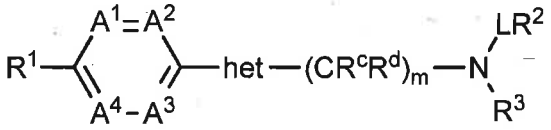
CLAIMS

1. A compound according to formula (I) and pharmaceutically acceptable salts and solvates thereof:



(I)

wherein

"het" is selected from substituted or unsubstituted: aziridinylene, azetidinylene, pyrolidinylene, piperidinylene and azepanylene;

or "het" represents a substituted or unsubstituted heteroalkylene chain in which the heteroatom present in a C_{1-6} alkylene chain is nitrogen and wherein the nitrogen atom is substituted by hydrogen or C_{1-4} alkyl;

at least one of A^1, A^2, A^3 and A^4 is N and the remaining A^1, A^2, A^3 and A^4 are each independently selected from CR^4 or N;

wherein R^4 is selected from H, halo, C_{1-6} alkyl, C_{1-6} haloalkyl, $-OR^a$, -SH, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-8} cycloalkyl, C_{3-8} cycloalkenyl, aryl, heterocyclic, $-NR^aR^b$, -CN, acyl, $-C(O)R^a$, $-C(O)OR^a$, $-SO_2R^a$, and $-SO_3R^a$, and two adjacent R^4 groups may form a ring with the carbon atom to which they are attached forming a fused bicyclic ring system of 8 to 12 atoms, wherein the ring formed by the two R^4 groups is a saturated or unsaturated carbocyclic ring with 4, 5, 6, 7, or 8 carbon atoms or a saturated or unsaturated heterocyclic ring with 4, 5, 6, 7, or 8 atoms containing 1, 2 or 3 heteroatoms;

L is selected from either a substituted or unsubstituted C_{1-6} alkylene chain which is saturated or unsaturated and which may also optionally contain, where chemically possible, 1, 2 or 3 N, O, or S atoms in the chain which are independently chosen at each occurrence;

or L is selected from a bond, $-C(NR^a)-$, -C(O)O-, $-C(O)NR^3-$, $-C(NR^a)NR^3-$, and $-SO_2-$;

R^1 is selected from $-OR^5$, $-NR^5R^a$, $-NR^aC(O)R^a$, -CN, $-C_{1-4}$ acyl, $-C(O)R^a$, $-C(O)NR^a$, $-C(O)OR^a$, $-SO_2R^a$, $-SO_3R^a$, substituted or unsubstituted C_{1-6} alkyl, C_{1-6} haloalkyl, substituted or unsubstituted C_{2-6} alkenyl, substituted or unsubstituted C_{2-6} alkynyl, substituted or unsubstituted C_{3-8} cycloalkyl, substituted or unsubstituted C_{3-8} cycloalkenyl, substituted or unsubstituted aryl, and substituted or unsubstituted heterocyclic;

wherein R^5 is H, $-SO_2R^a$, $-SO_2NR^aR^b$, substituted or unsubstituted C_{1-4} alkyl, C_{1-4} haloalkyl, substituted or unsubstituted C_{3-8} cycloalkyl, substituted or unsubstituted C_{3-8} cycloalkenyl, substituted or unsubstituted aryl, and substituted or unsubstituted heterocyclic;

R^2 is represented by $-CR^6R^7R^8$, wherein R^6, R^7 and R^8 are independently selected at each occurrence from H and substituted or unsubstituted: C_{1-14} alkyl, C_{1-14} haloalkyl, carbocyclic, and heterocyclic,

or R^2 is selected from substituted or unsubstituted: C_{1-14} alkyl, C_{1-14} haloalkyl, carbocyclic, and heterocyclic;

R^3 is selected from H, $-SO_2R^a$, $-SO_2NR^aR^b$, substituted or unsubstituted C_{1-4} alkyl, C_{1-4} haloalkyl, substituted or unsubstituted C_{3-8} cycloalkyl, substituted or unsubstituted C_{3-8} cycloalkenyl, substituted or unsubstituted aryl, and substituted or unsubstituted heterocyclic;

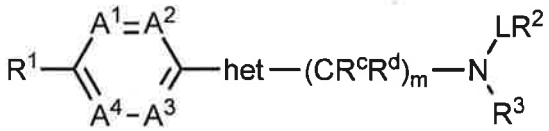
R^a and R^b are independently selected at each occurrence from: H, C_{1-4} alkyl, C_{1-4} haloalkyl, C_{1-4} acyl, C_{3-7} cycloalkyl, and C_{3-7} halocycloalkyl;

R^c and R^d are independently selected from H, halo, $-OR^a$, C_{1-4} alkyl, C_{1-4} haloalkyl, C_{1-4} acyl, C_{3-7} cycloalkyl, and C_{3-7} halocycloalkyl;

m is 0, 1 or 2; and

when a group is substituted, the group contains 1 to 5 substituents independently selected at each occurrence from the group comprising: halo, $-OR^a$, $-SR^a$, $-NR^aR^b$, NO_2, =O, -CN, acyl, C_{1-6} alkyl, C_{1-6} haloalkyl, C_{3-8} cycloalkyl, $-SO_2R^a$, and SO_3R^a , $-C(OR^a)R^aR^b$, $-C(O)R^a$ and $C(O)OR^a$.

2. A compound of claim 1, wherein the compound of formula (**I**) is a compound according to formula (**Ia**) and pharmaceutically acceptable salts and solvates thereof:



(**Ia**)

wherein

"het" is selected from substituted or unsubstituted: aziridinylene, azetidinylene, pyrolidinylene, piperidinylene and azepanylene;

or "het" represents a substituted or unsubstituted heteroalkylene chain in which the heteroatom present in a C_{1-6} alkylene chain is nitrogen and wherein the nitrogen atom is substituted by hydrogen or C_{1-4} alkyl;

at least one of A^1, A^2, A^3 and A^4 is N and the remaining A^1, A^2, A^3 and A^4 are each independently selected from CR^4 or N;

wherein R^4 is selected from H, halo, C_{1-6} alkyl, C_{1-6} haloalkyl, $-OR^a$, -SH, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-8} cycloalkyl, C_{3-8} cycloalkenyl, aryl, heterocyclic, $-NR^aR^b$, -CN, acyl, $-C(O)R^a$, $-C(O)OR^a$, $-SO_2R^a$, and $-SO_3R^a$, and two adjacent R^4 groups may form a ring with the carbon atom to which they are attached forming a fused bicyclic ring system of 8 to 12 atoms, wherein the ring formed by the two R^4 groups is a saturated or unsaturated carbocyclic ring with 4, 5, 6, 7, or 8 carbon atoms or a saturated or unsaturated heterocyclic ring with 4, 5, 6, 7, or 8 atoms containing 1, 2 or 3 heteroatoms;

L is selected from either a substituted or unsubstituted C_{1-6} alkylene chain which is saturated or unsaturated and which may also optionally contain, where chemically possible, 1, 2 or 3 N, O, or S atoms in the chain which are independently chosen at each occurrence;

or L is selected from a bond, $-C(NR^a)-$, $-C(O)O-$, $-C(O)NR^3-$, $-C(NR^a)NR^3-$, and $-SO_2-$;

R^1 is selected from $-OR^5$, $-NR^5R^a$, $-NR^aC(O)R^a$, -CN, $-C_{1-4}$ acyl, $-C(O)R^a$, $-C(O)NR^a$, $-C(O)OR^a$, $-SO_2R^a$, $-SO_3R^a$, substituted or unsubstituted C_{1-6} alkyl, C_{1-6} haloalkyl, substituted or unsubstituted C_{2-6} alkenyl, substituted or unsubstituted C_{2-6} alkynyl, substituted or unsubstituted C_{3-8} cycloalkyl, substituted or unsubstituted C_{3-8} cycloalkenyl, substituted or unsubstituted aryl, and substituted or unsubstituted heterocyclic,

wherein R^5 is H, $-SO_2R^a$, $-SO_2NR^aR^b$, substituted or unsubstituted C_{1-4} alkyl, C_{1-4} haloalkyl, substituted or unsubstituted C_{3-8} cycloalkyl, substituted or unsubstituted C_{3-8} cycloalkenyl, substituted or unsubstituted aryl, and substituted or unsubstituted heterocyclic;

R^2 is represented by $-CR^6R^7R^8$, wherein R^6, R^7 and R^8 are independently selected at each occurrence from H and substituted or unsubstituted: C_{1-14} alkyl, C_{1-14} haloalkyl, carbocyclic, and heterocyclic,

or R^2 is selected from substituted or unsubstituted: C_{1-14} alkyl, C_{1-14} haloalkyl, carbocyclic, and heterocyclic;

R^3 is selected from H, $-SO_2R^a$, $-SO_2NR^aR^b$, substituted or unsubstituted C_{1-4} alkyl, C_{1-4} haloalkyl, substituted or unsubstituted C_{3-8} cycloalkyl, substituted or unsubstituted C_{3-8} cycloalkenyl, substituted or unsubstituted aryl, and substituted or unsubstituted heterocyclic;

R^a and R^b are independently selected at each occurrence from: H, C_{1-4} alkyl, C_{1-4} haloalkyl, C_{1-4} acyl, C_{3-7} cycloalkyl, and C_{3-7} halocycloalkyl;

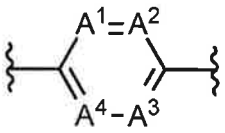
R^c and R^d are independently selected from H, halo, $-OR^a$, C_{1-4} alkyl, C_{1-4} haloalkyl, C_{1-4} acyl, C_{3-7} cycloalkyl, and C_{3-7} halocycloalkyl;

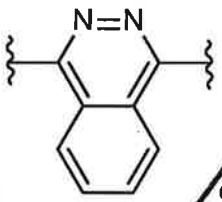
m is 0, 1 or 2; and

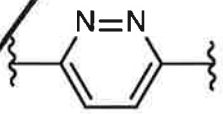
when a group is substituted, the group contains 1 to 5 substituents independently selected at each occurrence from the group comprising: halo, $-OR^a$, $-SR^a$, $-NR^aR^b$, NO_2, =O, -CN, acyl, C_{1-6} alkyl, C_{1-6} haloalkyl, C_{3-8} cycloalkyl, $-SO_2R^a$, and SO_3R^a , $-C(OR^a)R^aR^b$, $-C(O)R^a$ and $C(O)OR^a$;

provided that:

(1) LR^2 is not $-CO(O)tBu$; and

(2) R^1 is not a substituted or unsubstituted thiadiazolinyl group when 

is 

or 

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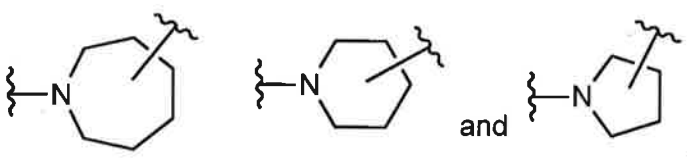
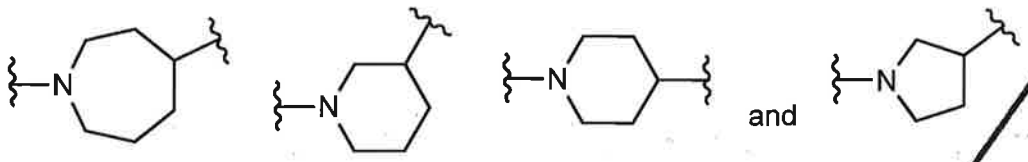
3. A compound of claim 1, wherein "het" is selected from substituted or unsubstituted: pyrolidinylene, piperidinylene and azepanylene; or "het" represents a substituted or unsubstituted heteroalkylene chain in which the heteroatom present in a C_{1-6} alkylene chain is nitrogen and wherein the nitrogen atom is substituted by hydrogen or C_{1-4} alkyl.

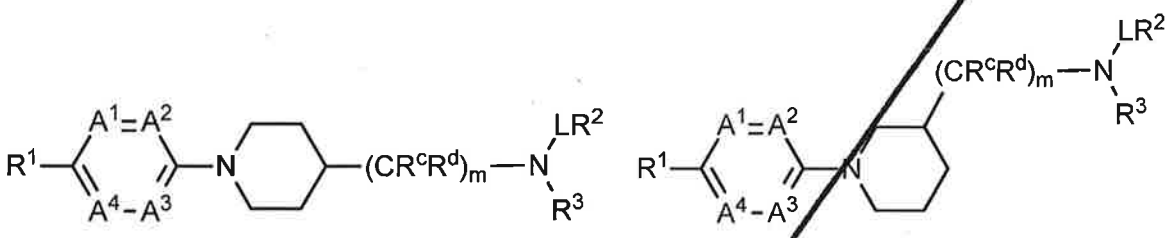
4. A compound of anypreceding claim, wherein "het" is selected from substituted or unsubstituted:



5. A compound of any preceding claim, wherein "het" is selected from substituted or unsubstituted:

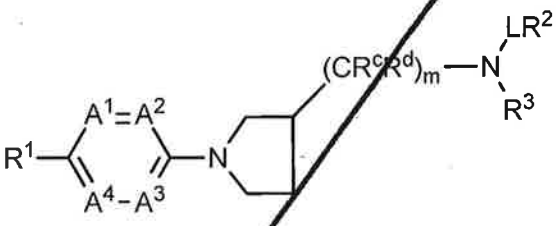


6. A compound of claim 1 wherein the compound of formula (I) is a compound according to formula (II), (IIa) or (IIb) and pharmaceutically acceptable salts and solvates thereof:



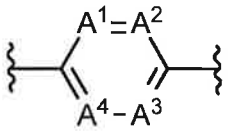
(II)

(IIa)

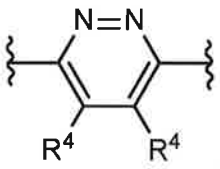


(IIb)

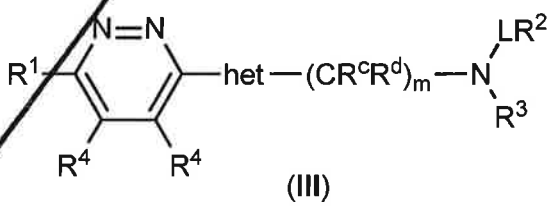
7. A compound of any preceding claim wherein, at least two of A^1, A^2, A^3 and A^4 are N and the remaining A^1, A^2, A^3 and A^4 are each independently selected from N or CR^4.

8. A compound of claim 7, wherein 

is selected from:

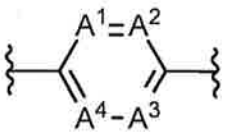


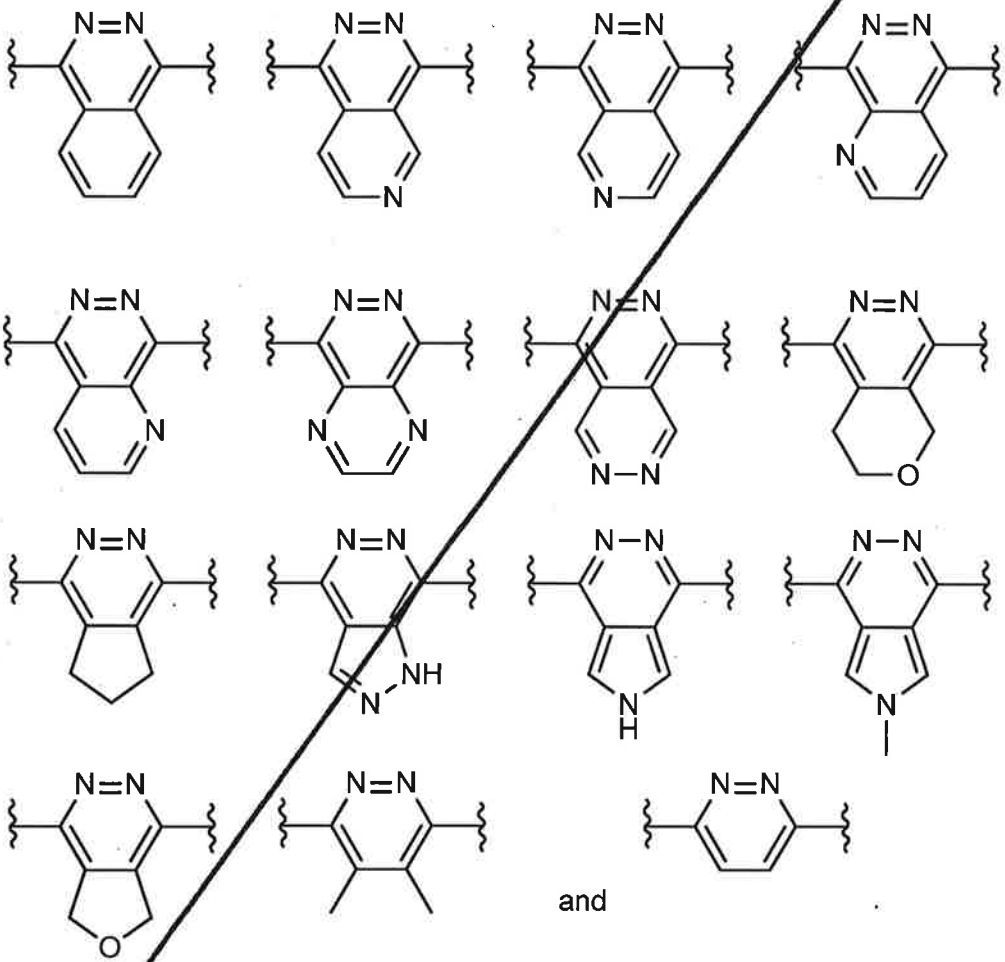
9. A compound of any of claims 1 to 4, wherein the compound of formula (I) is a compound according to formula (III) and pharmaceutically acceptable salts and solvates thereof:



(III)

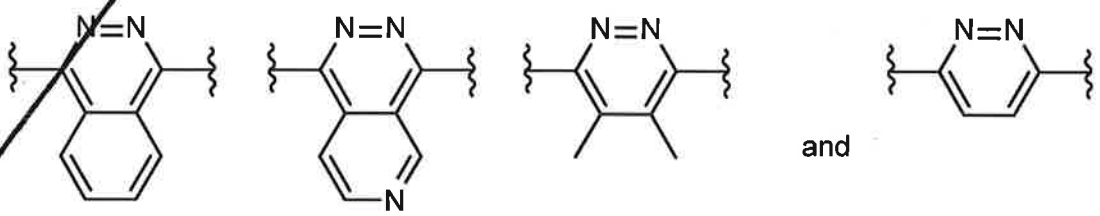
10. A compound of any preceding claim, wherein two adjacent R^4 groups are both C_{1-6} alkyl or both form a ring with the atom to which the R^4 groups are attached forming a fused bicyclic ring system of 8 to 12 atoms, wherein the ring formed by the two R^4 groups is a saturated or unsaturated carbocyclic ring with 4, 5, 6, 7 or 8 carbon atoms or a saturated or unsaturated heterocyclic ring with 4, 5, 6, 7 or 8 atoms or a saturated or unsaturated heterocyclic ring with 4, 5, 6, 7 or 8 atoms containing 1, 2 or 3 heteroatoms.

11. A compound of any preceding claim, wherein  is selected from:



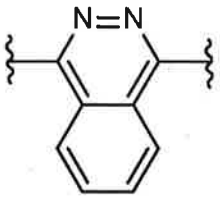
and .

12. A compound of claim 11, wherein is selected from:

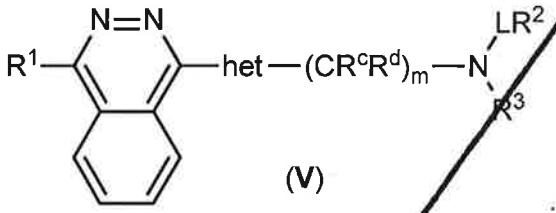


and .

13. A compound of claim 11, wherein is



14. A compound of any of claims 1 to 4, wherein the compound of formula (I) is a compound according to formula (V) and pharmaceutically acceptable salts and solvates thereof:



(V)

15. A compound of any preceding claim wherein L is selected from a substituted or unsubstituted saturated C_{1-6} alkylene chain which may also contain where chemically possible 1, 2 or 3 N, O or S atoms in the chain which are independently chosen at each occurrence, or L is selected from a bond, -C(NR^a)-, -C(O)O-, -C(O)NR^3-, C(NR^a)NR^3- and $-SO_2$-.

16. A compound of claim 15, wherein L is selected from a bond, -CR^{c}R^d-, -CR^{c}R^{d}CR^{c}R^d-, -C(NR^a)-, -C(O)NR^3- and $-SO_2$-.

17. A compound of claim 16, wherein L is selected from a bond $-CH_2$-, $-CH_2CH_2$-, $-CH(CH_3)$-, -C(NH)-, -C(O)NH-, $-C(O)N(CH_3)$- and $-SO_2$-.

18. A compound of any preceding claim, wherein R^1 is selected from -OR^5, -NR^{5}R^a, -NR^{a}C(O)R^a substituted or unsubstituted C_{1-6} alkyl, -CN, substituted or unsubstituted aryl and substituted or unsubstituted heterocyclic.

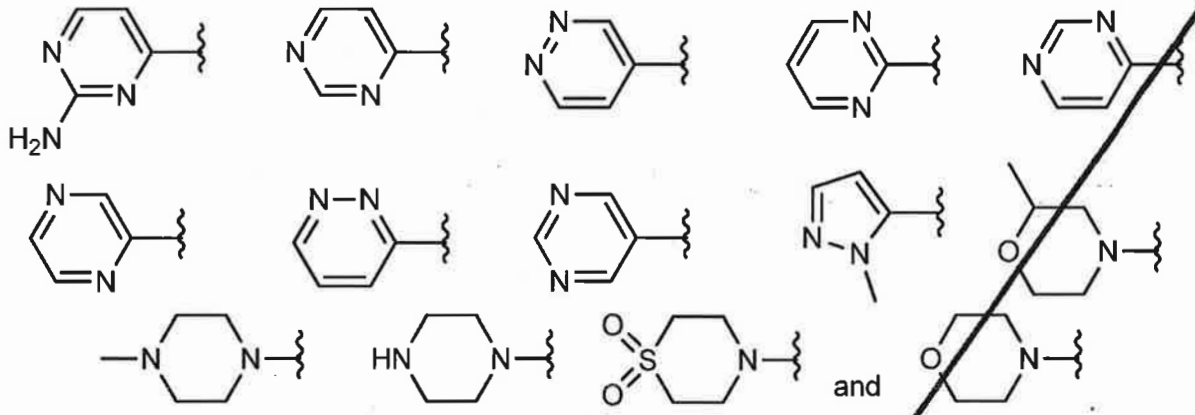
19. A compound of claim 18, wherein R^1 is substituted or unsubstituted heterocyclic and the heterocyclic moiety is selected from substituted or unsubstituted C_{4-8} heterocycloalkyl and substituted or unsubstituted C_{5-6} heteroaryl.

20. A compound of claim 18, wherein R^1 may be selected from hydroxyl, methoxy, methyl, N-methylamino, $Me_2N(CH_2)NH$-, nitrile, phenyloxy and substituted or unsubstituted: pyrazolyl, pyridyl, morpholinyl, pyrazinyl, pyrimidinyl, piperazinyl, pyridazinyl, pyrolidin-yl-one, imidazolin-yl-one, or pyridazinyl.

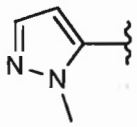
21. A compound of claim 20, wherein R^1 is substituted or unsubstituted: pyrrolyl, imidazolyl, pyrazolyl, oxazolyl, oxadiazolyl, isoxazolyl, triazolyl, tetrazolyl, thiazolyl, isothiazolyl, furanyl, pyridinyl, pyridazinyl, pyrazinyl and pyrimidinyl.

22. A compound of claim 21, wherein R^1 is substituted or unsubstituted pyrazolyl.

23. A compound of any of claims 18, wherein R^1 may be selected from:



24. A compound of claim 18 wherein R^1 is:



25. A compound of claim18 wherein R^1 may be selected from -OMe, -OPh, -OC_{1-4} alkyl, -$N(CH_3)CH_3$, -$NHCH_2CH_2N(CH_3)_2$, -$NHSO_2CH_3$, -$N(CH_3)SO_2CH_3$, -$NHSO_2NCH_3$, -$N(CH_3)SO_2CH_3$, -$NC(O)R^a$, methyl, ethyl, propyl, butyl, and -CN.

26. A compound of any preceding claim, wherein R^2 is represented by -$CR^6R^7R^8$, wherein R^6, R^7 and R^8 are independently selected at each occurrence from H and substituted or unsubstituted: C_{1-14} alkyl, C_{1-14} haloalkyl, C_{3-8} cycloalkyl, C_{3-8} heterocycloalkyl, phenyl, toluenyl, pyridinyl, pyridazinyl, pyrimidinyl, pyrazinyl, pyrrolyl, pyrazolyl, triazolyl, tetrazolyl, oxazolyl, isoxazolyl, oxadiazolyl, thiazolyl, and isothiazolyl.

27. A compound of claim 26, wherein R^6, R^7 and R^8 are all one of the groups selected from: methyl, trifluoromethyl, cyclohexanyl and phenyl.

28. A compound of any of claims 1 to 25, wherein R^2 is selected from substituted or unsubstituted: C_{1-14} alkyl, C_{1-14} haloalkyl, carbocyclic, and heterocyclic.

29. A compound of claim 28 wherein carbocyclic is cycloalkyl and aryl and heterocyclic is heterocycloalkyl and heteroaryl.

30. A compound of claim 28 or claim 29, wherein R^2 is selected from substituted or unsubstituted: C_{1-14} alkyl, C_{1-14} haloalkyl, C_{3-8} cycloalkyl, C_{5-6} aryl,C_{3-8} heterocycloalkyl and C_{5-6} heteroaryl.

31. A compound of any of claims 28 to 30 wherein R^2 is selected from substituted or unsubstituted: C_{1-14} alkyl, C_{1-14} haloalkyl, C_{3-8} cycloalkyl, C_{3-8} heterocycloalkyl, phenyl, toluenyl, pyridinyl, pyridazinyl, pyrimidinyl, pyrazinyl, pyrrolyl, pyrazolyl, triazolyl, tetrazolyl, oxazolyl, isoxazolyl, oxadiazolyl, thiazolyl, and isothiazolyl.

32. A compound of claim 28, wherein R^2 is selected from *tert*-butyl or substituted or unsubstituted: cyclopropyl, phenyl, toluenyl, pyridinyl, pyridazinyl, pyrimidinyl, pyrazinyl, pyrrolyl, pyrazolyl, triazolyl, tetrazolyl, oxazolyl, isoxazolyl, oxadiazolyl, thiazolyl, and isothiazolyl.

