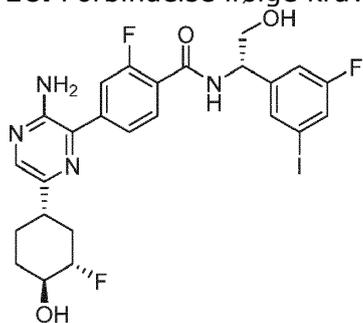
5 eller et farmasøytisk akseptabelt salt derav.

15. Forbindelse ifølge krav 1, hvilken er:



10 eller et farmasøytisk akseptabelt salt derav.

16. Forbindelse ifølge krav 1, hvilken er:



eller et farmasøytisk akseptabelt salt derav.

15 **17.** Forbindelse ifølge krav 1, hvilken er 4-(3-amino-6-((1S, 3S, 4S)-3-fluor-4-hydroxysikloheksyl)pyrazin-2-yl)-N-((S)-1-(3-brom-5-fluorfenyl)-2-(metylamino)etyl)-2-fluorbenzamid i hydrokloridsaltform.

18. Farmasøytisk sammensetning omfattende en forbindelse ifølge et hvilket som helst av kravene 1–17 eller et farmasøytisk akseptabelt salt derav, blandet med minst én farmasøytisk akseptabel bærer.

5 **19.** Sammensetning ifølge krav 18, ytterligere omfattende et terapeutisk virkestoff.

10 **20.** Forbindelse ifølge et hvilket som helst av kravene 1–17, eller et farmasøytisk akseptabelt salt derav, eller en farmasøytisk sammensetning ifølge krav 18 eller krav 19 til anvendelse i behandling av kreft.

15 **21.** Forbindelse eller sammensetning til anvendelse ifølge krav 20, hvori kreften er valgt fra adenom, blærekreft, hjernekreft, brystkreft, livmorhalskreft, kolorektal kreft, tykktarmskreft, epidermalt karsinom, follikkelkarsinom, urogenitale kreftformer, glioblastom, hode- og nakkekreft, Hodgkins sykdom, ikke-Hodgkins lymfom, hepatom, nyrekreft, lungekreft som småcellet eller ikke-småcellet lungekreft, leukemier som AML eller CML, multippel myelom, lymfoide lidelser, hudkreft inkludert melanom, nevroblastom, eggstokkreft, kreft i bukspyttkjertelen, prostatakreft, rektal kreft, sarkom, testikkelkreft og skjoldbruskkreft.

20

25 **22.** Forbindelse ifølge et hvilket som helst av kravene 1-17, eller et farmasøytisk akseptabelt salt derav i kombinasjon med en forbindelse valgt fra vemurafinib, debrafinib, LGX818, trametinib, MEK162, LEE011, PD-0332991, panobinostat, verinostat, romidepsin, cetuximab, gefitinib, erlotinib, lapatinib, panitumumab, vandetanib, INC280, everolimus, simolimus, BMK120, BYL719 og CLR457.