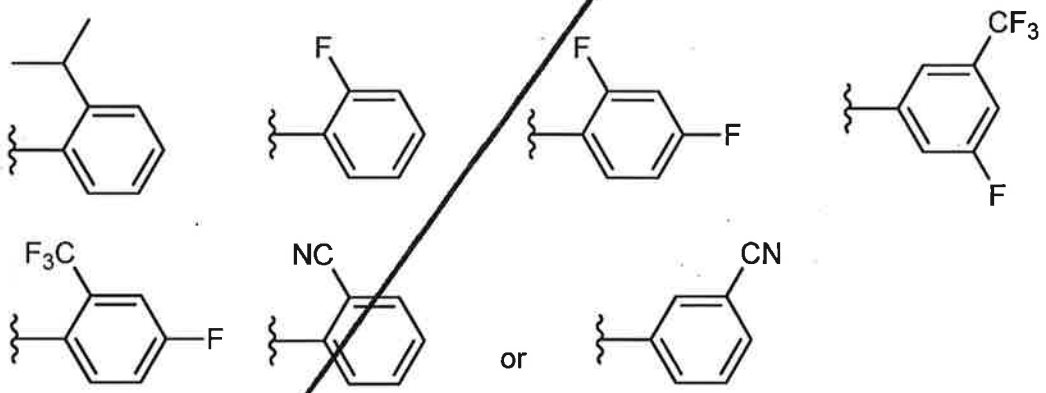
33. A compound of claim 28, wherein R^2 is substituted or unsubstituted phenyl, toluenyl and pyridinyl.

34. A compound of any of claims 26 to 33, wherein R^2 is substituted by 1 to 5 substituents, optionally 1, 2 or 3 substituents, independently selected at each occurrence from the group comprising halo, $-OR^a$, $-NO_2$, C_{1-6} alkyl, C_{1-6} haloalkyl, $-C(OR^a)R^aR^b$, $-SC_{1-4}$ alkyl, $-C(O)R_aR_b$, $-N(CO)R_a$, and -CN.

35. A compound of claim 34, wherein R^2 is substituted by 1 or 2 substituents independently selected at each occurrence from the group comprising halo, $-NO_2$, $-OC_{1-6}$ haloalkyl, C_{1-6} alkyl, C_{1-6} haloalkyl, $-C(OH)(C_{1-6}$ alkyl)C_{1-6} alkyl, $-SC_{1-4}$ alkyl and -CN.

36. A compound of claim 34 wherein R^2 is substituted by: trifluoromethyl; $-OCF_3$; $-C(OH)(CH_3)CH_3$; methyl; fluoro; chloro; –CN; fluoro and trifluoromethyl; fluoro and $-OCF_3$; or fluoro and methyl.

37. A compound of claim 28 wherein R^2 is selected from:

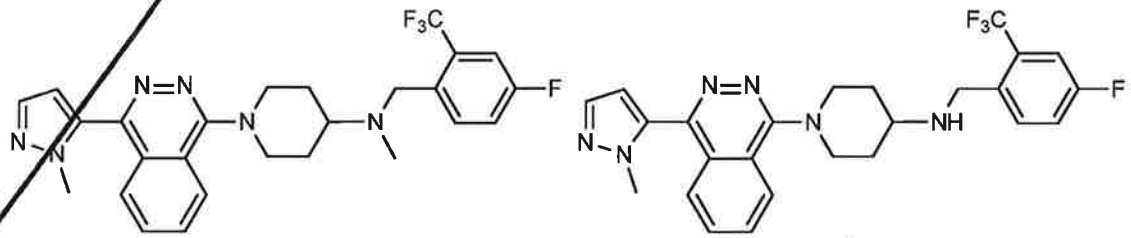


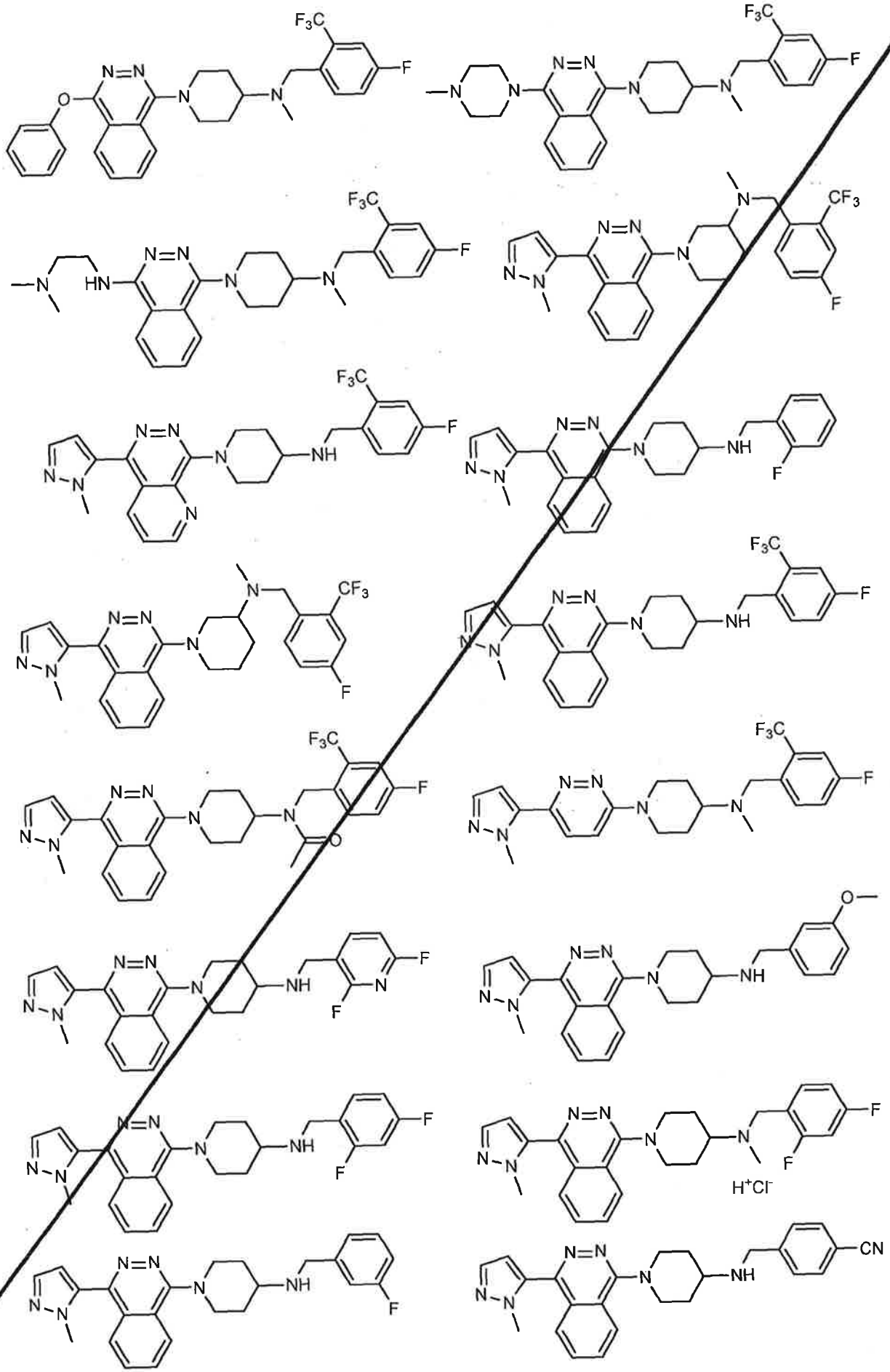
38. A compound of any preceding claim, wherein all occurrences of R^a and R^b are hydrogen.

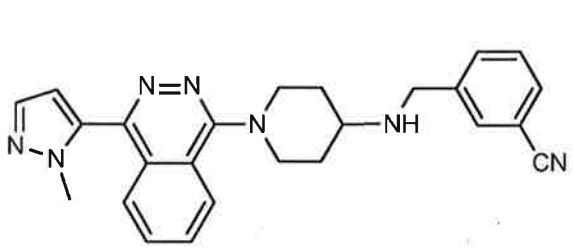
39. A compound of any preceding claim, wherein all occurrences of R^c and R^d are hydrogen.

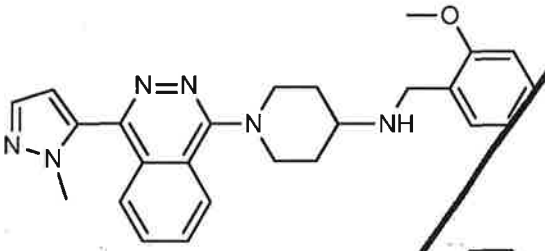
40. A compound of any preceding claim, wherein m is 0 or 1, optionally 0.

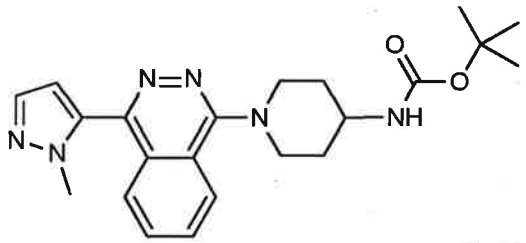
41. A compound of claim 1 wherein the compound of formula (I) is selected from:

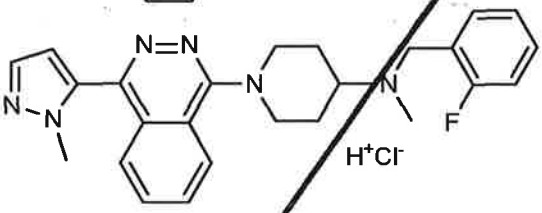


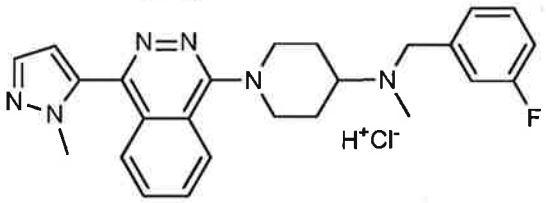


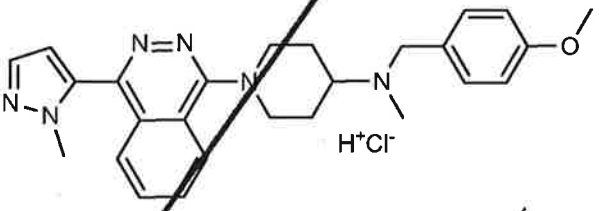


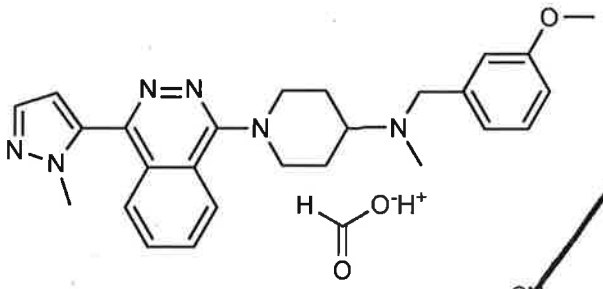


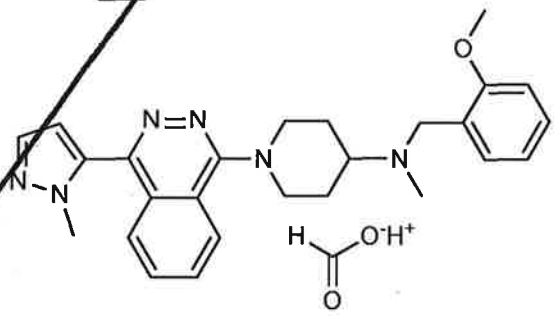


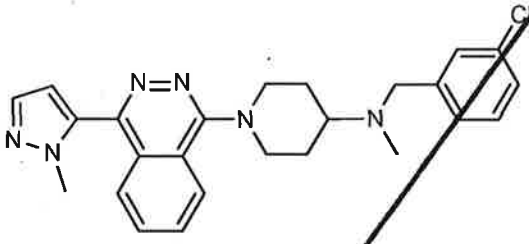


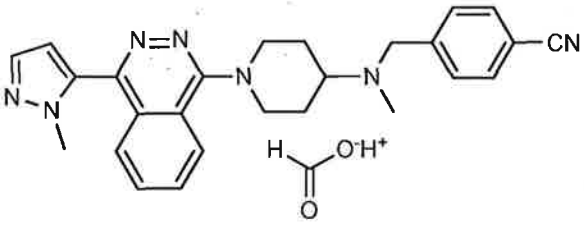












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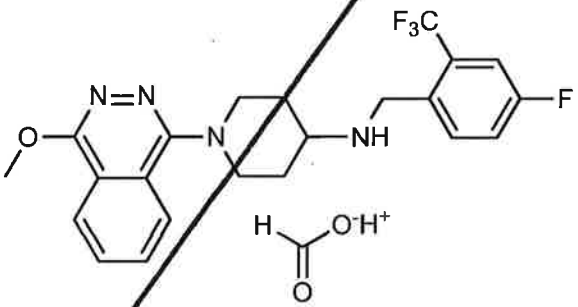

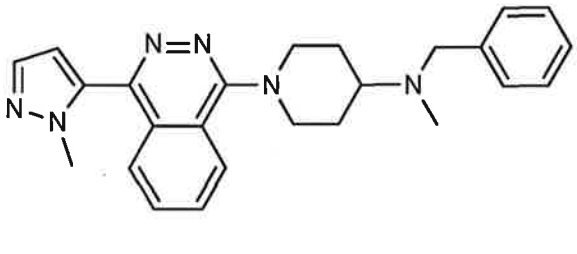

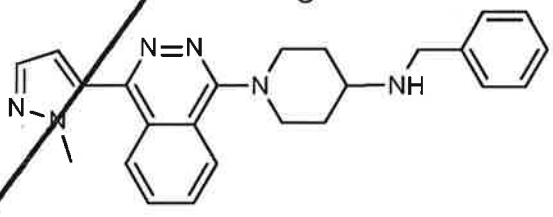

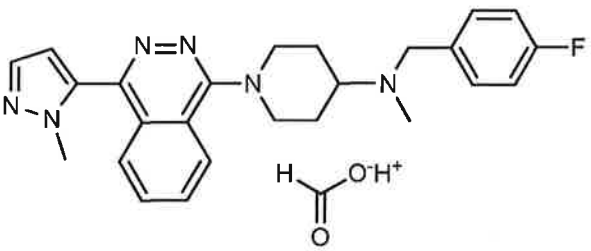

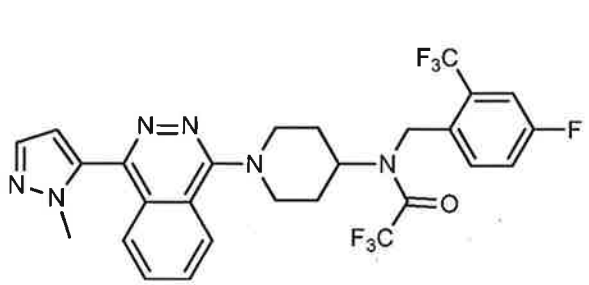

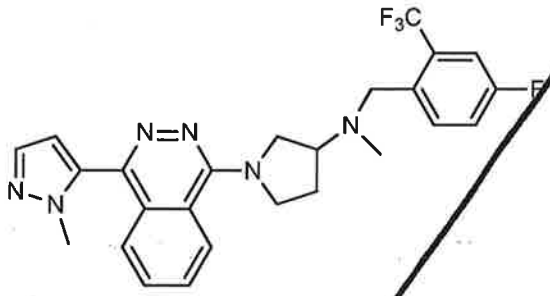

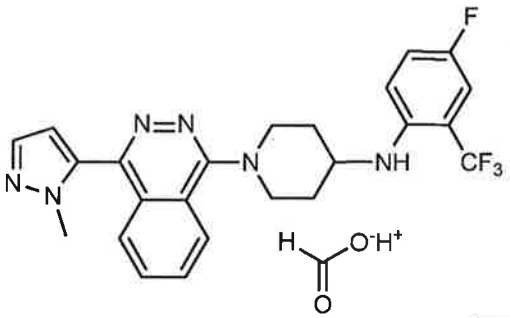

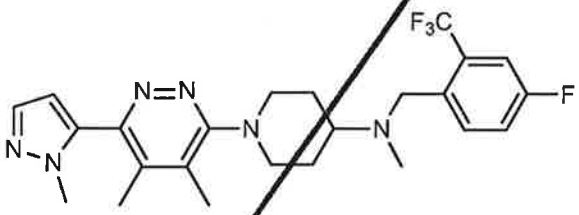

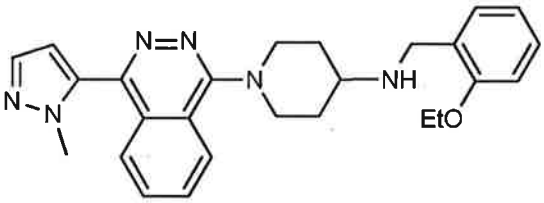

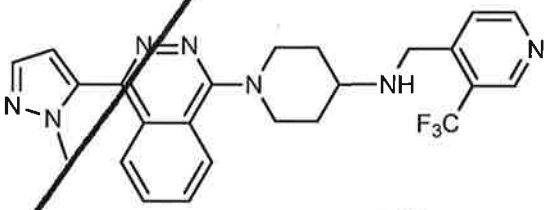

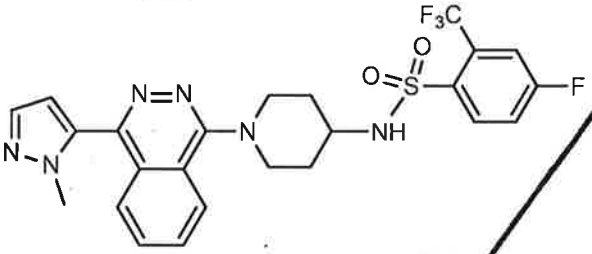

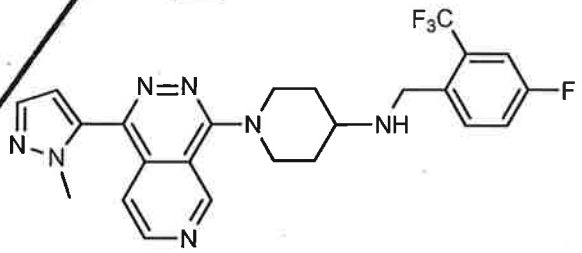

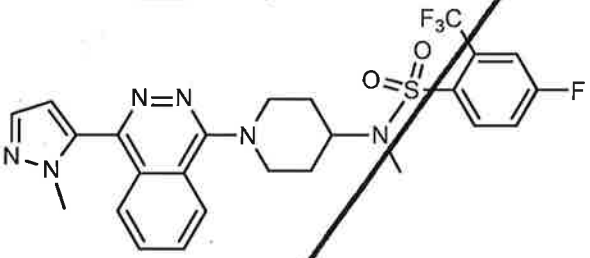

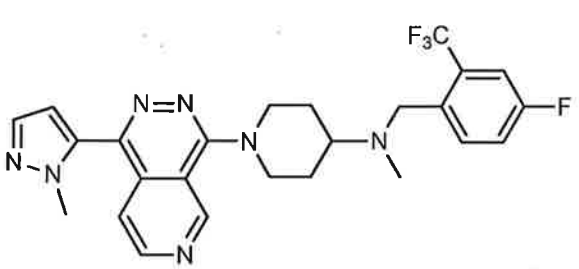

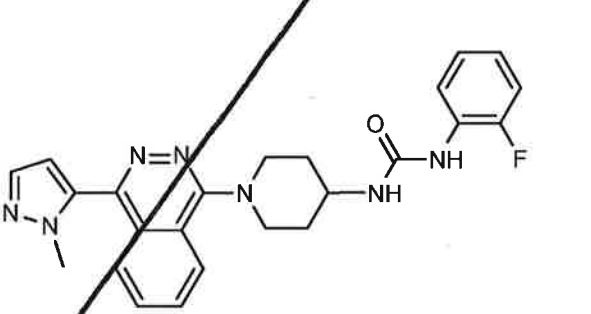

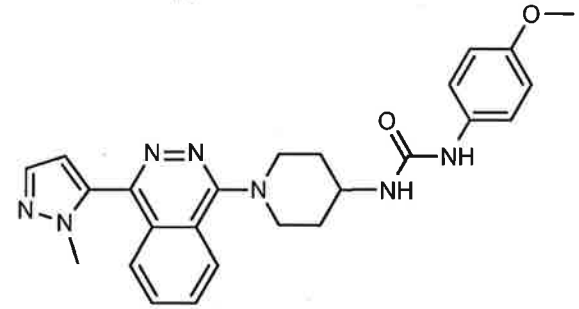

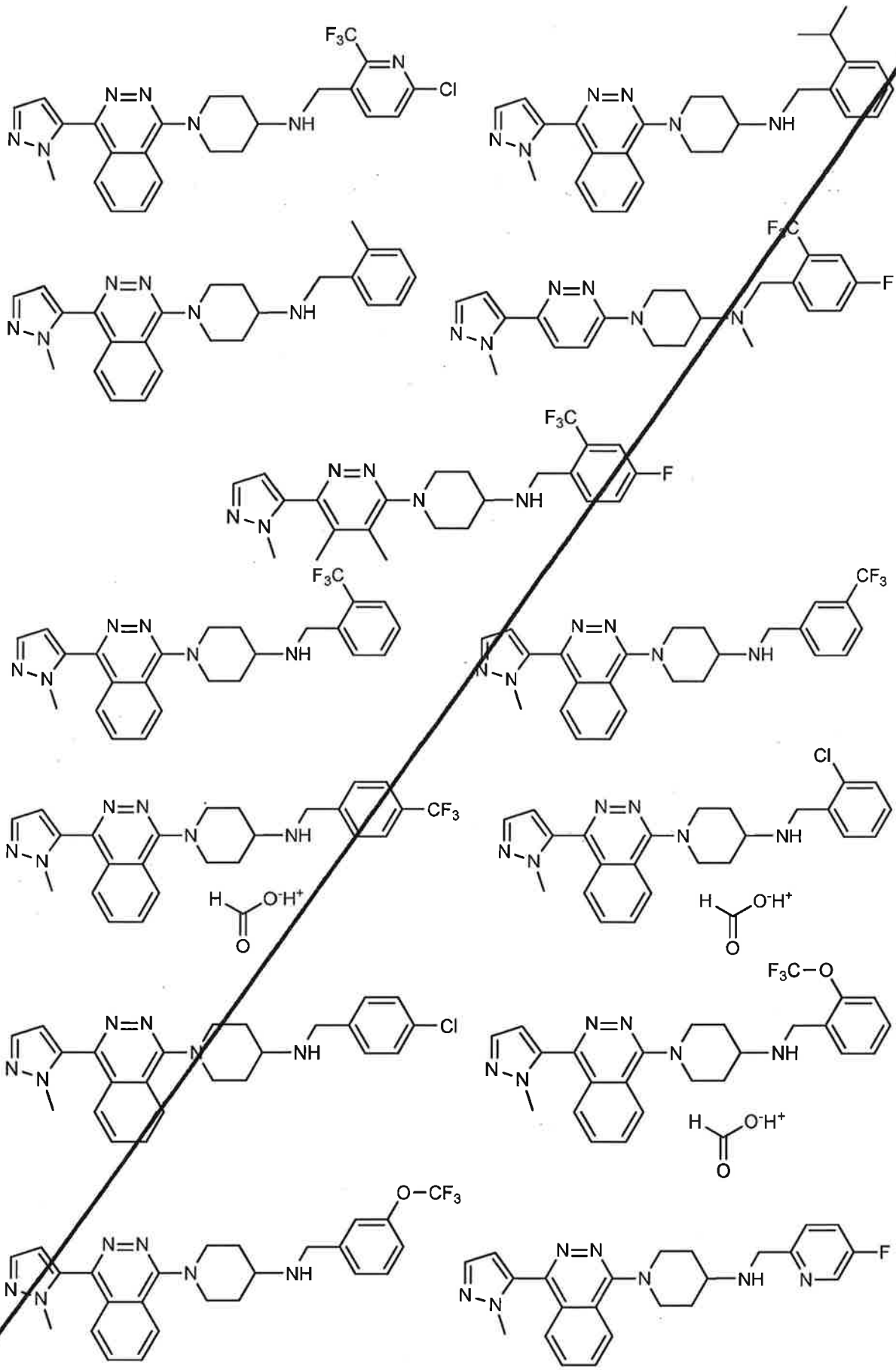

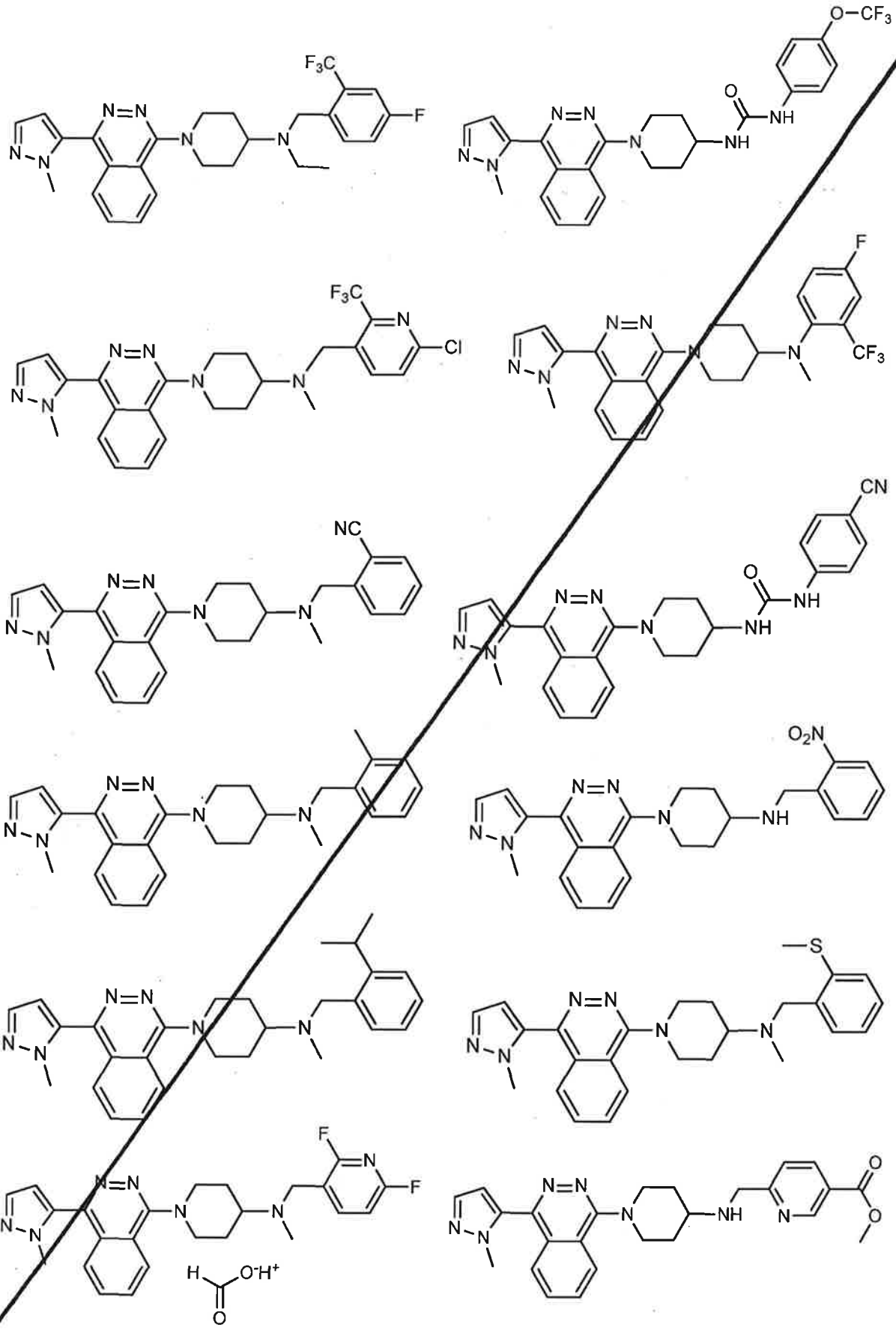

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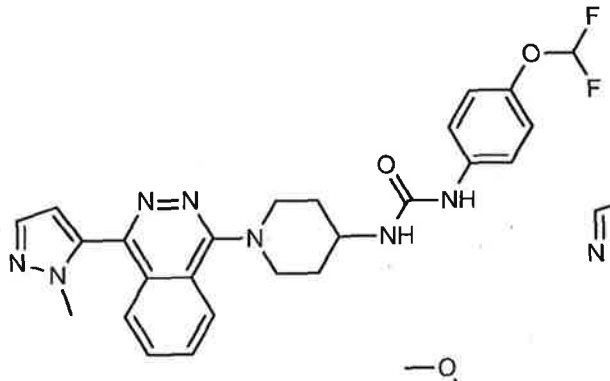

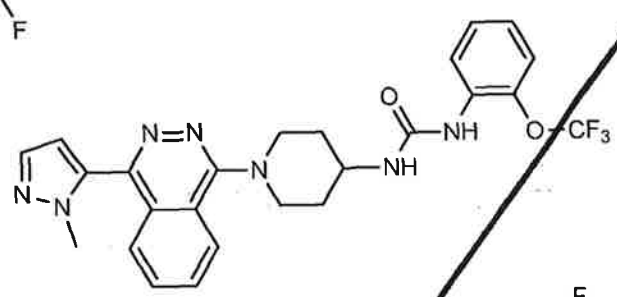

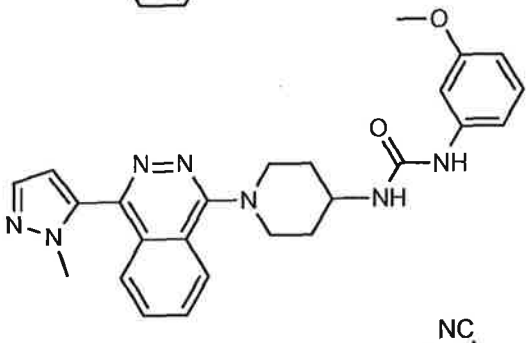

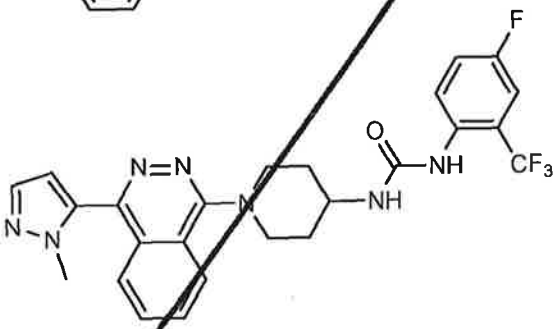

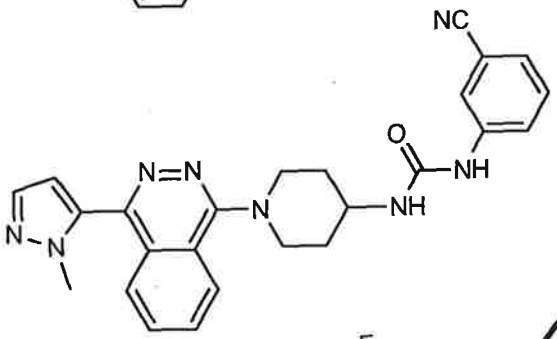

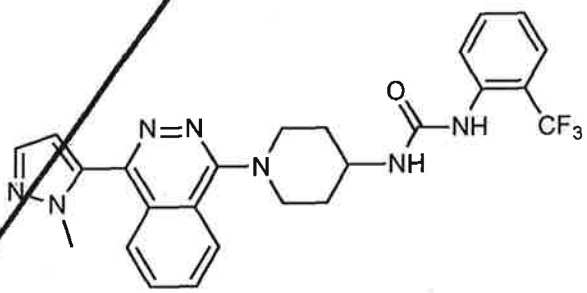

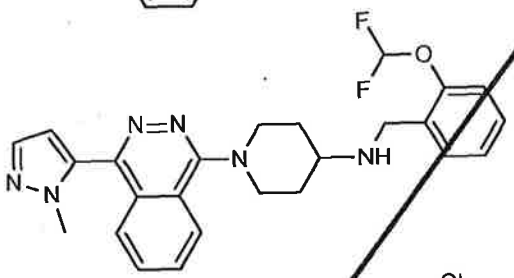

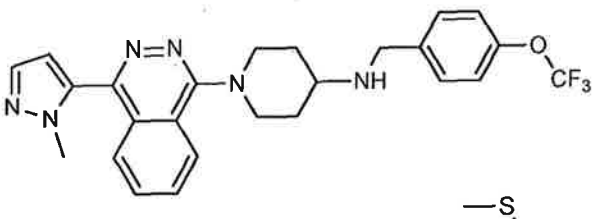

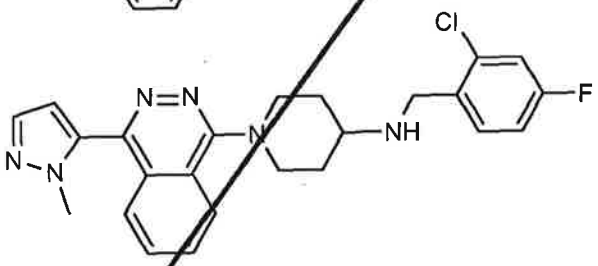

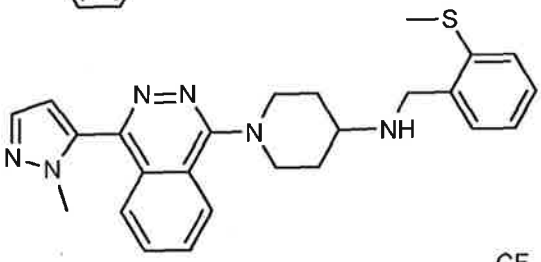

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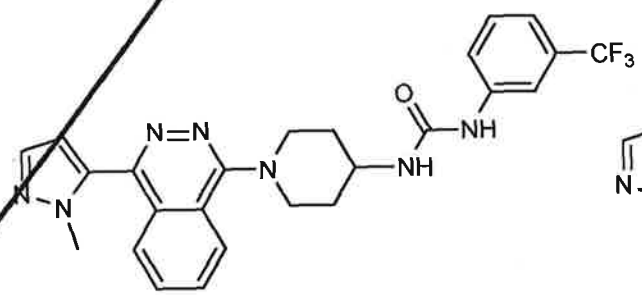

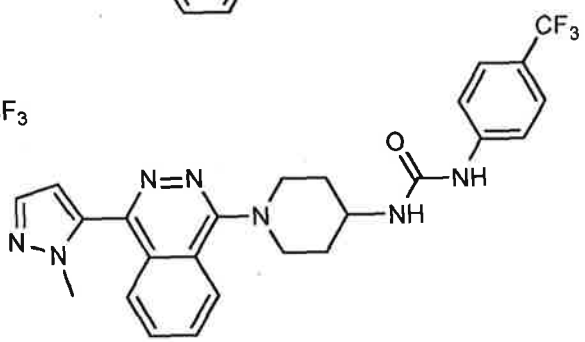

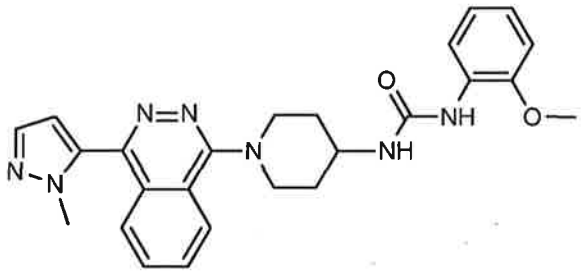
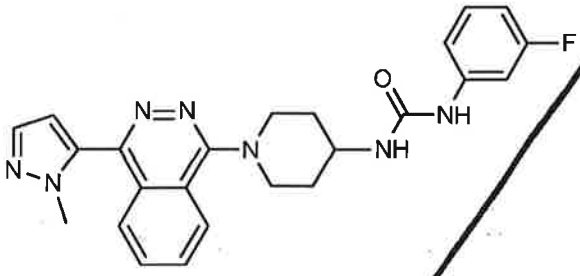
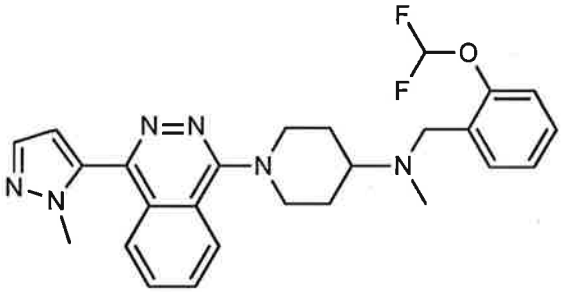
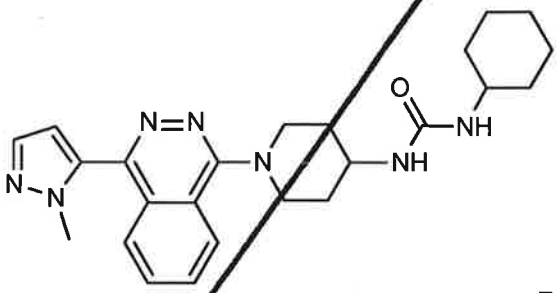
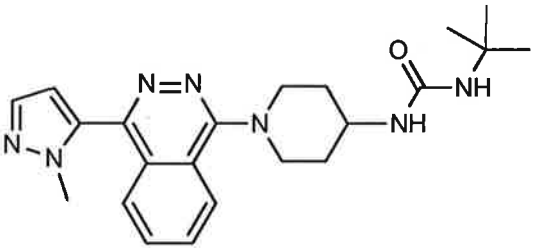
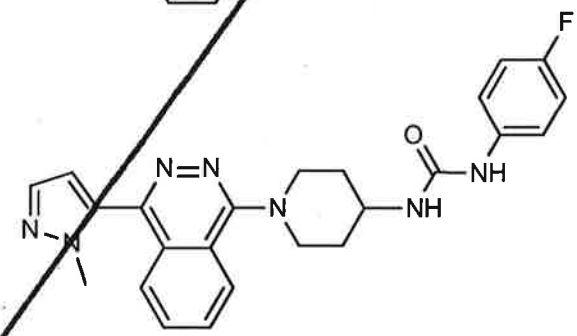
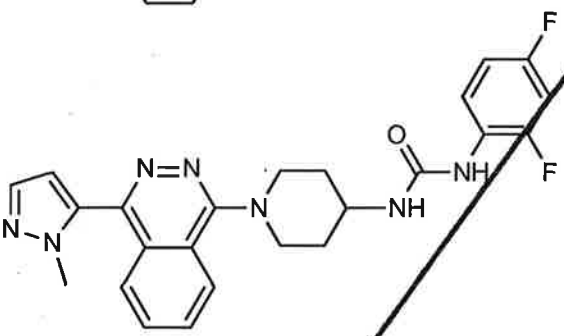
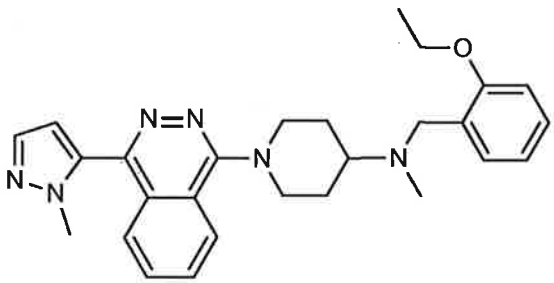
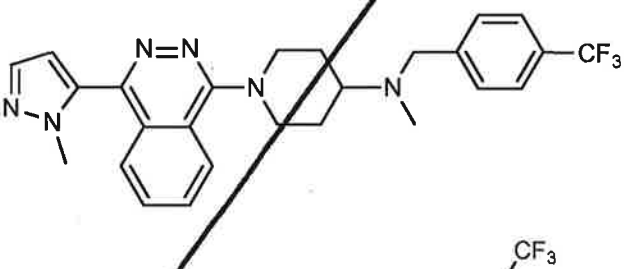
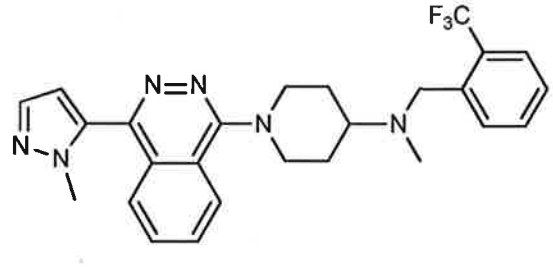
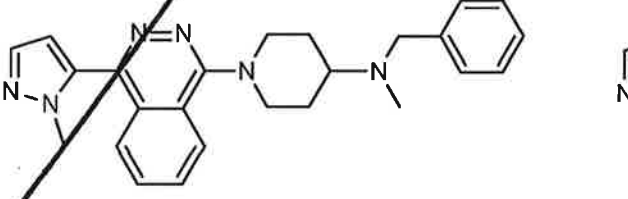
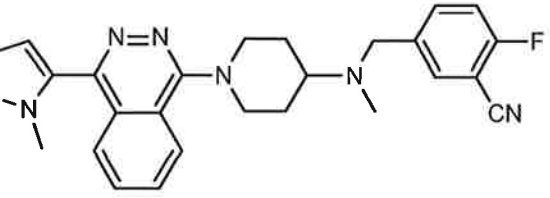

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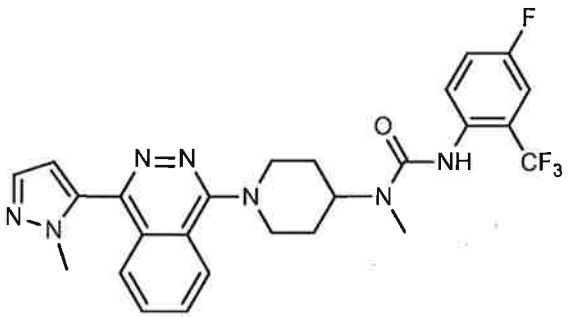
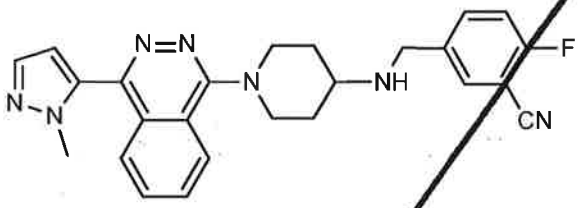
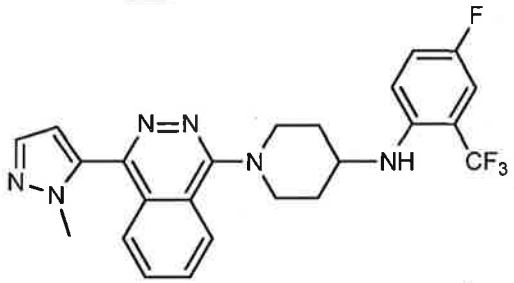
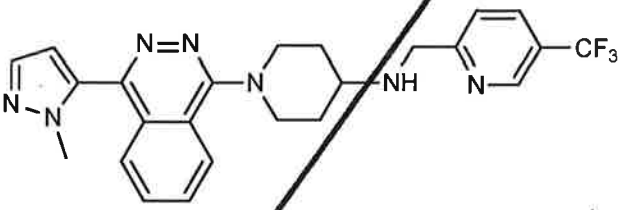
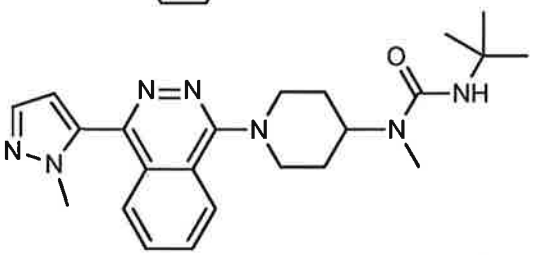
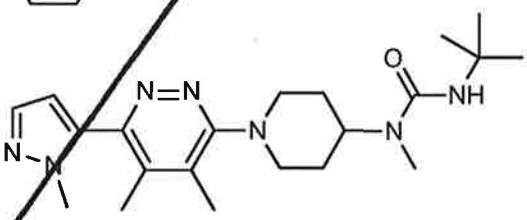
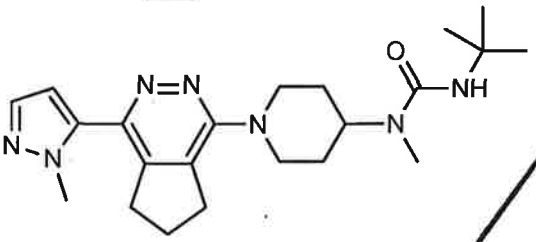
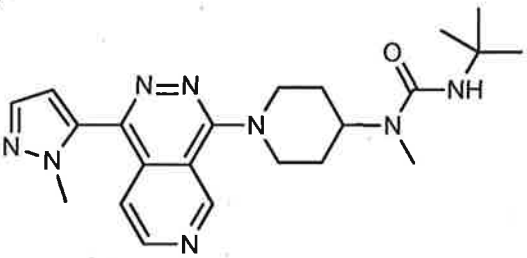
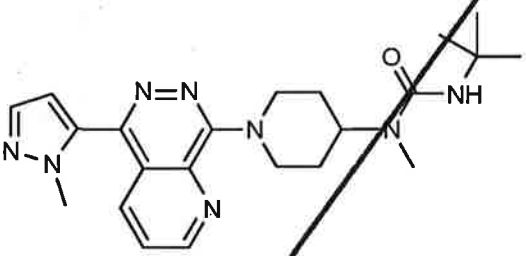
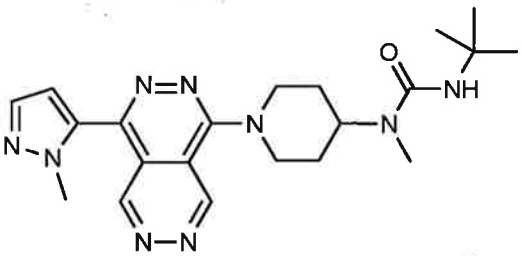
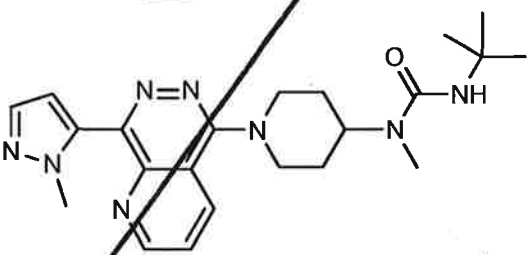
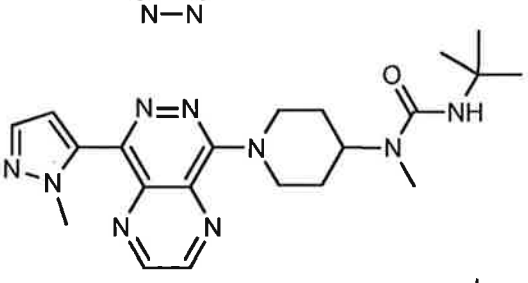
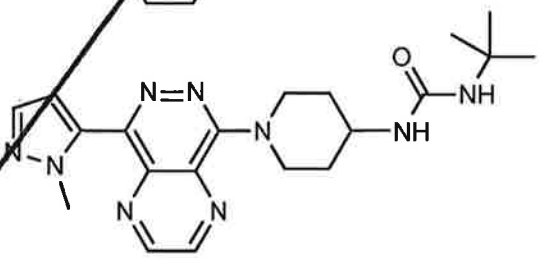
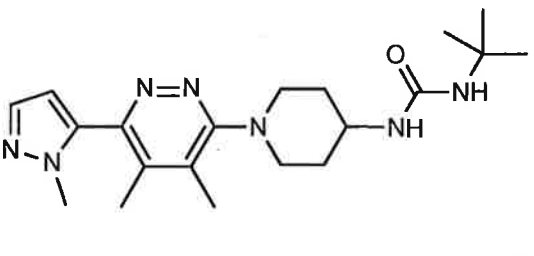

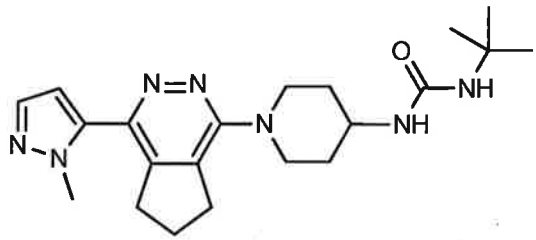
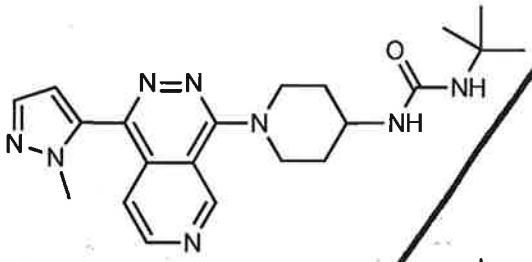
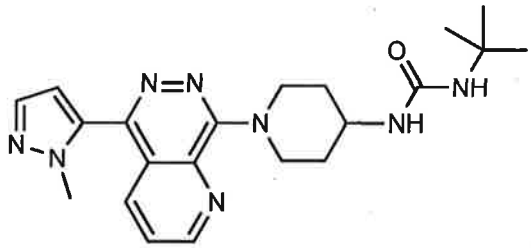
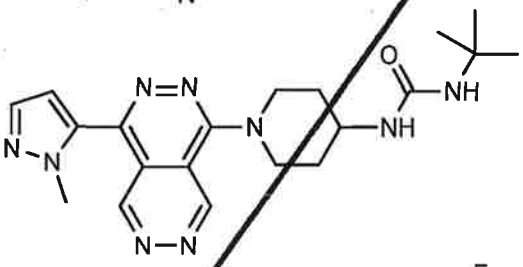
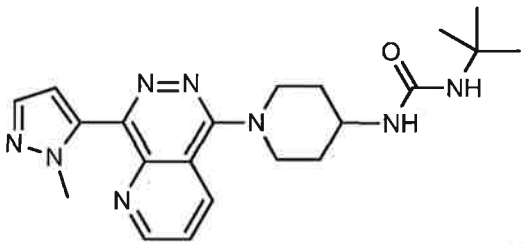
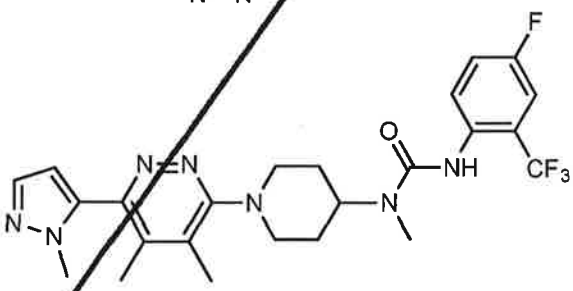
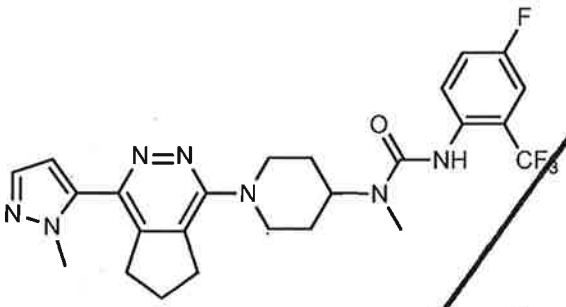
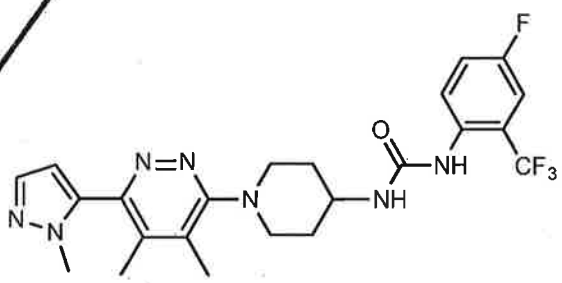
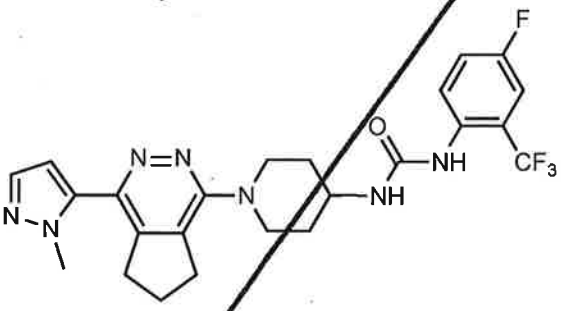
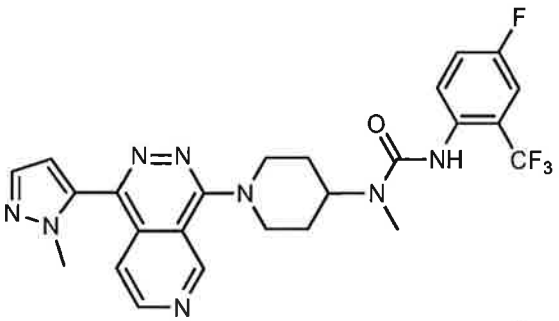
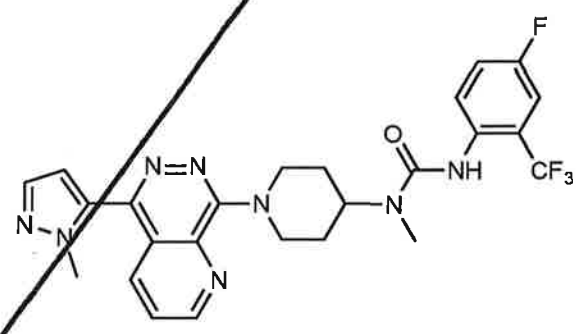
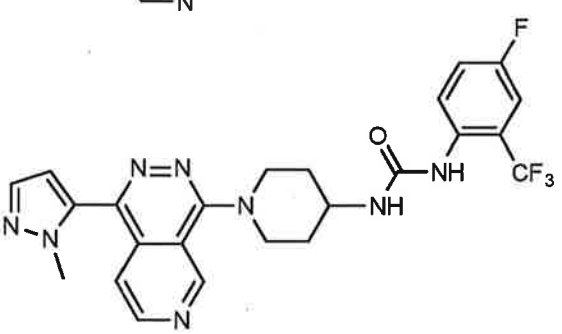
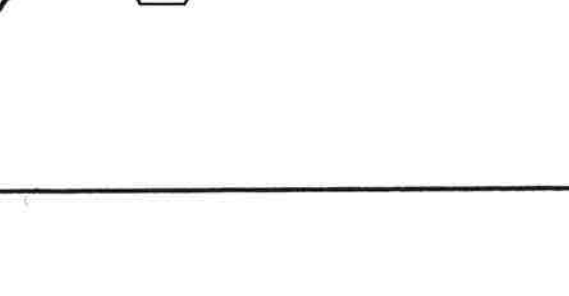
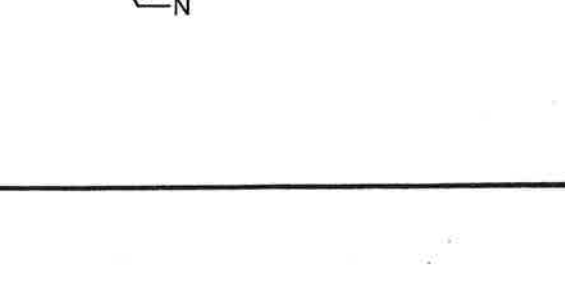

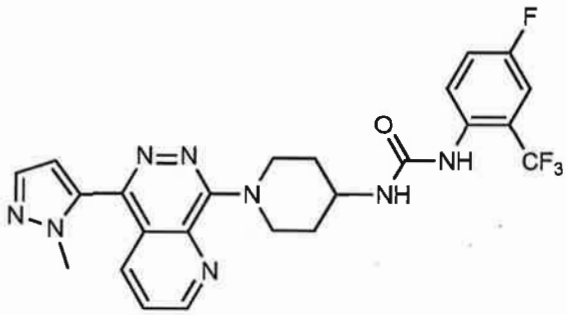
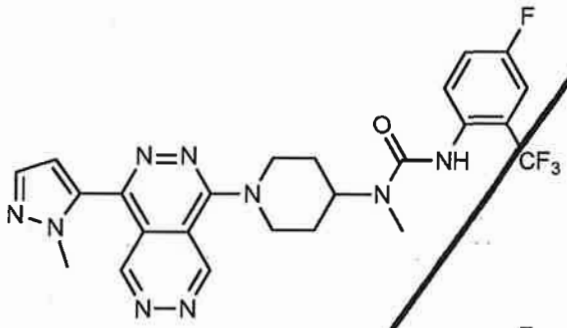
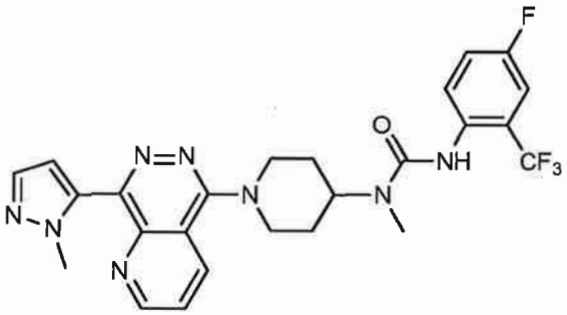
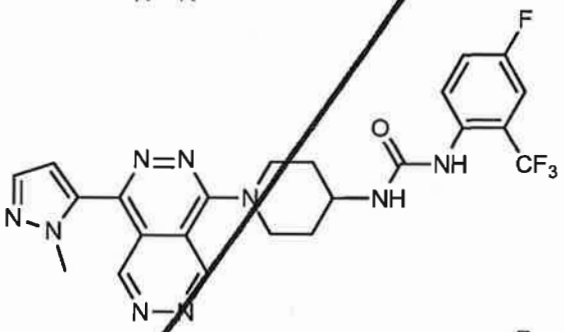
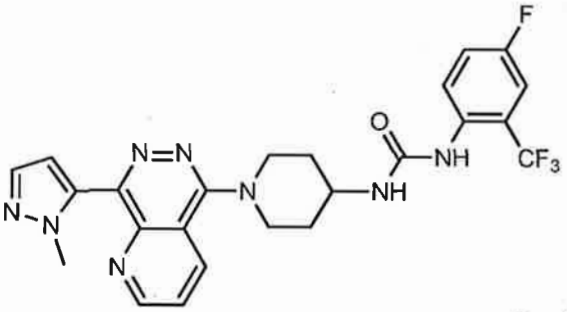
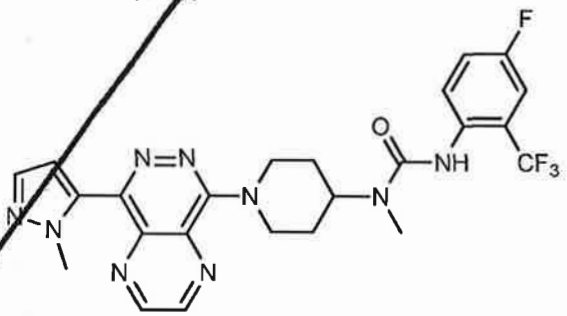
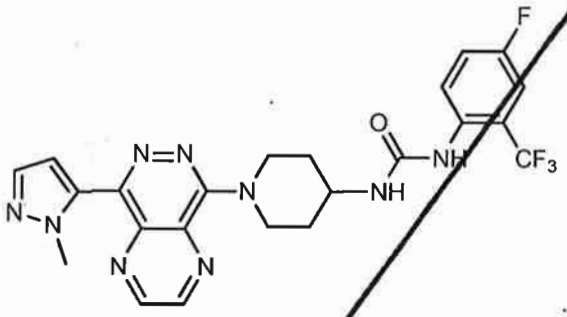

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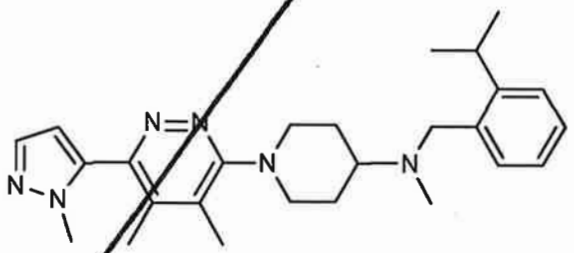
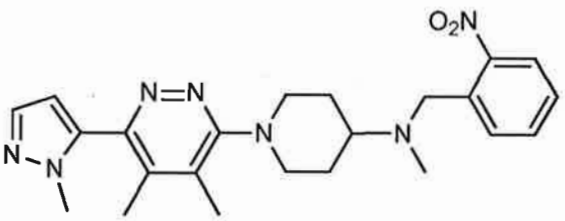
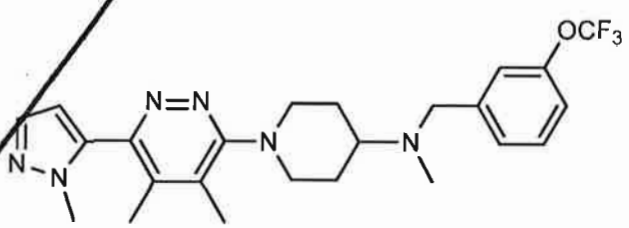
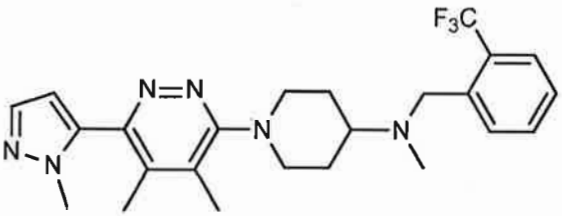

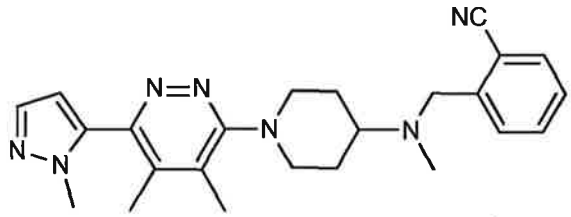
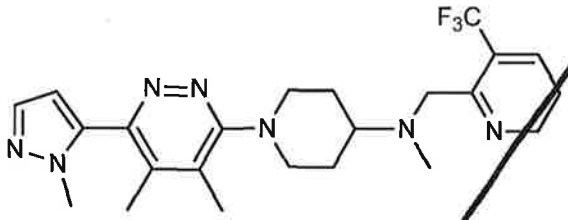
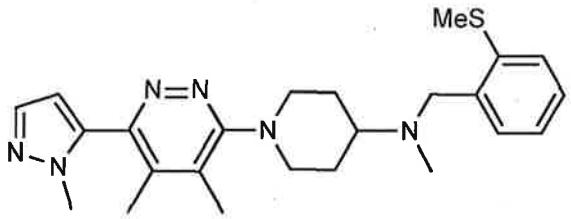
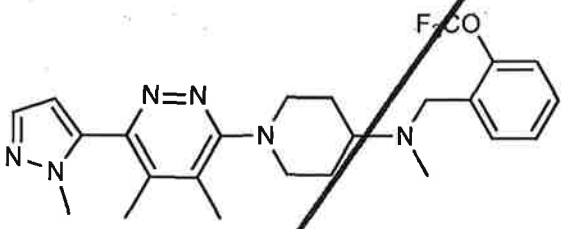
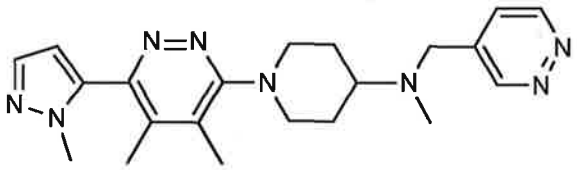
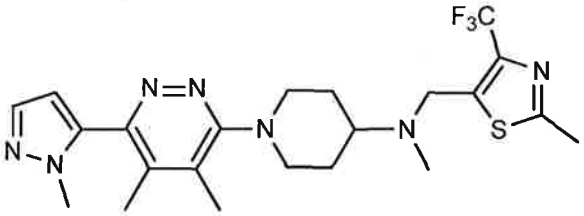
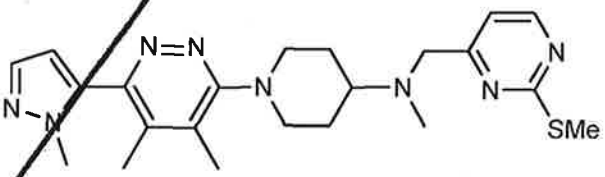
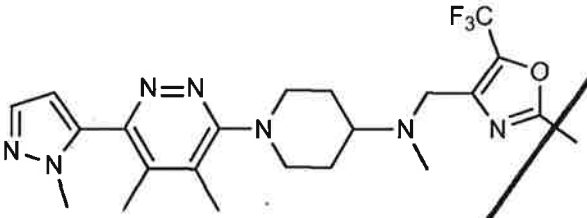
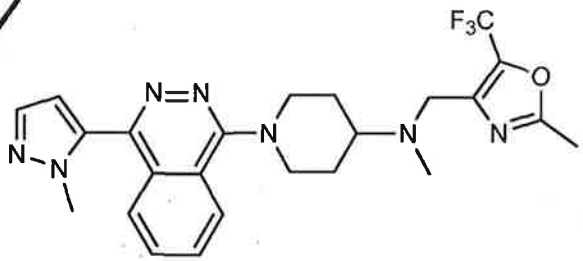
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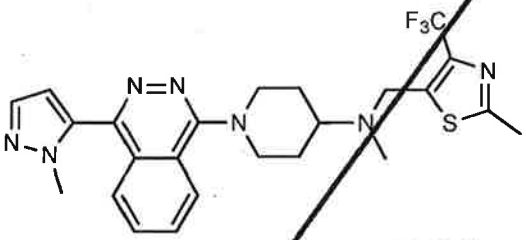
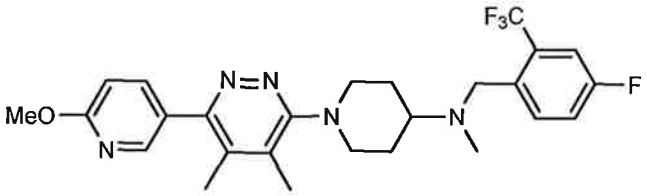
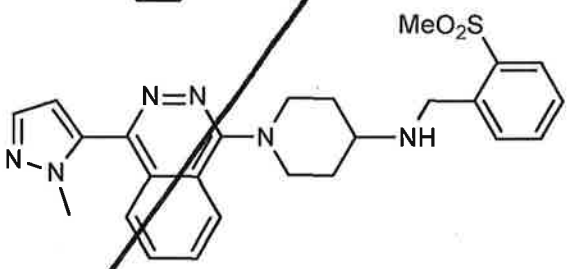
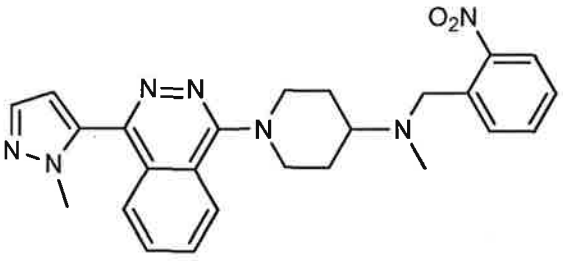
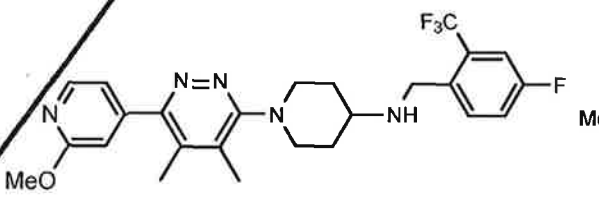
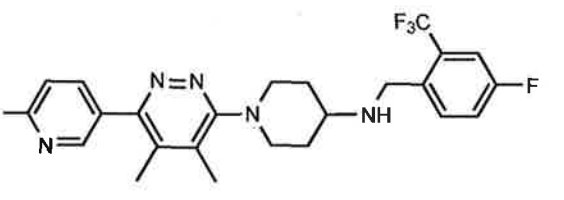

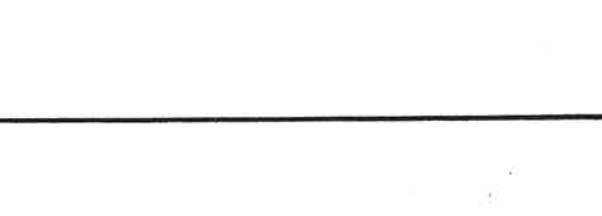

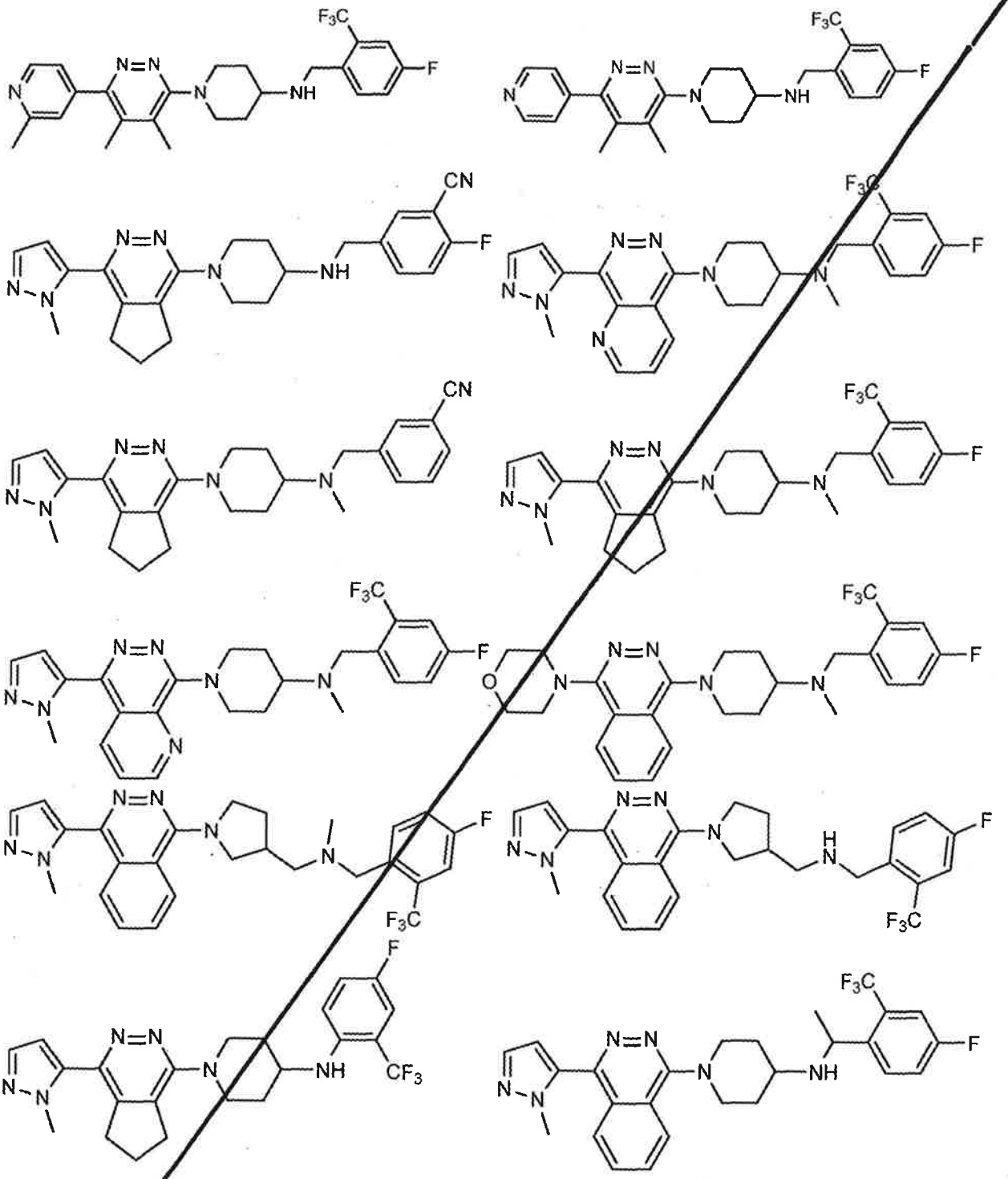

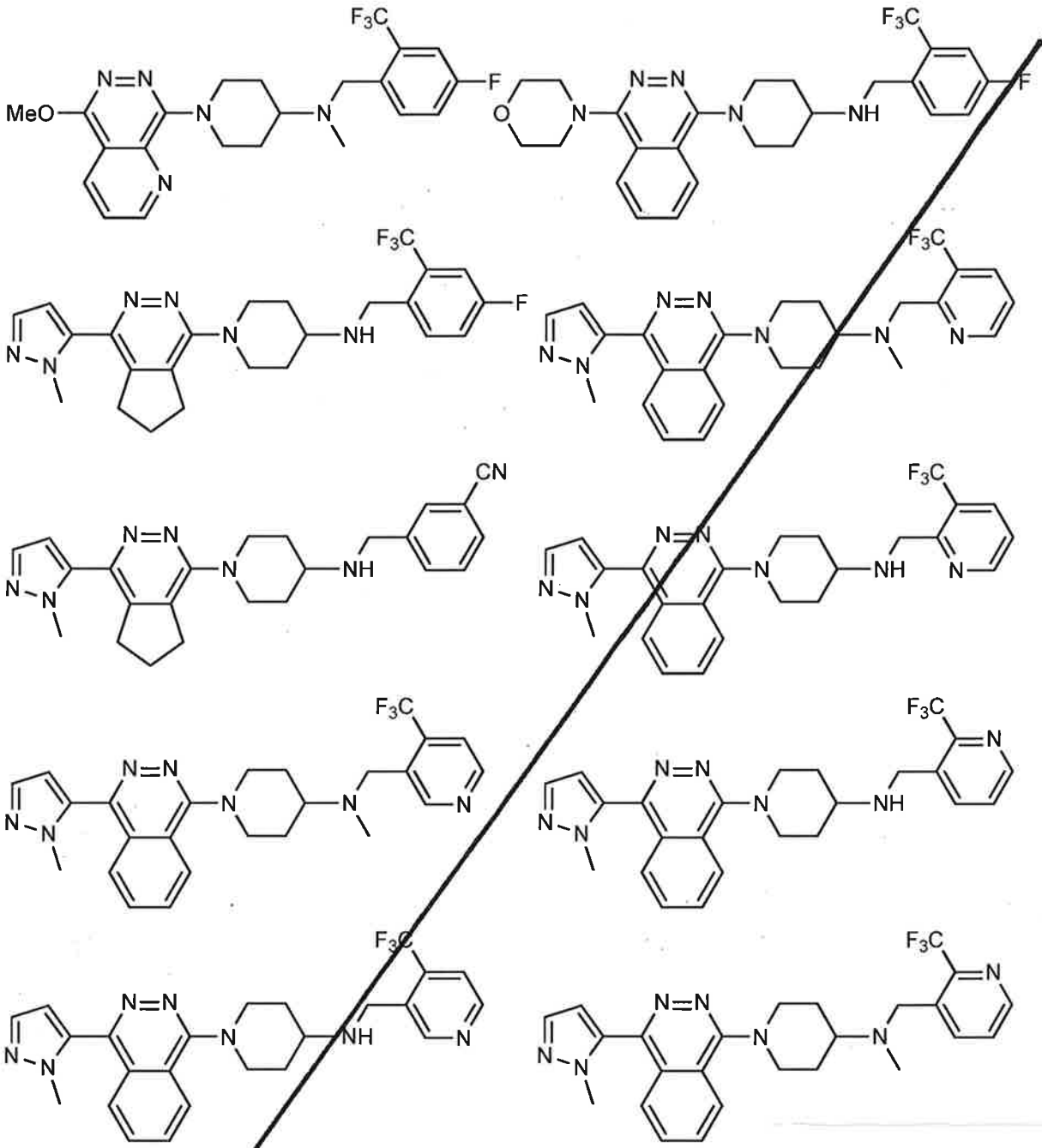

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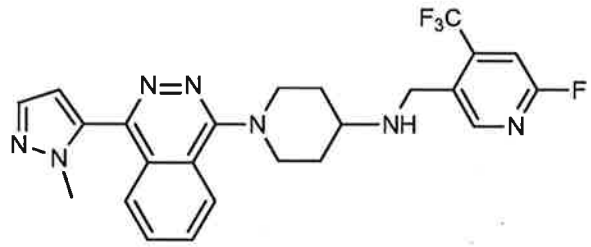
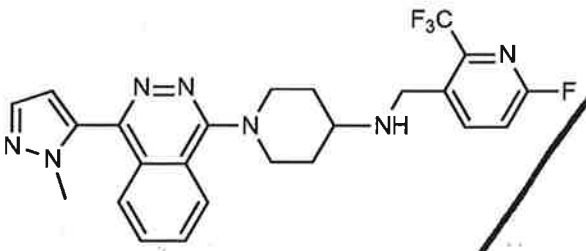
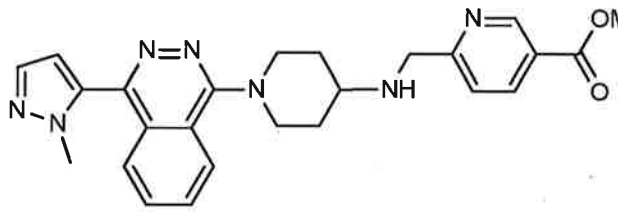
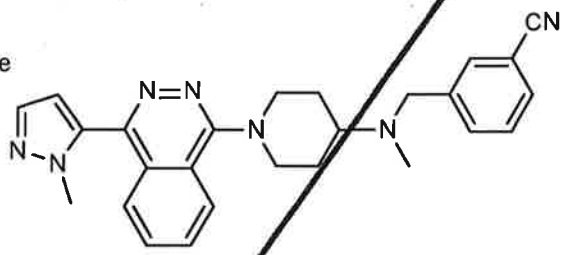
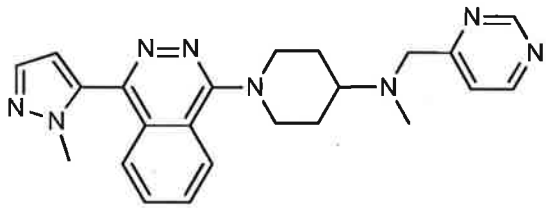
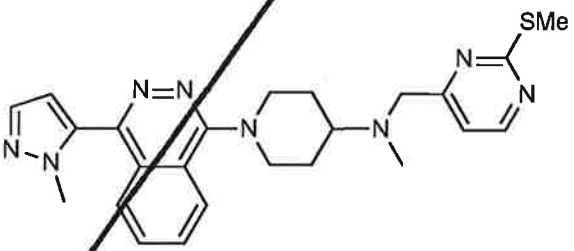
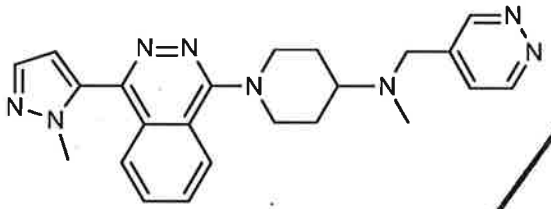
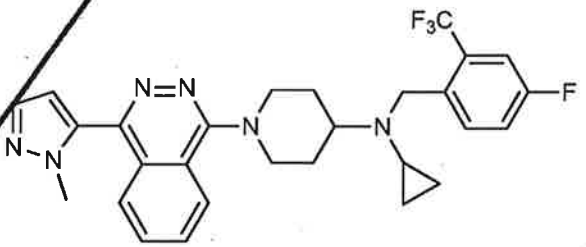
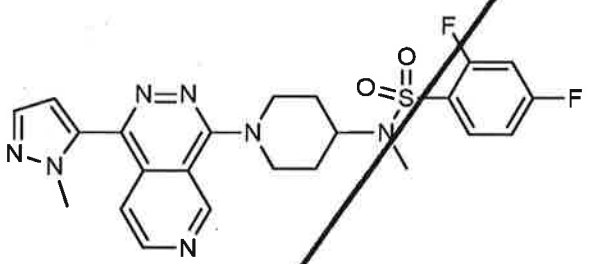
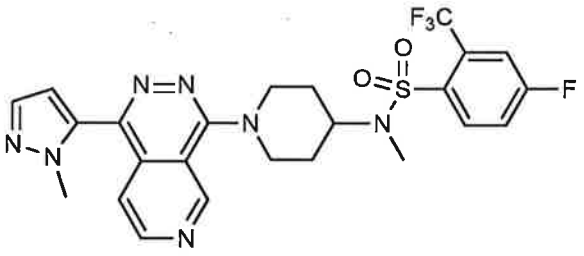
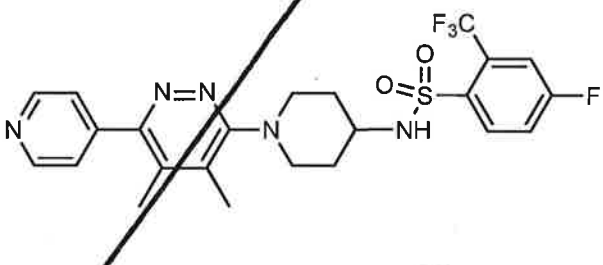
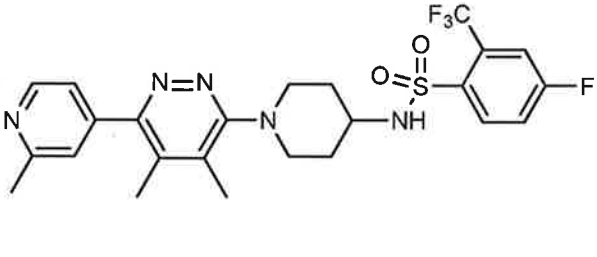
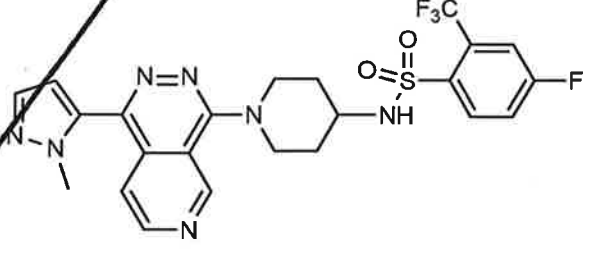
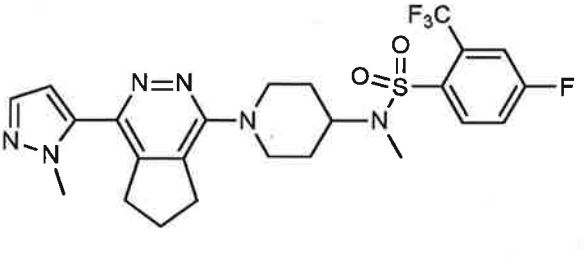

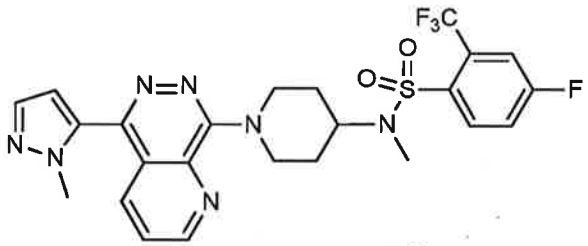
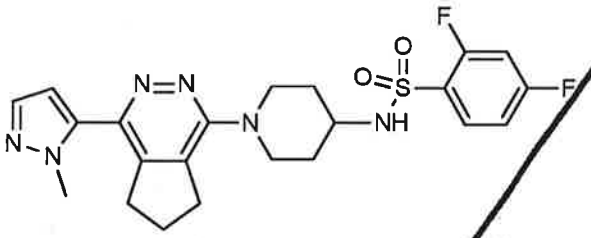
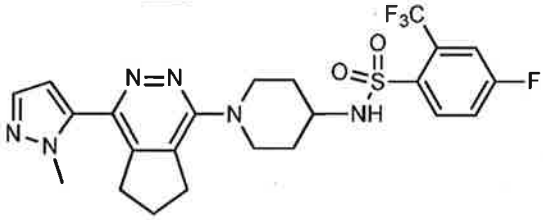
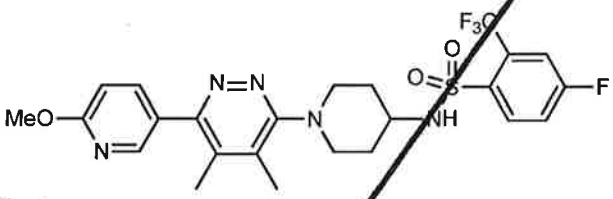
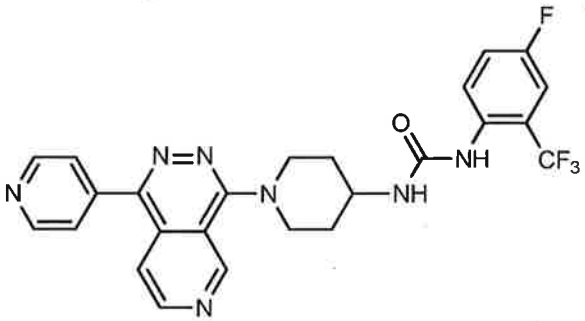
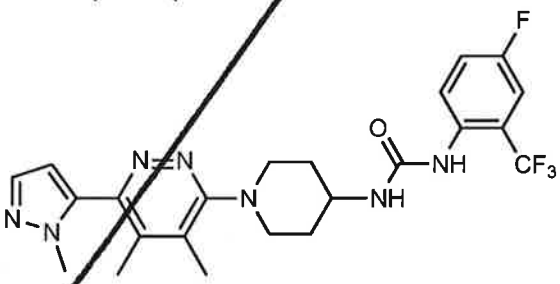
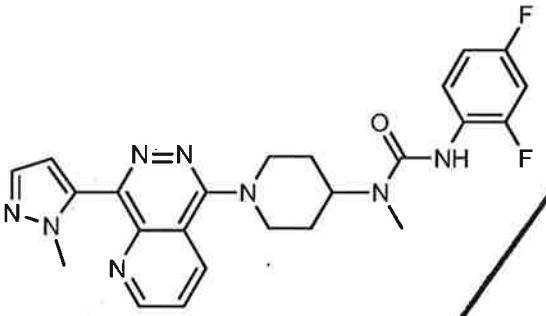
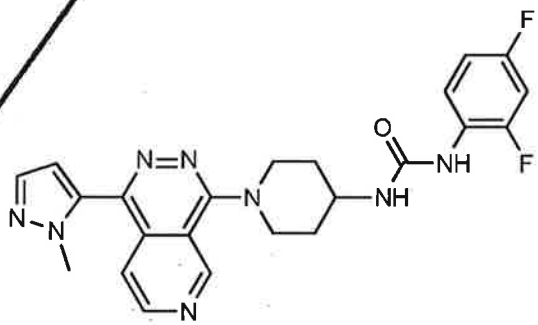
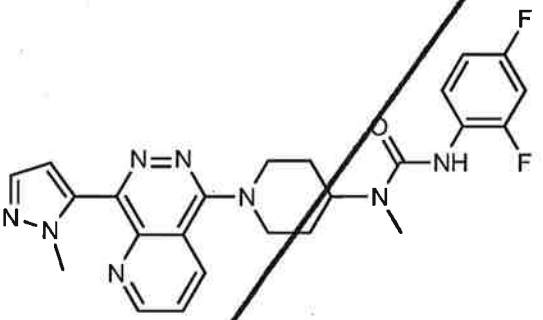
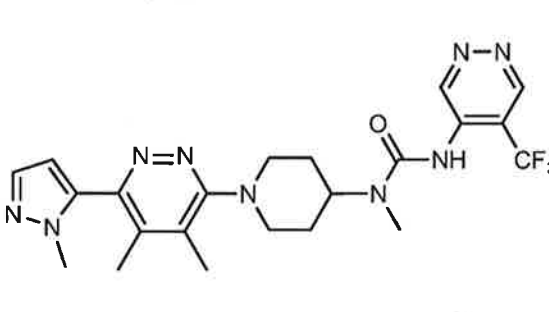
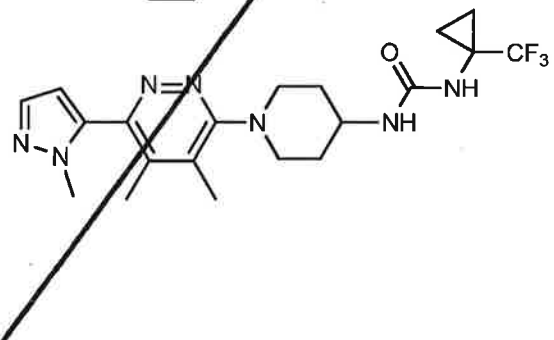
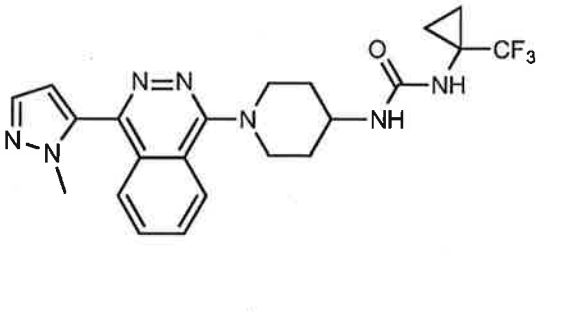
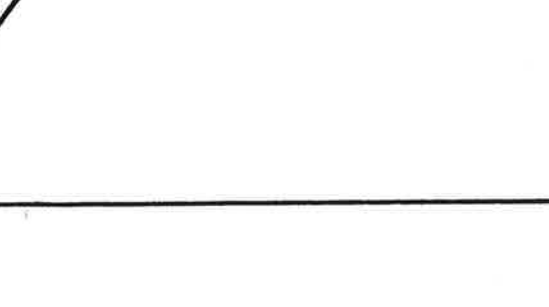
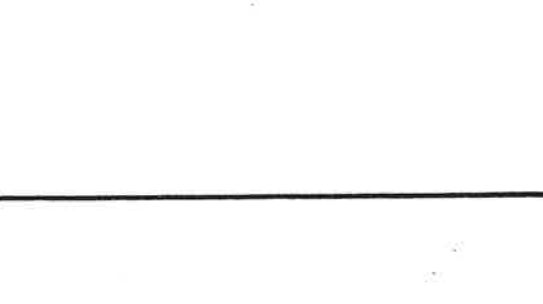

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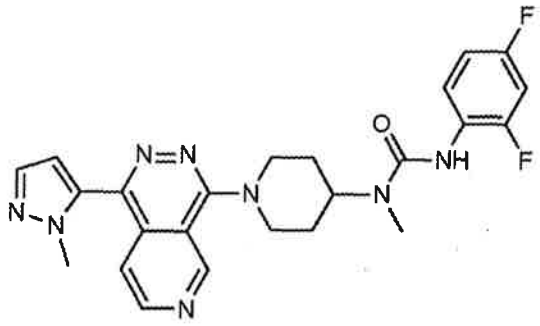
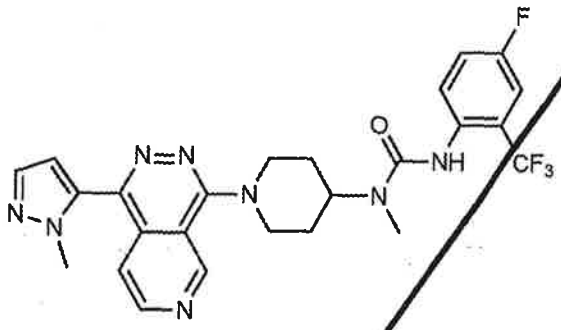
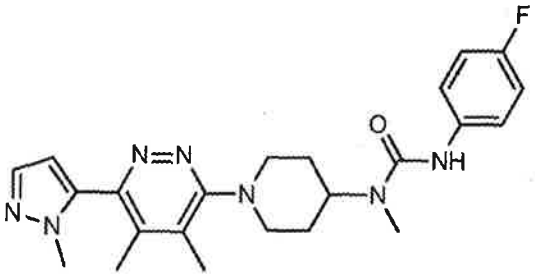
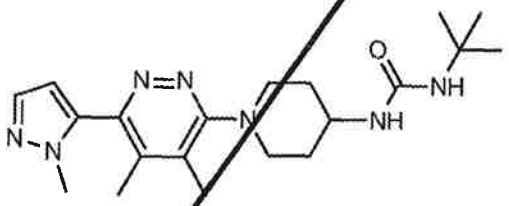
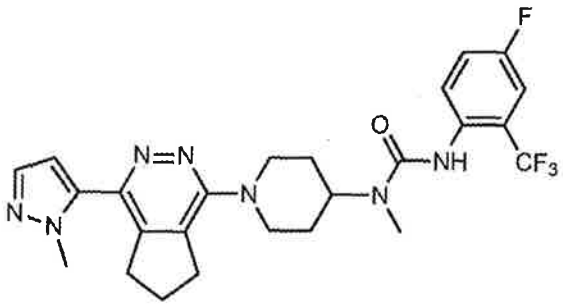
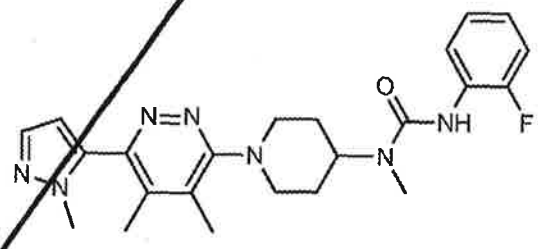
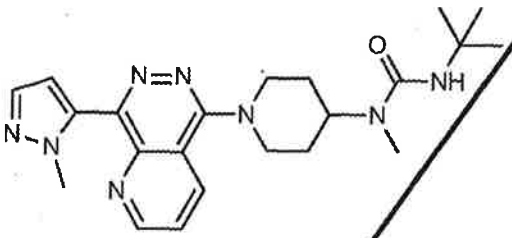
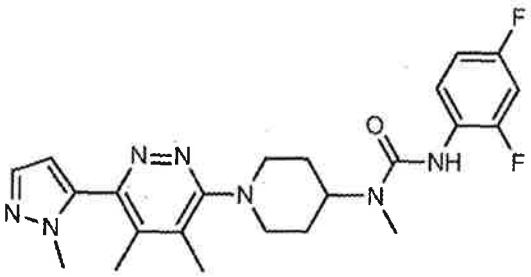
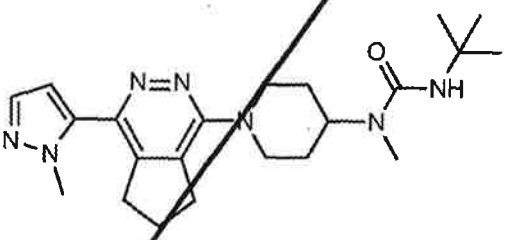
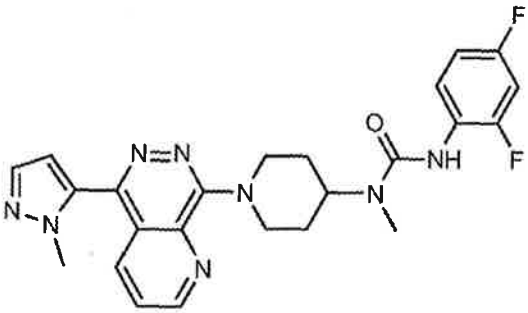
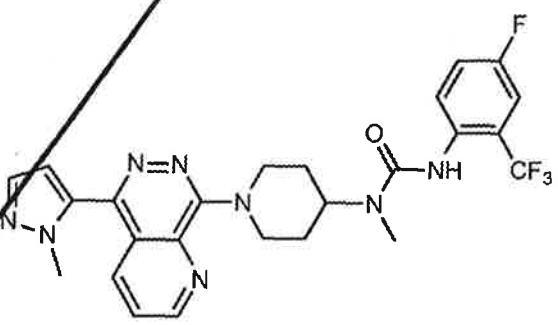
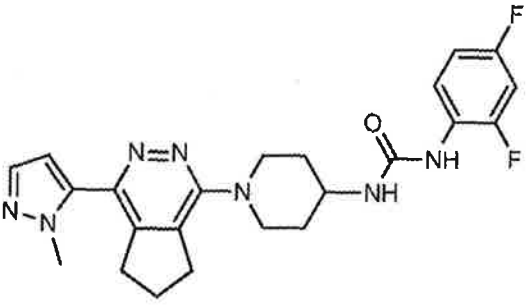

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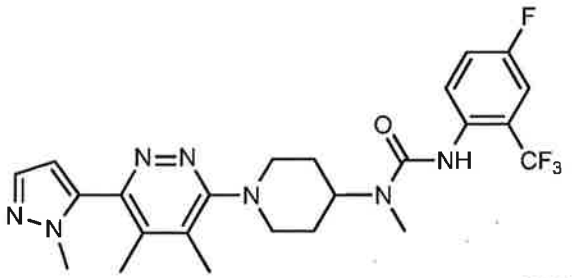
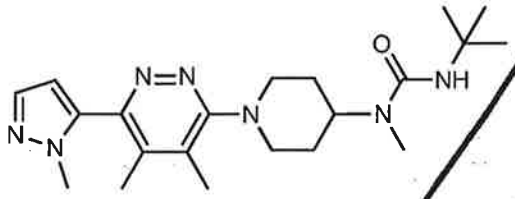
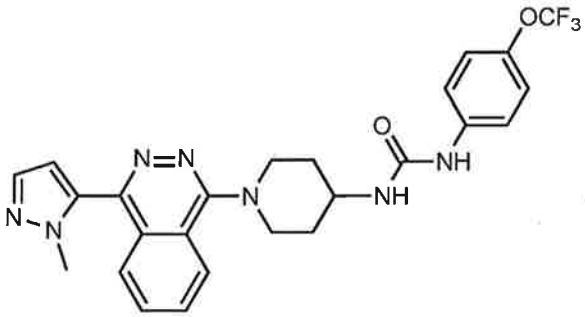
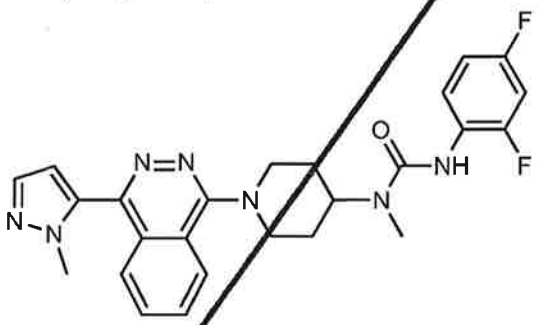





43. A compound of any preceding claim for use as a medicament.

44. A compound of any of claims 1 to 42 for use in a method of treatment of a condition which is modulated by the Hedgehog signalling pathway.

45. A compound of claim 44, wherein the condition which is modulated by the Hedgehog signalling pathway is cancer, sarcoma, carcinoma, blastoma, lymphoma, leukemia and haematological malignancies.

46. A compound of claim 44 or claim 45, wherein the condition which is modulated by the Hedgehog signalling pathway is selected from: basal cell carcinoma, medulloblastoma, rhabdomyosarcoma, chondrosarcoma, melanoma, small-cell lung cancer, non-small-cell lung cancer, B-cell lymphoma, multiple myeloma, brain cancer, esophagus cancer, breast cancer, ovarian cancer, stomach cancer, colorectal cancer, liver cancer, kidney cancer, head and neck cancer, mesothelioma, soft tissue sarcomas, bone sarcomas, testicular cancer, prostate cancer, pancreatic cancer, bone cancer, bone metastasis, acute leukemia, chronic leukemia, glioma, hodgkin's disease, cutaneous melanoma, bladder cancer, endocrine system cancer, parathyroid gland cancer, thyroid gland cancer, cervical cancer, endometrium cancer, ovarian cancer, skin cancer, renal cell carcinoma, pituitary adenoma, spinal axis tumours, uterine cancer, gastric cancer and biliary tract cancer.

47. A compound of any of claims 1 to 42 for use in a method of treatment wherein the treatment comprises inhibiting stem cell production, inhibiting stem cell renewal, and/or inhibiting and/or modulating stem cell differentiation.

48. A compound of any of claims 1 to 42 for use simultaneously, sequentially or separately with an additional anti-tumour agent, in a method of treatment of cancer, sarcoma, carcinoma, blastoma, lymphoma, leukemia and haematological malignancies.

49. A compound of claim 48 wherein the treatment may be of conditions treatable by the inhibition of the Hedgehog signalling pathway selected from: basal cell carcinoma,

medulloblastoma, rhabdomyosarcoma, chondrosarcoma, melanoma, small-cell lung cancer, non-small-cell lung cancer, B-cell lymphoma, multiple myeloma, brain cancer, esophagus cancer, breast cancer, ovarian cancer, stomach cancer, colorectal cancer, liver cancer, kidney cancer, head and neck cancer, mesothelioma, soft tissue sarcomas, bone sarcomas, testicular cancer, prostate cancer, pancreatic cancer, bone cancer, bone metastasis, acute leukemia, chronic leukemia, glioma, hodgkin's disease, cutaneous melanoma, bladder cancer, endocrine system cancer, parathyroid gland cancer, thyroid gland cancer, cervical cancer, endometrium cancer, ovarian cancer, skin cancer, renal cell carcinoma, pituitary adenoma, spinal axis tumours, uterine cancer, gastric cancer and biliary tract cancer.

50. A pharmaceutical composition, wherein the composition comprises a compound of any of claims 1 to 42 and pharmaceutically acceptable excipients.

51. A pharmaceutical composition of claim 50 wherein the composition is a combination product and comprises an additional pharmaceutically active agent.

52. A method of treatment of a condition which is modulated by Hedgehog signalling pathway, wherein the method comprises administering a therapeutic amount of a compound of any of claims 1 to 42, to a patient in need thereof.

53. A method of treatment of claim 45 wherein the condition which is modulated by the Hedgehog pathway is selected from: cancer, sarcoma, carcinoma, blastoma, lymphoma, leukemia and haematological malignancies, wherein the method comprises administering a therapeutic amount of a compound of any of claim 1 to 42, to a patient in need thereof.

54. A method of treatment of claim 52 or claim 53 wherein the condition is selected from: basal cell carcinoma, medulloblastoma, rhabdomyosarcoma, chondrosarcoma, melanoma, small-cell lung cancer, non-small-cell lung cancer, B-cell lymphoma, multiple myeloma, brain cancer, esophagus cancer, breast cancer, ovarian cancer, stomach cancer, colorectal cancer, liver cancer, kidney cancer, head and neck cancer, mesothelioma, soft tissue sarcomas, bone sarcomas, testicular cancer, prostate cancer, pancreatic cancer, bone cancer, bone metastasis, acute leukemia, chronic leukemia, glioma, hodgkin's disease, cutaneous melanoma, bladder cancer, endocrine system cancer, parathyroid gland cancer, thyroid gland cancer, cervical cancer, endometrium cancer, ovarian cancer, skin cancer, renal cell carcinoma, pituitary adenoma, spinal axis tumours, uterine cancer, gastric cancer and biliary tract cancer.

55. A method of inhibiting stem cell production, inhibiting stem cell renewal, and/or inhibiting and/or modulating stem cell differentiation, wherein the method comprises administering a therapeutic amount of a compound of any of claims 1 to 42, to a patient in need thereof.

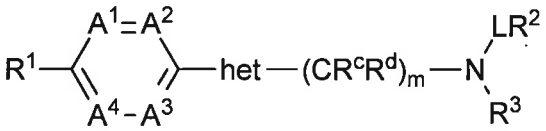
56. A method of treatment of a condition selected from cancer, sarcoma, carcinoma, blastoma, lymphoma and leukemia comprising administering a therapeutically effective amount of a compound of any of claims 1 to 42, or a pharmaceutically acceptable salt thereof simultaneously, sequentially or separately with an additional anti-tumour agent to a patient in need thereof.

57. A method of providing a combination product, wherein the method comprises providing a compound of any of claims 1 to 42 simultaneously, sequentially or separately with an anti-tumour agent.

58. Use of a compound of any of claims 1-42 in combination with an anti-tumour agent.

CLAIMS

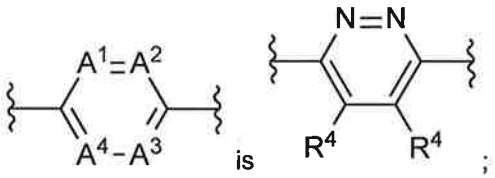
1. A compound of formula (**Ia**) and pharmaceutically acceptable salts and solvates thereof:



(**Ia**)

wherein

"het" is selected from substituted or unsubstituted: aziridinylene, azetidinylene, pyrolidinylene, piperidinylene and azepanylene;



wherein two adjacent R^4 groups are both C_{1-6} alkyl or both form a ring with the atom to which the R^4 groups are attached forming a fused bicyclic ring system of 8 to 12 atoms, wherein the ring formed by the two R^4 groups is a saturated or unsaturated carbocyclic ring with 4, 5, 6, 7 or 8 carbon atoms or a saturated or unsaturated heterocyclic ring with 4, 5, 6, 7 or 8 atoms or a saturated or unsaturated heterocyclic ring with 4, 5, 6, 7 or 8 atoms containing 1, 2 or 3 heteroatoms;

L is selected from a bond, $-CR^cR^d-$, $-CR^cR^dCR^cR^d-$, $-C(NR^a)-$, $-C(O)NR^3-$ and $-SO_2-$;

R^1 is selected from $-OR^5$, $-NR^5R^a$, $-NR^aC(O)R^a$, -CN, $-C_{1-4}$ acyl, $-C(O)R^a$, $-C(O)NR^a$, $-C(O)OR^a$, $-SO_2R^a$, $-SO_3R^a$, substituted or unsubstituted C_{1-6} alkyl, C_{1-6} haloalkyl, substituted or unsubstituted C_{2-6} alkenyl, substituted or unsubstituted C_{2-6} alkynyl, substituted or unsubstituted C_{3-8} cycloalkyl, substituted or unsubstituted C_{3-8} cycloalkenyl, substituted or unsubstituted aryl, and substituted or unsubstituted heterocyclic,

wherein R^5 is H, $-SO_2R^a$, $-SO_2NR^aR^b$, substituted or unsubstituted C_{1-4} alkyl, C_{1-4} haloalkyl, substituted or unsubstituted C_{3-8} cycloalkyl, substituted or unsubstituted C_{3-8} cycloalkenyl, substituted or unsubstituted aryl, and substituted or unsubstituted heterocyclic;

R^2 is represented by $-CR^6R^7R^8$, wherein R^6, R^7 and R^8 are independently selected at each occurrence from substituted or unsubstituted: C_{1-14} alkyl, C_{1-14} haloalkyl, carbocyclic, and heterocyclic,

or R^2 is selected from substituted or unsubstituted: C_{1-14} haloalkyl, carbocyclic, and heterocyclic;

R^3 is selected from H, $-SO_2R^a$, $-SO_2NR^aR^b$, substituted or unsubstituted C_{1-4} alkyl, C_{1-4} haloalkyl, substituted or unsubstituted C_{3-8} cycloalkyl, substituted or unsubstituted C_{3-8} cycloalkenyl, substituted or unsubstituted aryl, and substituted or unsubstituted heterocyclic;

R^a and R^b are independently selected at each occurrence from: H, C_{1-4} alkyl, C_{1-4} haloalkyl, C_{1-4} acyl, C_{3-7} cycloalkyl, and C_{3-7} halocycloalkyl;

R^c and R^d are independently selected from H, halo, $-OR^a$, C_{1-4} alkyl, C_{1-4} haloalkyl, C_{1-4} acyl, C_{3-7} cycloalkyl, and C_{3-7} halocycloalkyl;

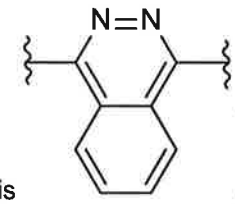
m is 0, 1 or 2; and

when a group is substituted, the group contains 1 to 5 substituents independently selected at each occurrence from the group comprising: halo, $-OR^a$, $-SR^a$, $-NR^aR^b$, NO_2, =O, -CN, acyl, C_{1-6} alkyl, C_{1-6} haloalkyl, C_{3-8} cycloalkyl, $-SO_2R^a$, and SO_3R^a , $-C(OR^a)R^aR^b$, $-C(O)R^a$ and $C(O)OR^a$;

provided that:

(1) LR^2 is not –CO(O)*t*Bu; and

(2) R^1 is not a substituted or unsubstituted thiadiazolinyl group when

is 

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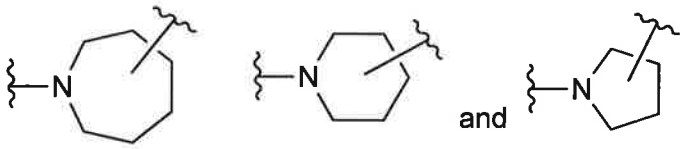
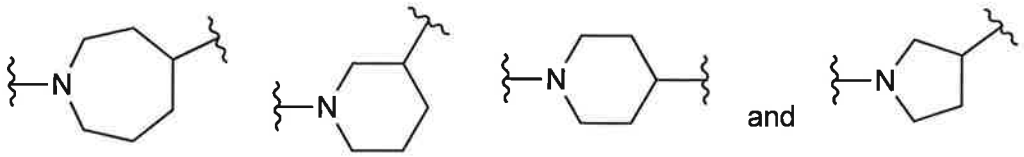
2. A compound of claim 1, wherein "het" is selected from substituted or unsubstituted: pyrolidinylene, piperidinylene and azepanylene.

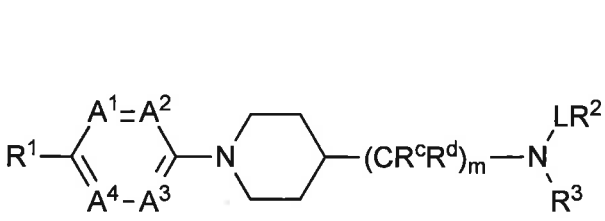
3. A compound of any preceding claim, wherein "het" is selected from substituted or unsubstituted:



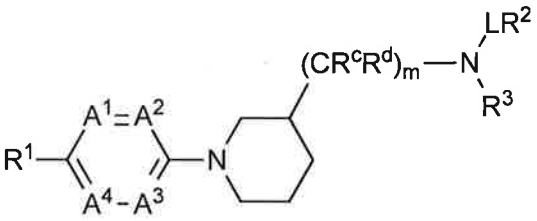
4. A compound of any preceding claim, wherein "het" is selected from substituted or unsubstituted:



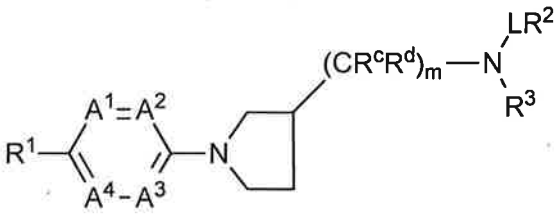
5. A compound of claim 1 wherein the compound of formula (**Ia**) is a compound according to formula (**II**), (**IIa**) or (**IIb**) and pharmaceutically acceptable salts and solvates thereof:



(**II**)



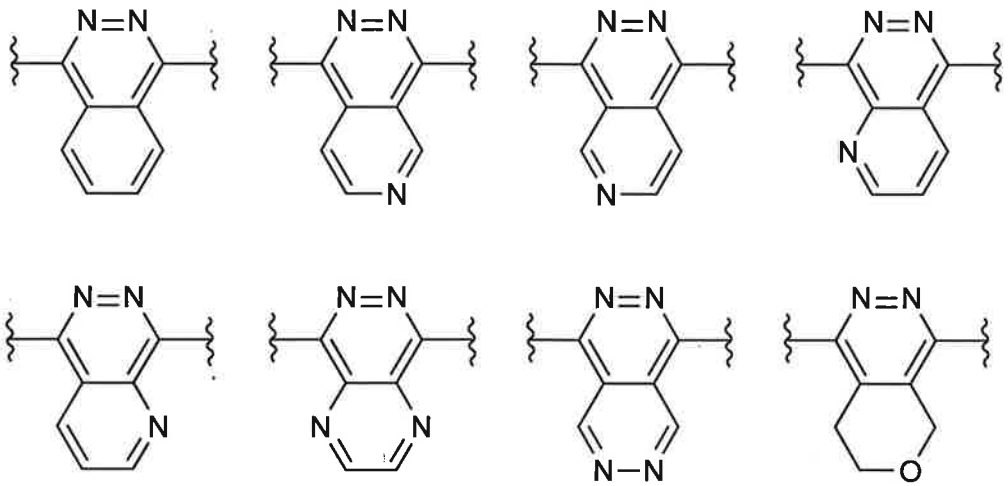
(**IIa**)



(**IIb**)

6. A compound of any preceding claim, wherein

is selected from:



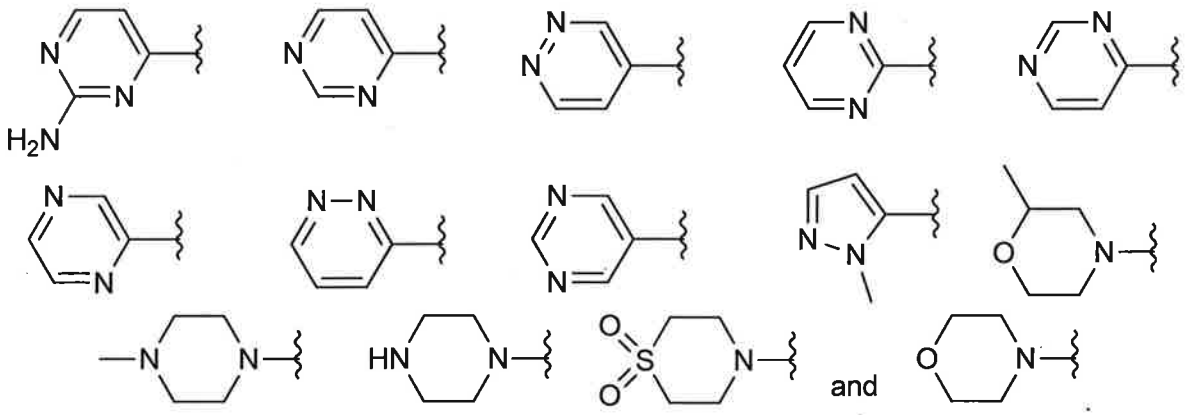
12. A compound of claim 11, wherein R^1 is substituted or unsubstituted heterocyclic and the heterocyclic moiety is selected from substituted or unsubstituted C_{4-8} heterocycloalkyl and substituted or unsubstituted C_{5-6} heteroaryl.

13. A compound of claim 11, wherein R^1 may be selected from hydroxyl, methoxy, methyl, N-methylamino, $Me_2N(CH_2)NH$-, nitrile, phenyloxy and substituted or unsubstituted: pyrazolyl, pyridyl, morpholinyl, pyrazinyl, pyrimidinyl, piperazinyl, pyridazinyl, pyrolidin-yl-one, imidazolin-yl-one, or pyridazinyl.

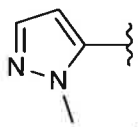
14. A compound of claim 13, wherein R^1 is substituted or unsubstituted: pyrrolyl, imidazolyl, pyrazolyl, oxazolyl, oxadiazolyl, isoxazolyl, triazolyl, tetrazolyl, thiazolyl, isothiazolyl, furanyl, pyridinyl, pyridazinyl, pyrazinyl and pyrimidinyl.

15. A compound of claim 14, wherein R^1 is substituted or unsubstituted pyrazolyl.

16. A compound of any of claims 11, wherein R^1 may be selected from:



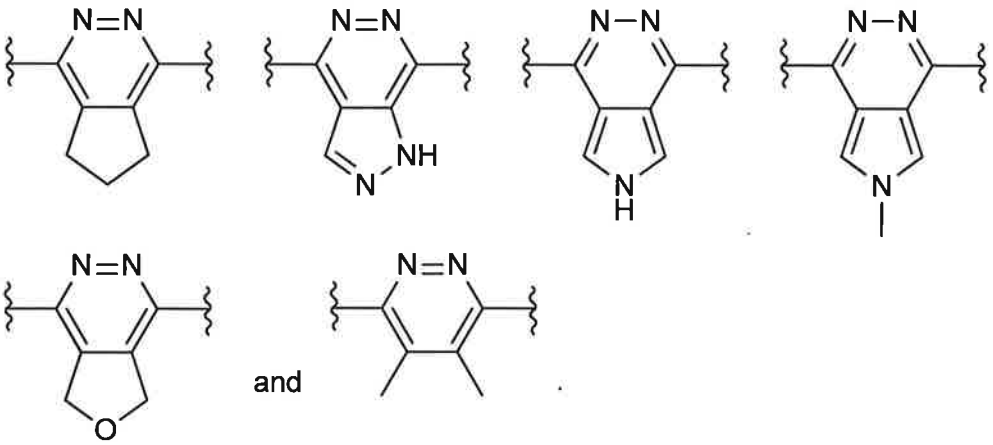
17. A compound of claim 11 wherein R^1 is:



18. A compound of 11 wherein R^1 may be selected from -OMe, -OPh, $-OC_{1-4}$ alkyl, $-N(CH_3)CH_3$, $-NHCH_2CH_2N(CH_3)_2$, $-NHSO_2CH_3$, $-N(CH_3)SO_2CH_3$, $-NHSO_2NCH_3$, $-N(CH_3)SO_2CH_3$, $-NC(O)R^a$, methyl, ethyl, propyl, butyl, and -CN.

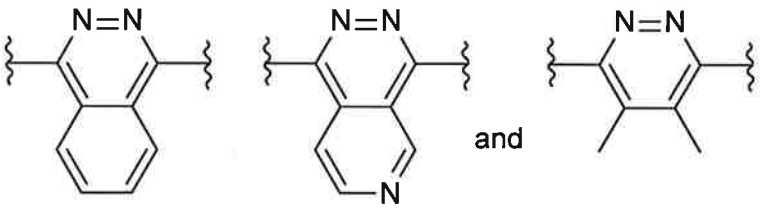
19. A compound of any preceding claim, wherein R^2 is represented by $-CR^6R^7R^8$, wherein R^6, R^7 and R^8 are independently selected at each occurrence from substituted or unsubstituted: C_{1-14} alkyl, C_{1-14} haloalkyl, C_{3-8} cycloalkyl, C_{3-8} heterocycloalkyl, phenyl, toluenyl, pyridinyl, pyridazinyl, pyrimidinyl, pyrazinyl, pyrrolyl, pyrazolyl, triazolyl, tetrazolyl, oxazolyl, isoxazolyl, oxadiazolyl, thiazolyl, and isothiazolyl.

20. A compound of claim 19, wherein R^6, R^7 and R^8 are all one of the groups selected from: methyl, trifluoromethyl, cyclohexanyl and phenyl.

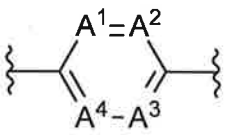


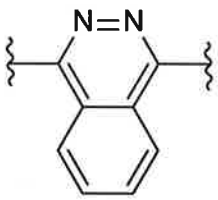
and

7. A compound of claim 6, wherein is selected from:

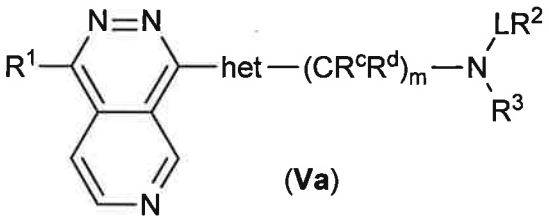


and

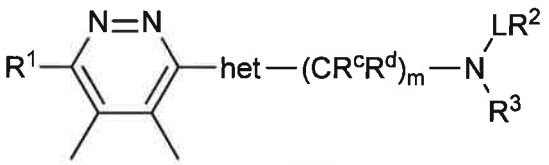
8. A compound of claim 7, wherein  is



9. A compound of any of claims 1 to 4, wherein the compound of formula (**Ia**) is a compound according to formulae (**Va**) and (**Vb**) and pharmaceutically acceptable salts and solvates thereof:



(**Va**)



(**Vb**)

10. A compound of claim 1, wherein L is selected from a bond $-CH_2-$, $-CH_2CH_2-$, $-CH(CH_3)-$, -C(NH)-, -C(O)NH-, $-C(O)N(CH_3)-$ and $-SO_2-$.

11. A compound of any preceding claim, wherein R^1 is selected from $-OR^5$, $-NR^5R^a$, $-NR^aC(O)R^a$ substituted or unsubstituted C_{1-6} alkyl, -CN, substituted or unsubstituted aryl and substituted or unsubstituted heterocyclic.

21. A compound of any of claims 1 to 18, wherein R^2 is selected from substituted or unsubstituted: C_{1-14} alkyl, C_{1-14} haloalkyl, carbocyclic, and heterocyclic.

22. A compound of claim 21 wherein carbocyclic is cycloalkyl and aryl and heterocyclic is heterocycloalkyl and heteroaryl.

23. A compound of claim 21 or claim 22, wherein R^2 is selected from substituted or unsubstituted: C_{1-14} alkyl, C_{1-14} haloalkyl, C_{3-8} cycloalkyl, C_{5-6} aryl,C_{3-8} heterocycloalkyl and C_{5-6} heteroaryl.

24. A compound of any of claims 21 to 23 wherein R^2 is selected from substituted or unsubstituted: C_{1-14} alkyl, C_{1-14} haloalkyl, C_{3-8} cycloalkyl, C_{3-8} heterocycloalkyl, phenyl, toluenyl, pyridinyl, pyridazinyl, pyrimidinyl, pyrazinyl, pyrrolyl, pyrazolyl, triazolyl, tetrazolyl, oxazolyl, isoxazolyl, oxadiazolyl, thiazolyl, and isothiazolyl.

25. A compound of claim 21, wherein R^2 is selected from *tert*-butyl or substituted or unsubstituted: cyclopropyl, phenyl, toluenyl, pyridinyl, pyridazinyl, pyrimidinyl, pyrazinyl, pyrrolyl, pyrazolyl, triazolyl, tetrazolyl, oxazolyl, isoxazolyl, oxadiazolyl, thiazolyl, and isothiazolyl.

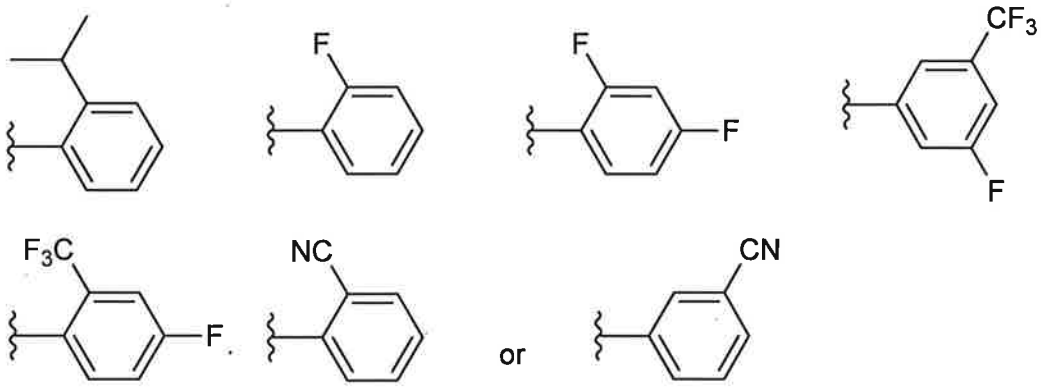
26. A compound of claim 21, wherein R^2 is substituted or unsubstituted phenyl, toluenyl and pyridinyl.

27. A compound of any of claims 19 to 26, wherein R^2 is substituted by 1 to 5 substituents, optionally 1, 2 or 3 substituents, independently selected at each occurrence from the group comprising halo, $-OR^a$, $-NO_2$, C_{1-6} alkyl, C_{1-6} haloalkyl, $-C(OR^a)R^aR^b$, $-SC_{1-4}$ alkyl, $-C(O)R_aR_b$, $-N(CO)R_a$, and -CN.

28. A compound of claim 27, wherein R^2 is substituted by 1 or 2 substituents independently selected at each occurrence from the group comprising halo, $-NO_2$, $-OC_{1-4}$ haloalkyl, C_{1-6} alkyl, C_{1-6} haloalkyl, $-C(OH)(C_{1-6}$ alkyl)C_{1-6} alkyl, $-SC_{1-4}$ alkyl and -CN.

29. A compound of claim 27 wherein R^2 is substituted by: trifluoromethyl; $-OCF_3$; $-C(OH)(CH_3)CH_3$; methyl; fluoro; chloro; –CN; fluoro and trifluoromethyl; fluoro and $-OCF_3$; or fluoro and methyl.

30. A compound of claim 21 wherein R^2 is selected from:



or

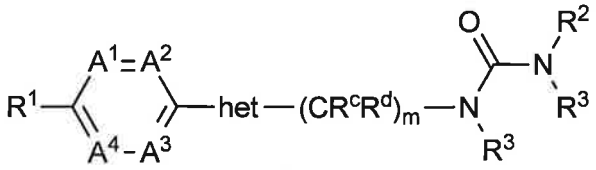
31. A compound of any preceding claim, wherein all occurrences of R^a and R^b are hydrogen.

32. A compound of any preceding claim, wherein all occurrences of R^c and R^d are hydrogen.

33. A compound of any preceding claim, wherein m is 0 or 1, optionally 0.

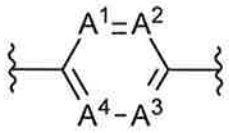
34. A compound of any preceding claim, wherein L is -C(O)NH- or -C(O)N(CH_3)-.

35. A compound of claim 1, wherein the compound of formula (**Ia**) is a compound according to formula (**XIII**) and pharmaceutically acceptable salts and solvates thereof:

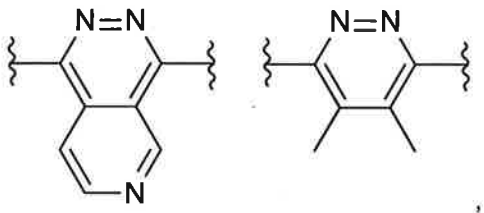


(**XIII**)

wherein



is selected from:



het is:

R^1 is substituted or unsubstituted pyrazolyl,

R^2 is substituted or unsubstituted phenyl, toluenyl and pyridinyl,

R^3 is H, methyl or -C(O)CF_3,

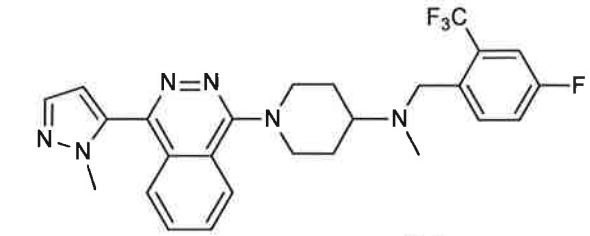
R^c and R^d are independently selected from H, halo, -OR^a, C_{1-4} alkyl, C_{1-4} haloalkyl, C_{1-4} acyl, C_{3-7} cycloalkyl, and C_{3-7} halocycloalkyl, and

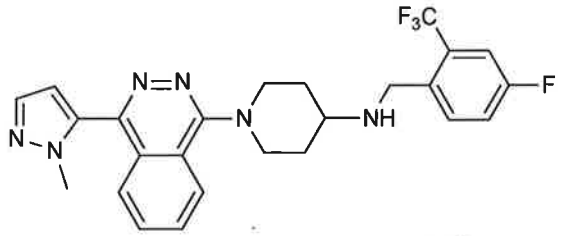
m is 0 or 1,

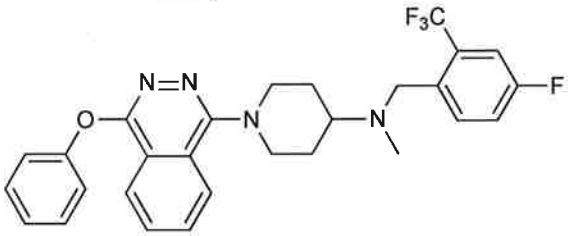
wherein when a group is substituted, the group contains 1 to 5 substituents independently selected at each occurrence from the group comprising: halo, -OR^a, - SR^a, -NR^aR^b, NO_2, -CN, acyl, C_{1-6} alkyl, C_{1-6} haloalkyl, C_{3-8} cycloalkyl, -SO_2R^a, and SO_3R^a , -$C(OR^a)R^aR^b$, -$C(O)R^a$ and C(O)OR^a; and

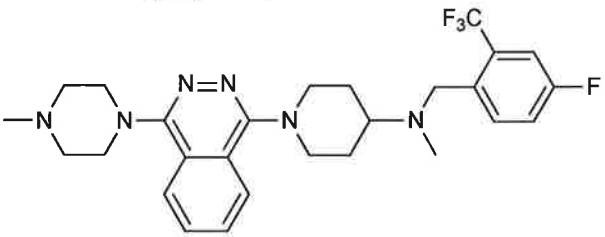
R^a and R^b are independently selected at each occurrence from: H, C_{1-4} alkyl, C_{1-4} haloalkyl, C_{1-4} acyl, C_{3-7} cycloalkyl, and C_{3-7} halocycloalkyl.

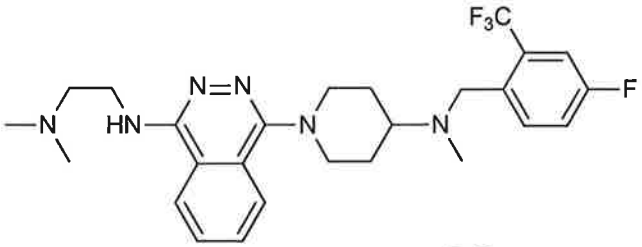
36. A compound of claim 1 wherein the compound of formula (**Ia**) is selected from:

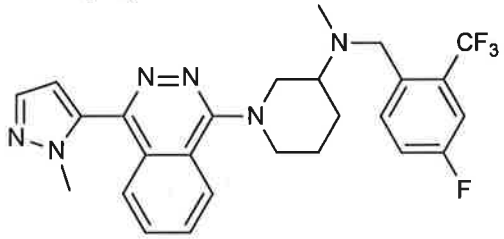


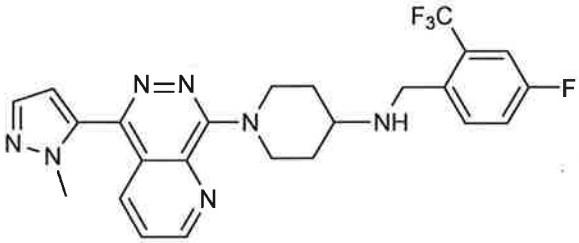


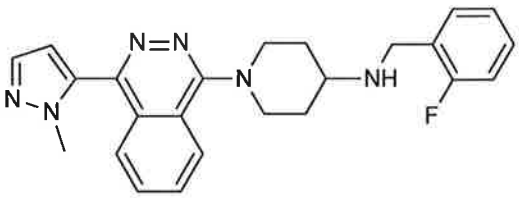


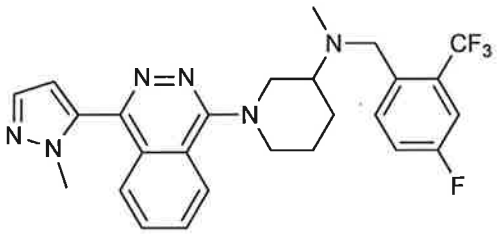


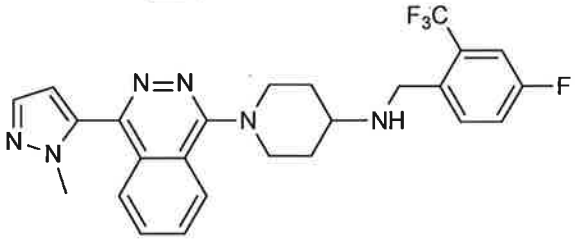












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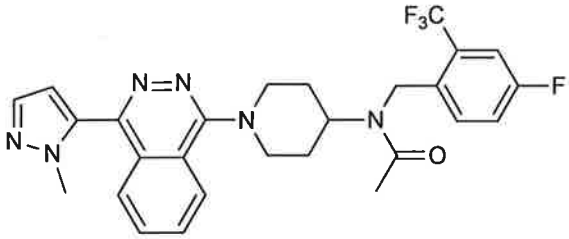

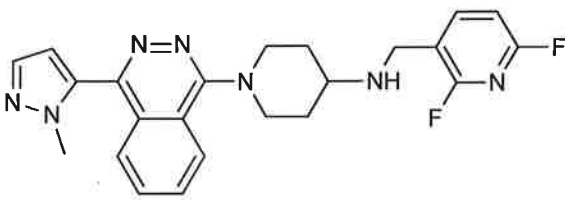

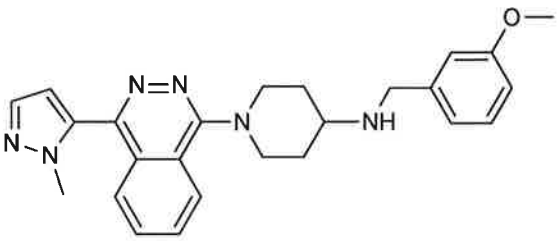

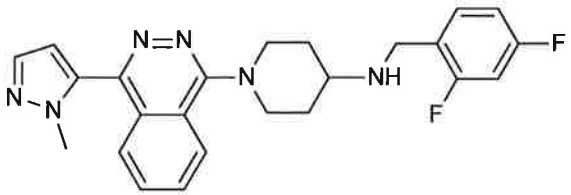

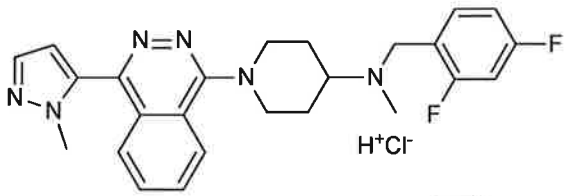

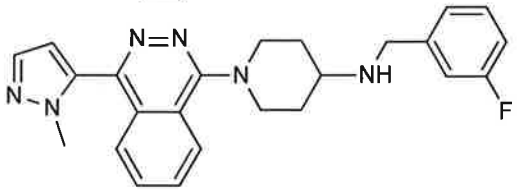

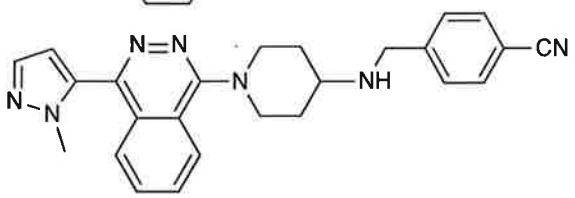

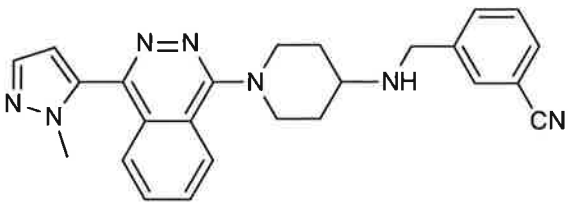

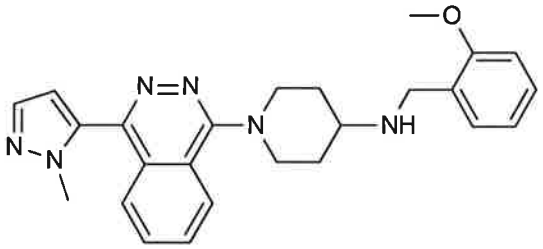

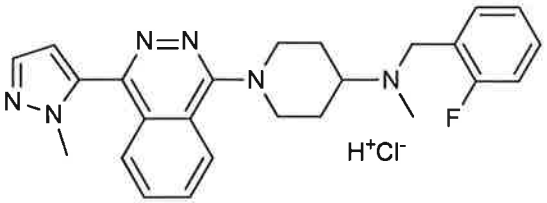

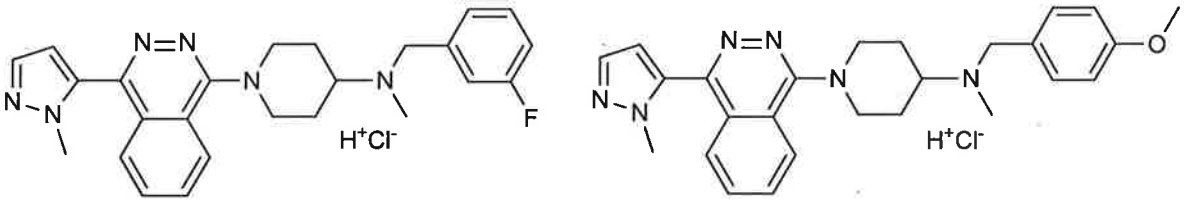

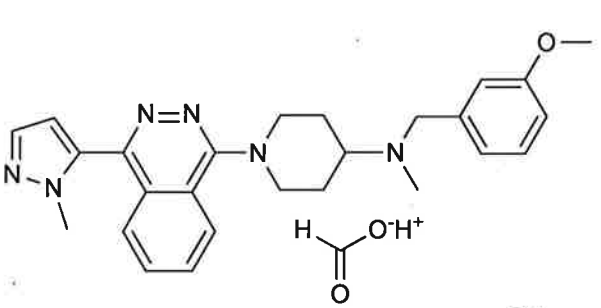

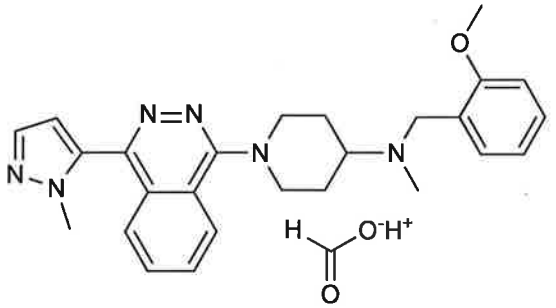

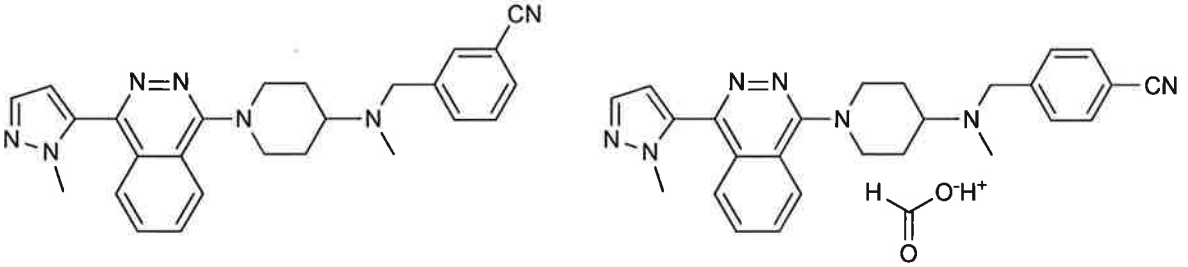

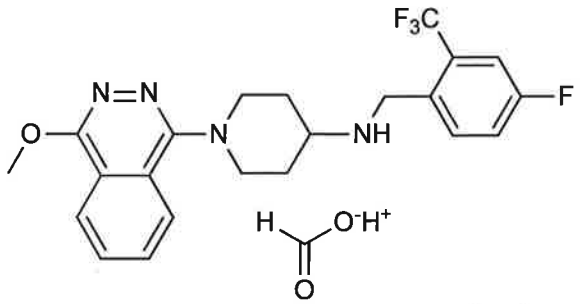

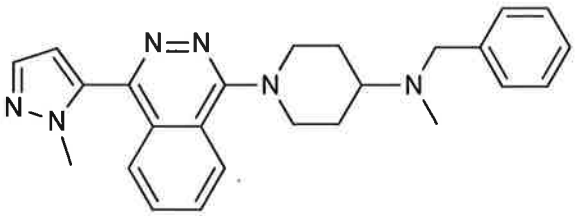

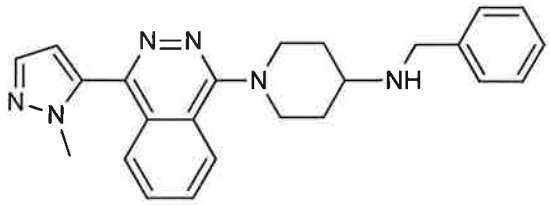

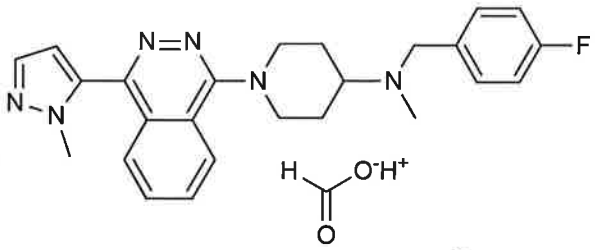

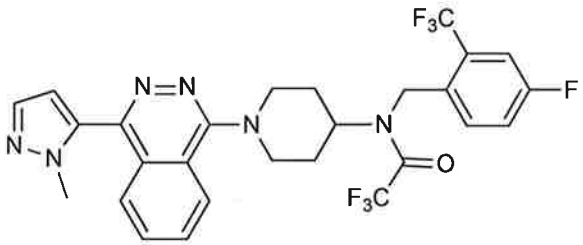

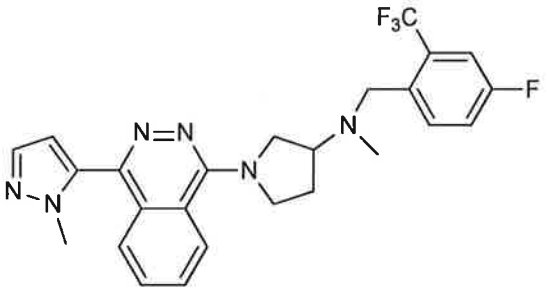

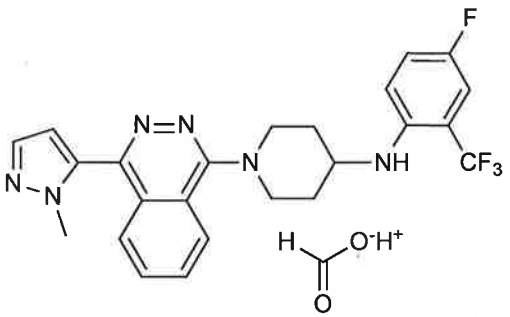

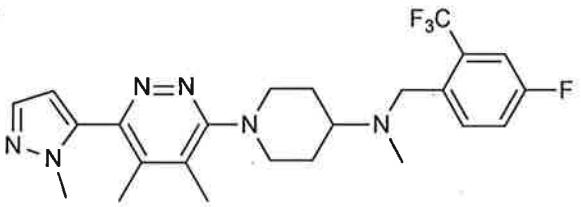

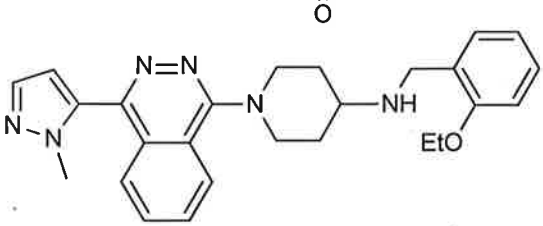

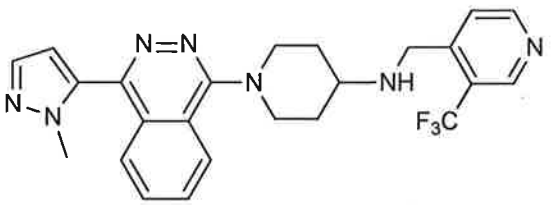

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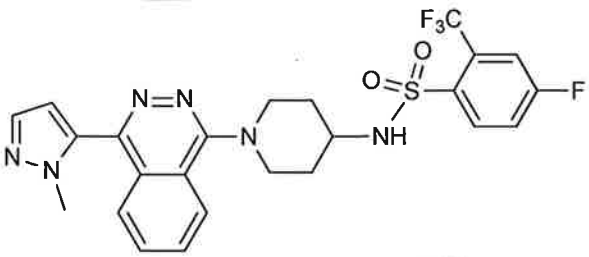

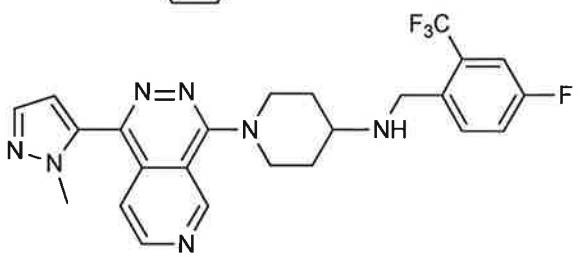

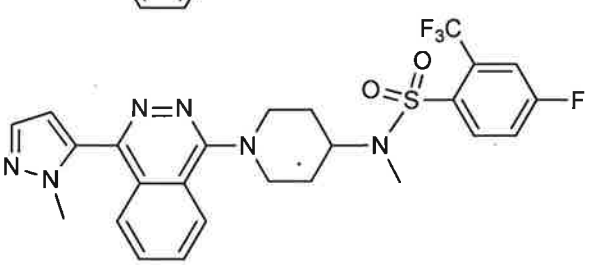

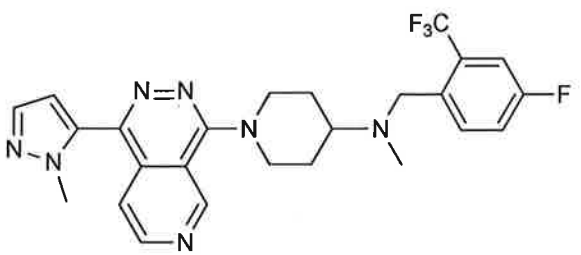

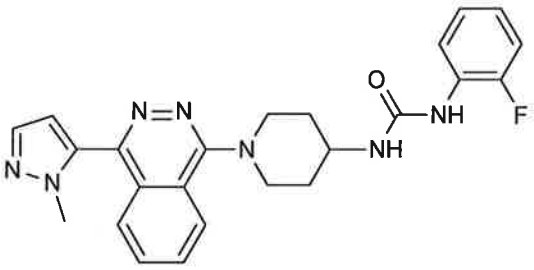

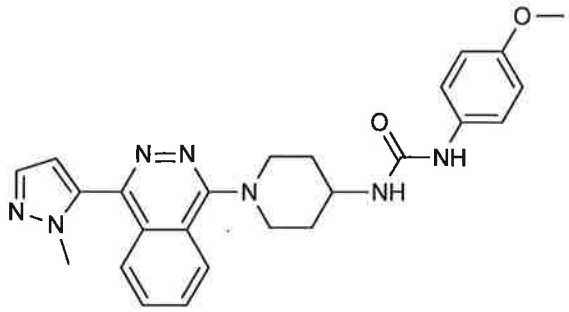

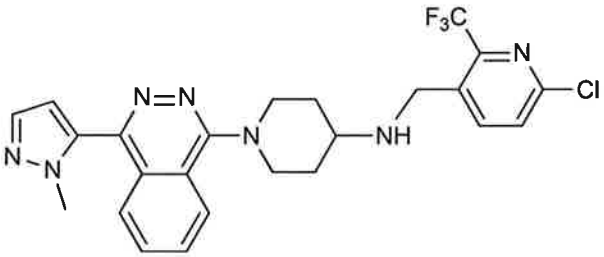

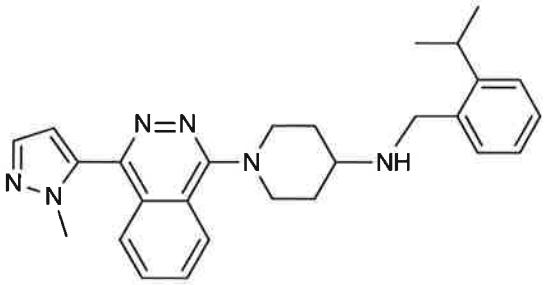

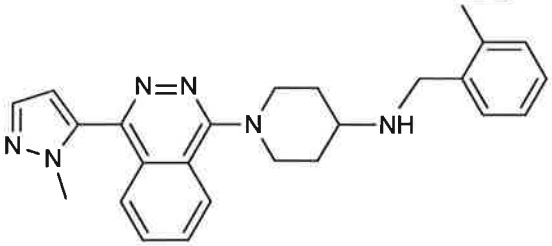

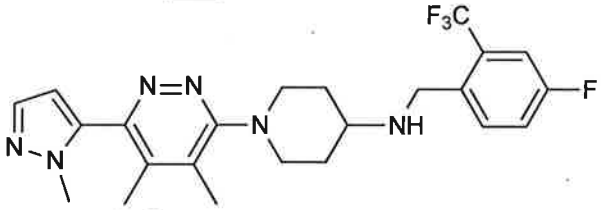

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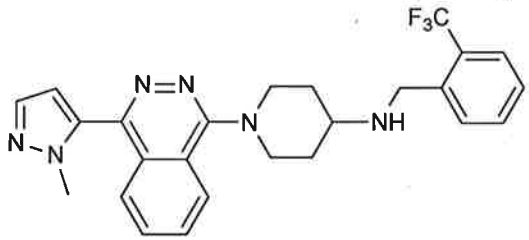

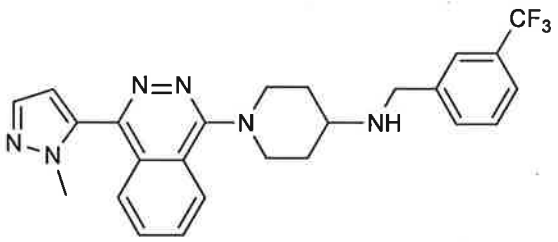

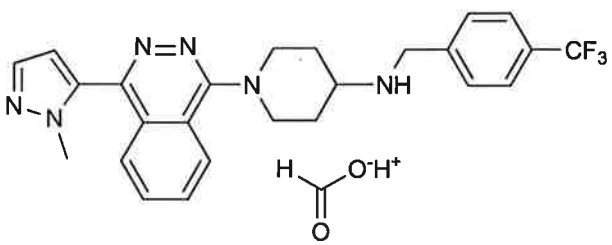

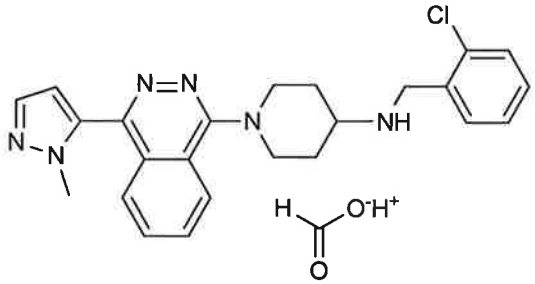

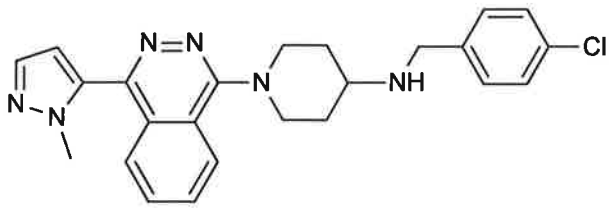

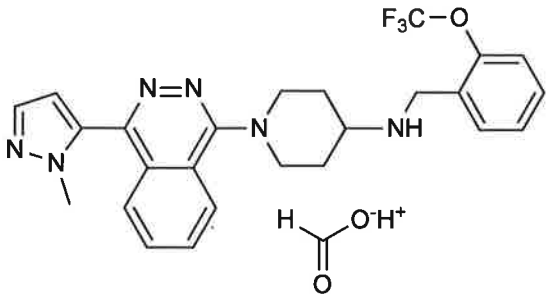

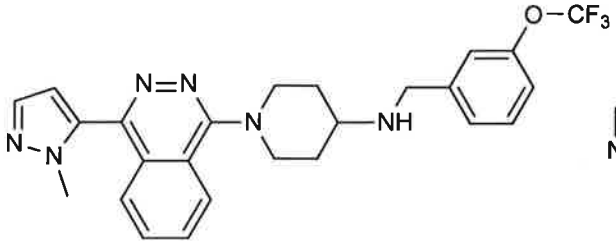

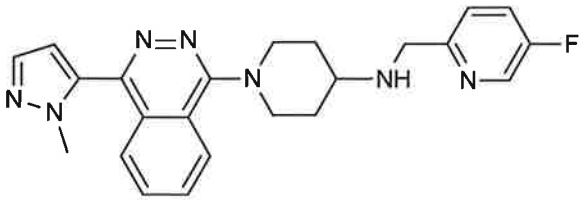

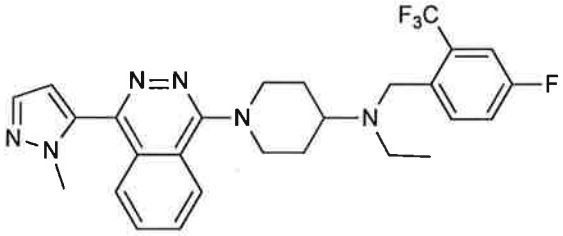

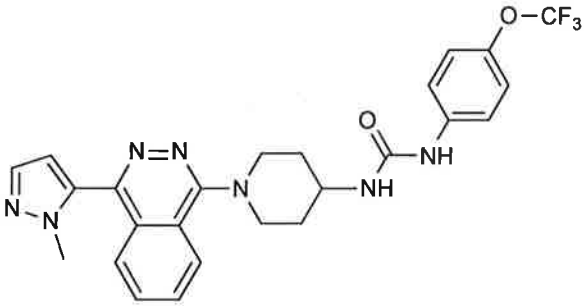

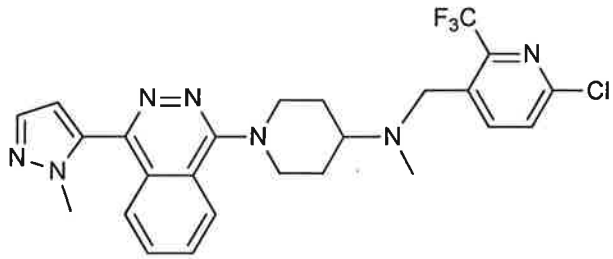

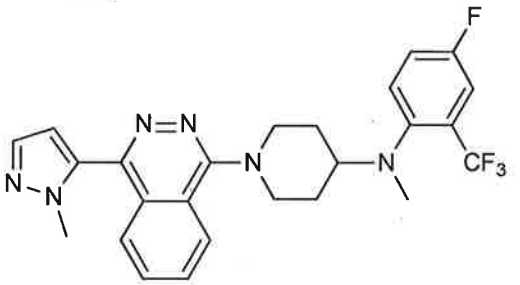

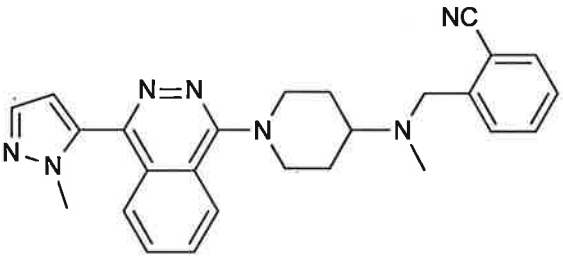

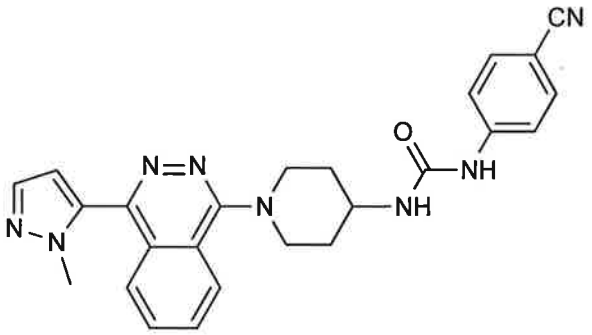

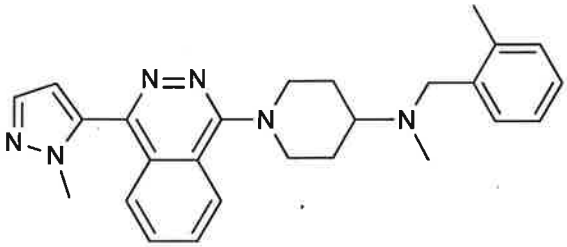

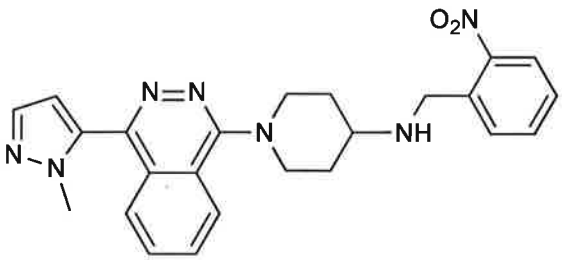

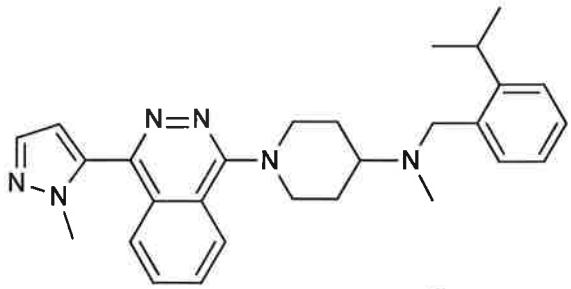

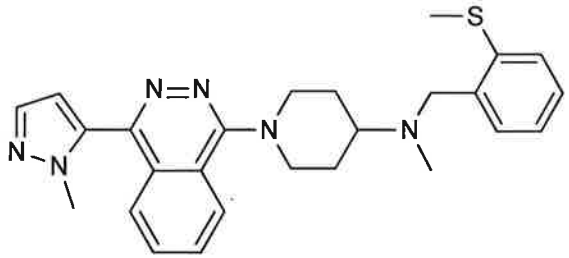

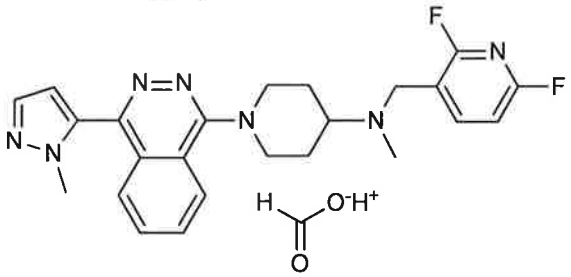

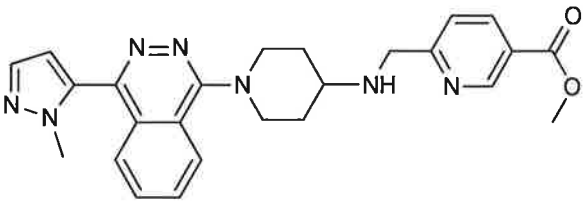

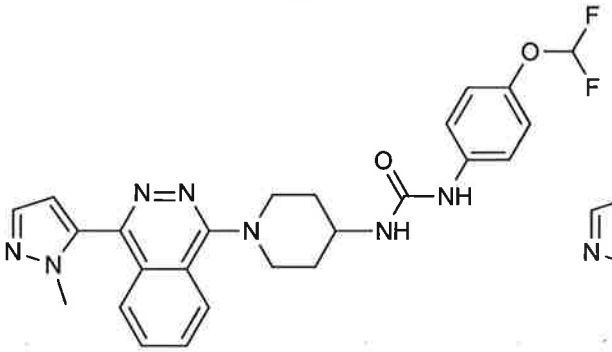

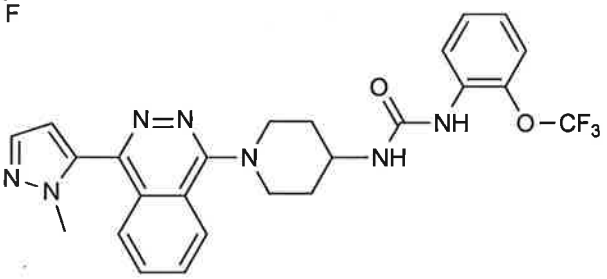

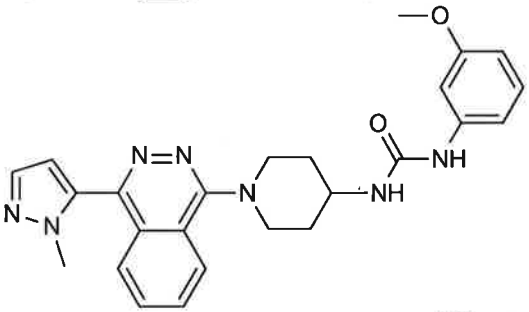

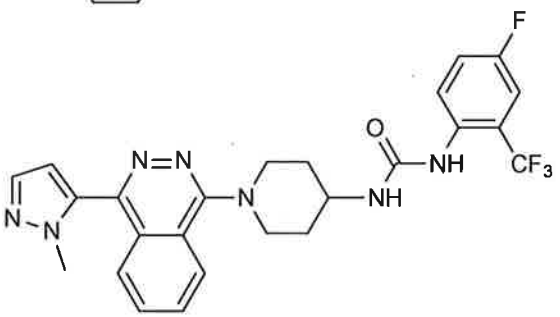

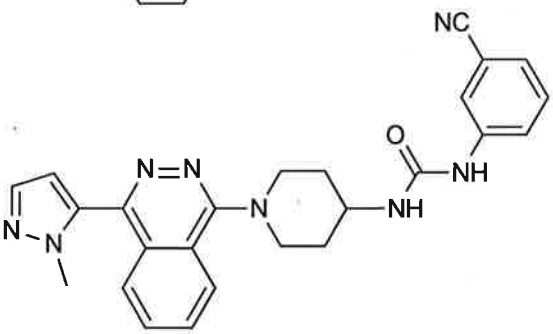

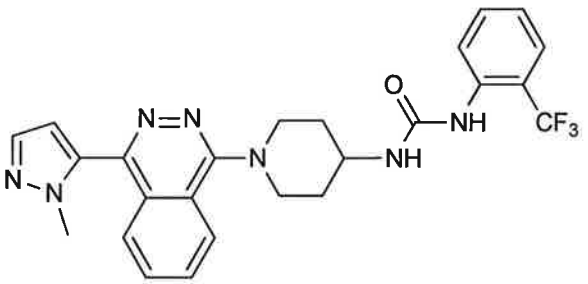

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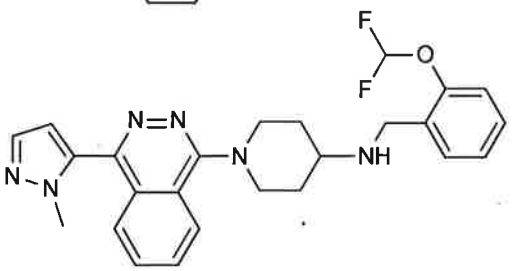

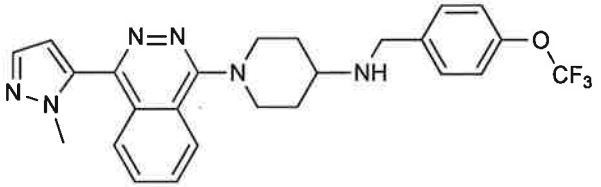

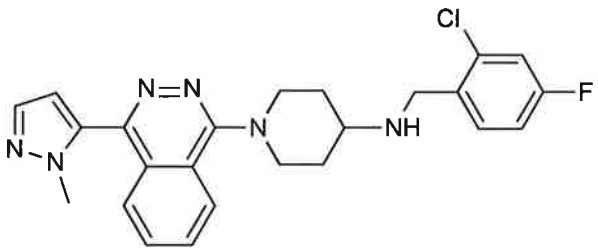

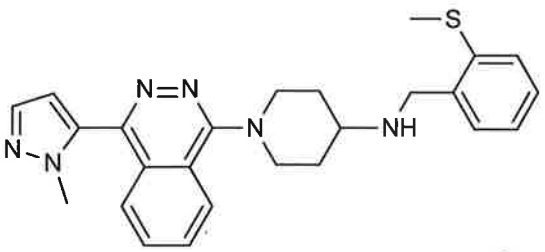

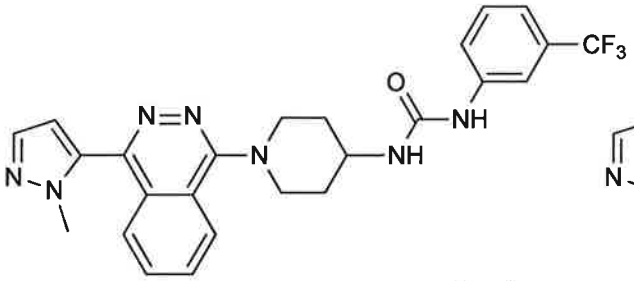

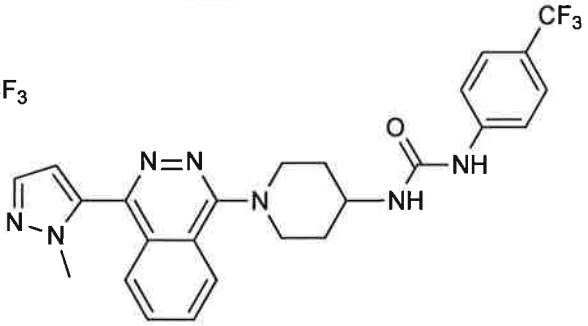

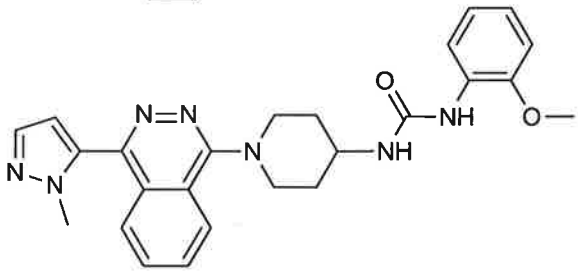

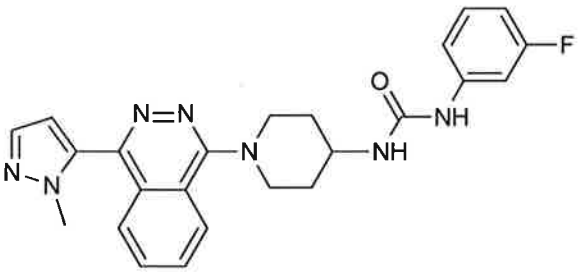

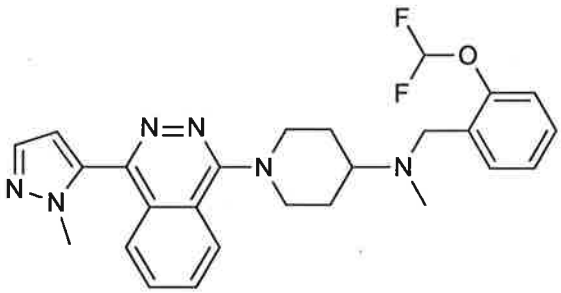

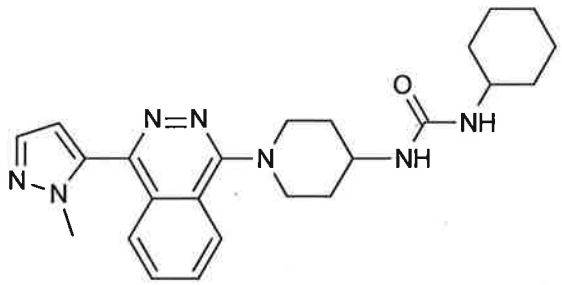

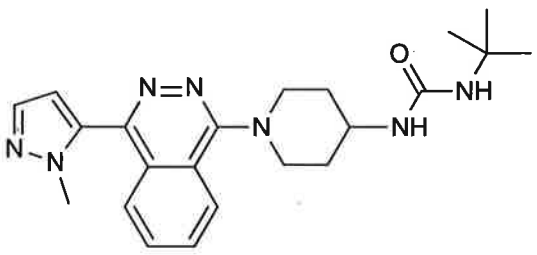

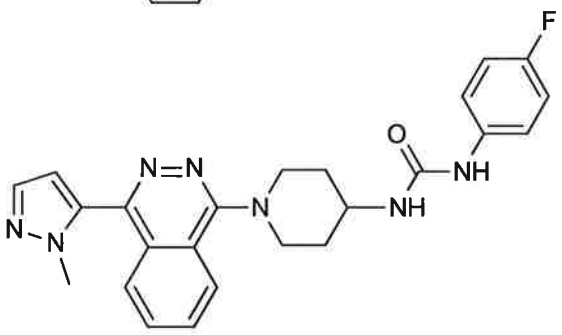

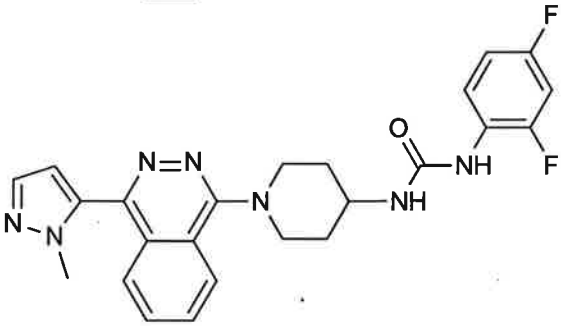

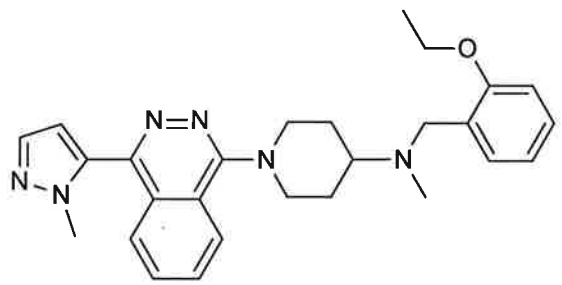

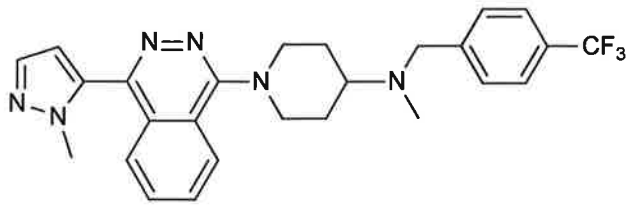

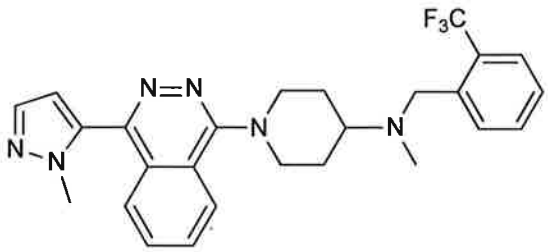

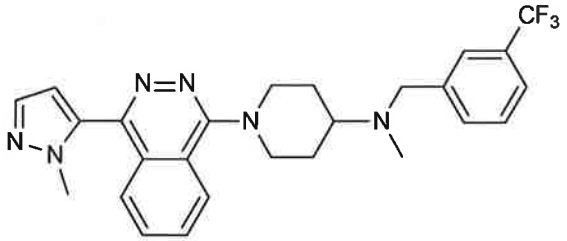

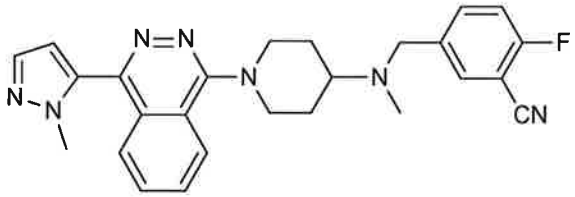

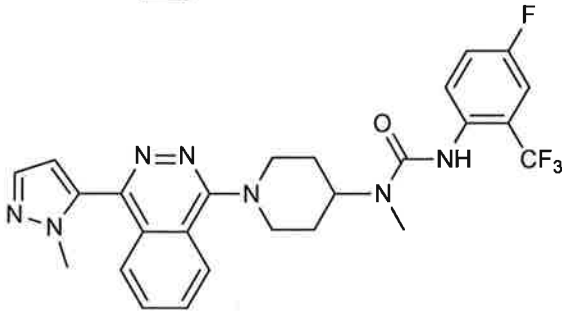

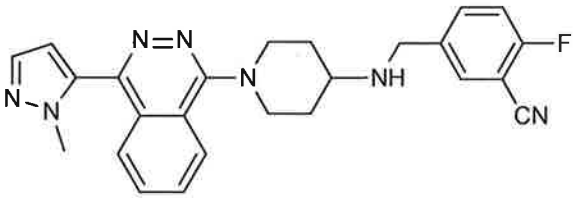

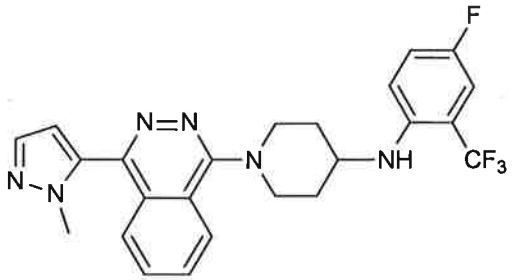

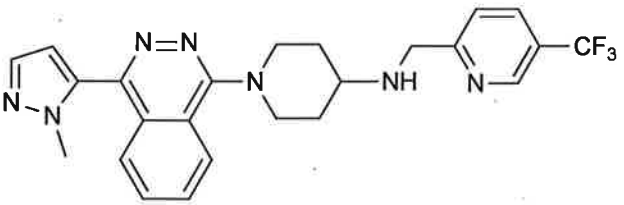

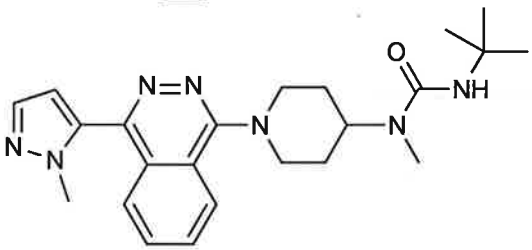

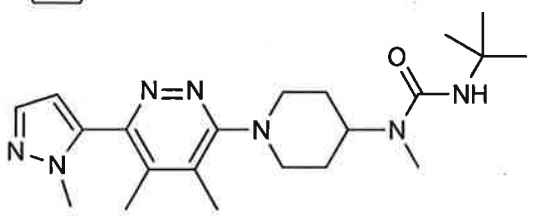

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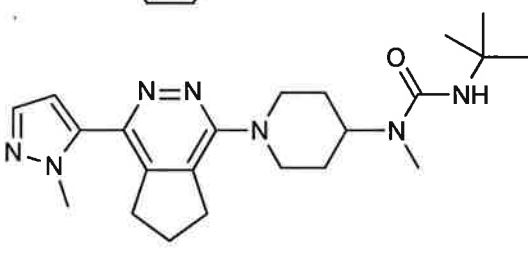

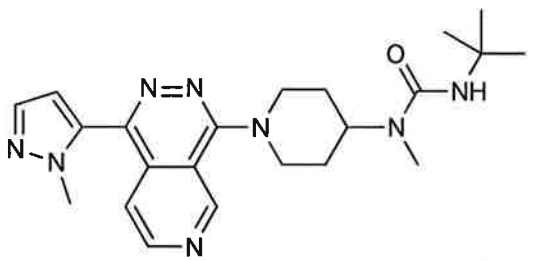

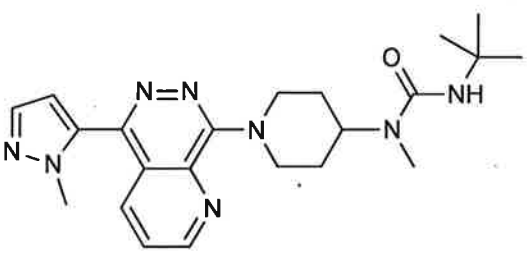

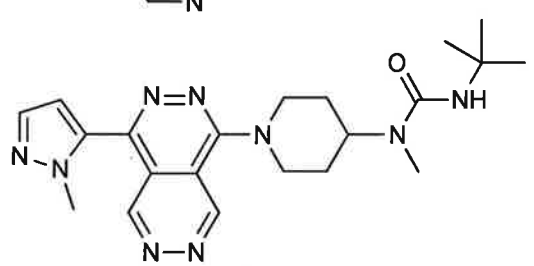

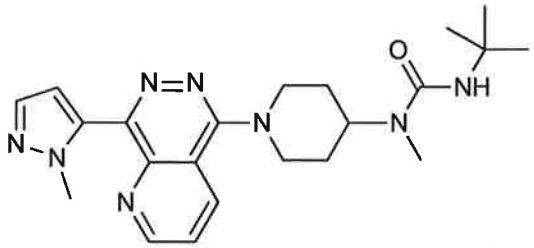

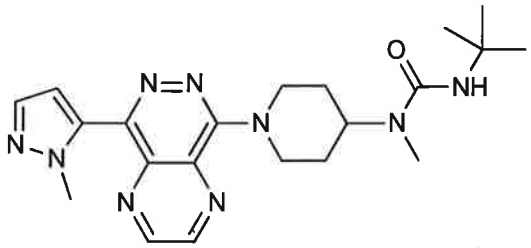

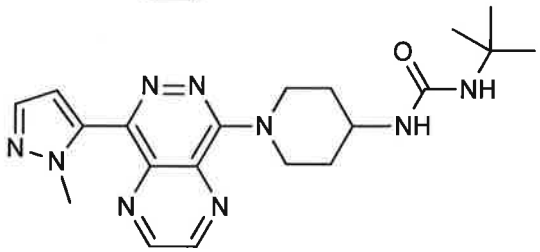

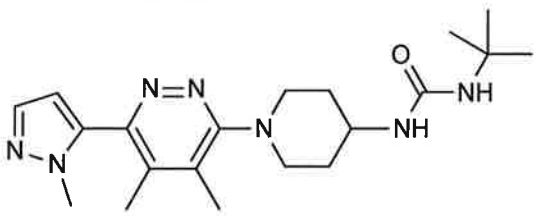

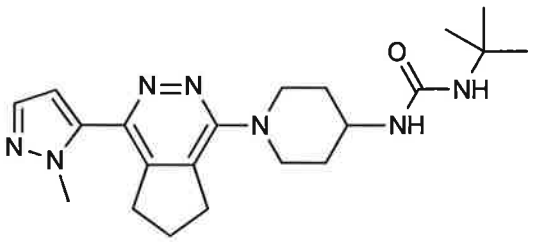

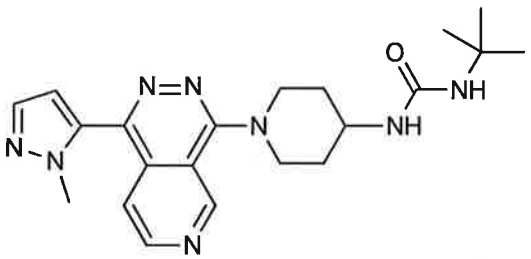

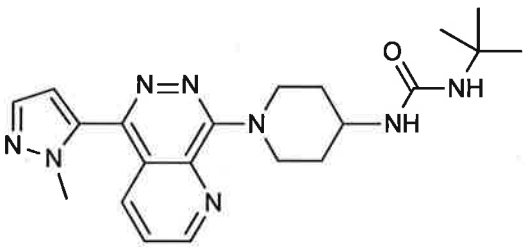

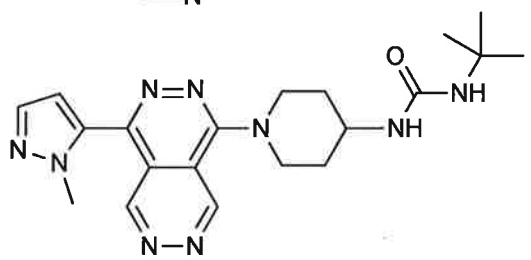

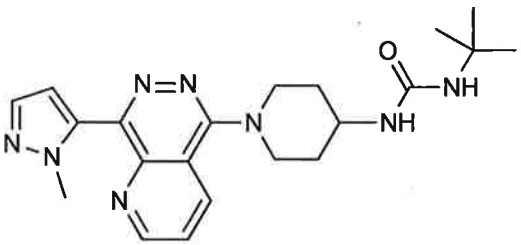

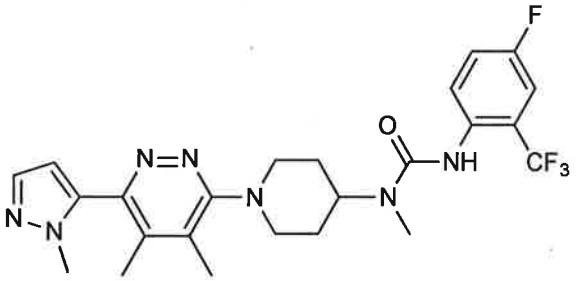

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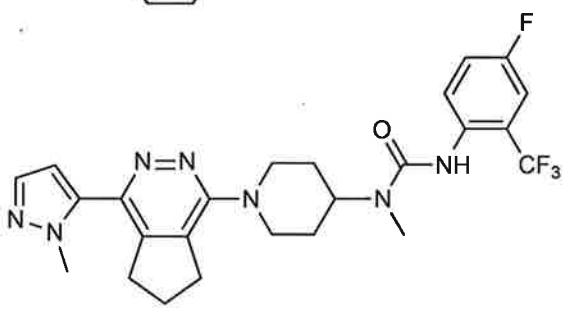

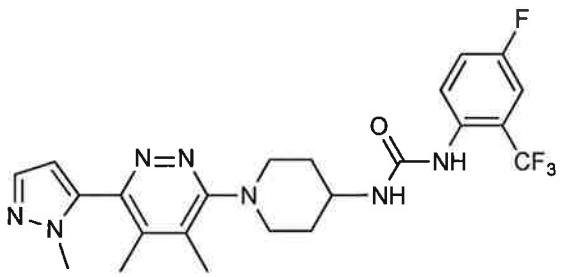

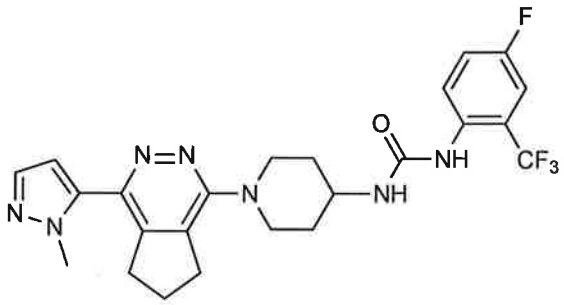

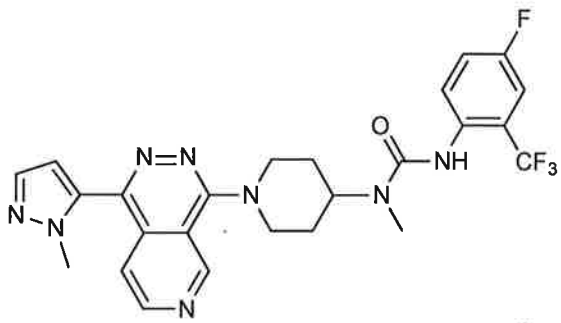

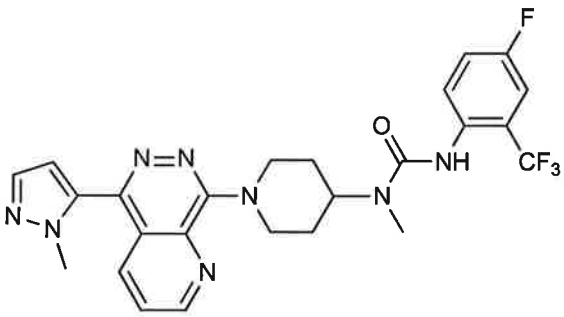

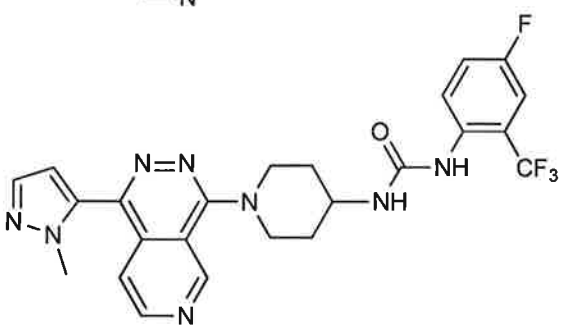

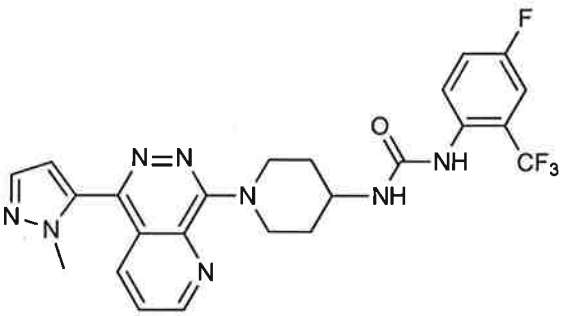

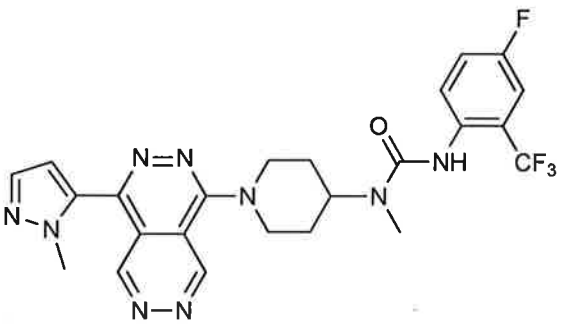

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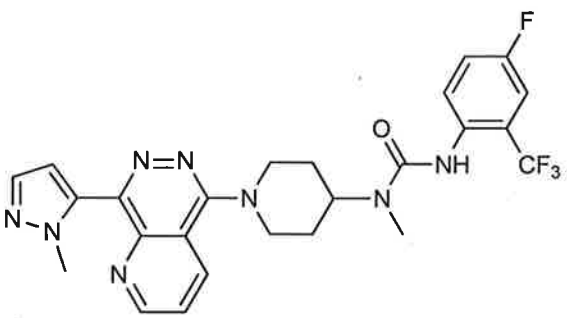
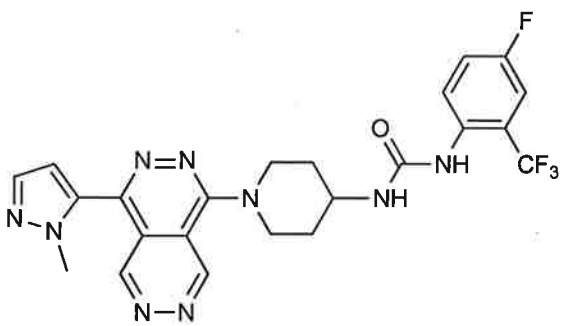
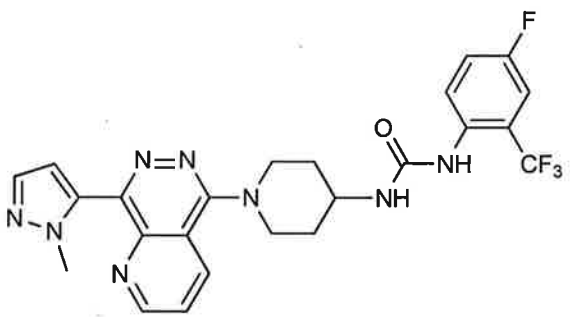
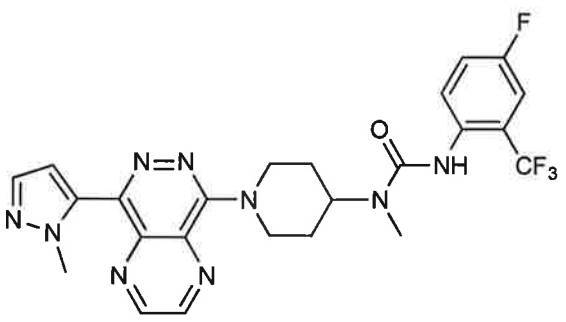
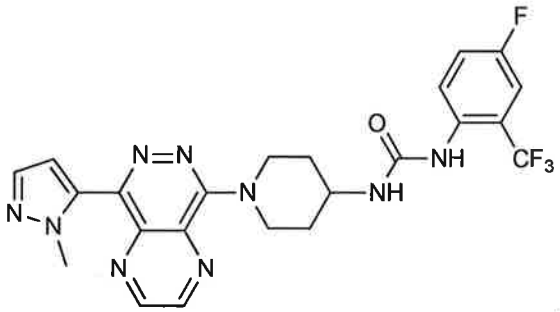


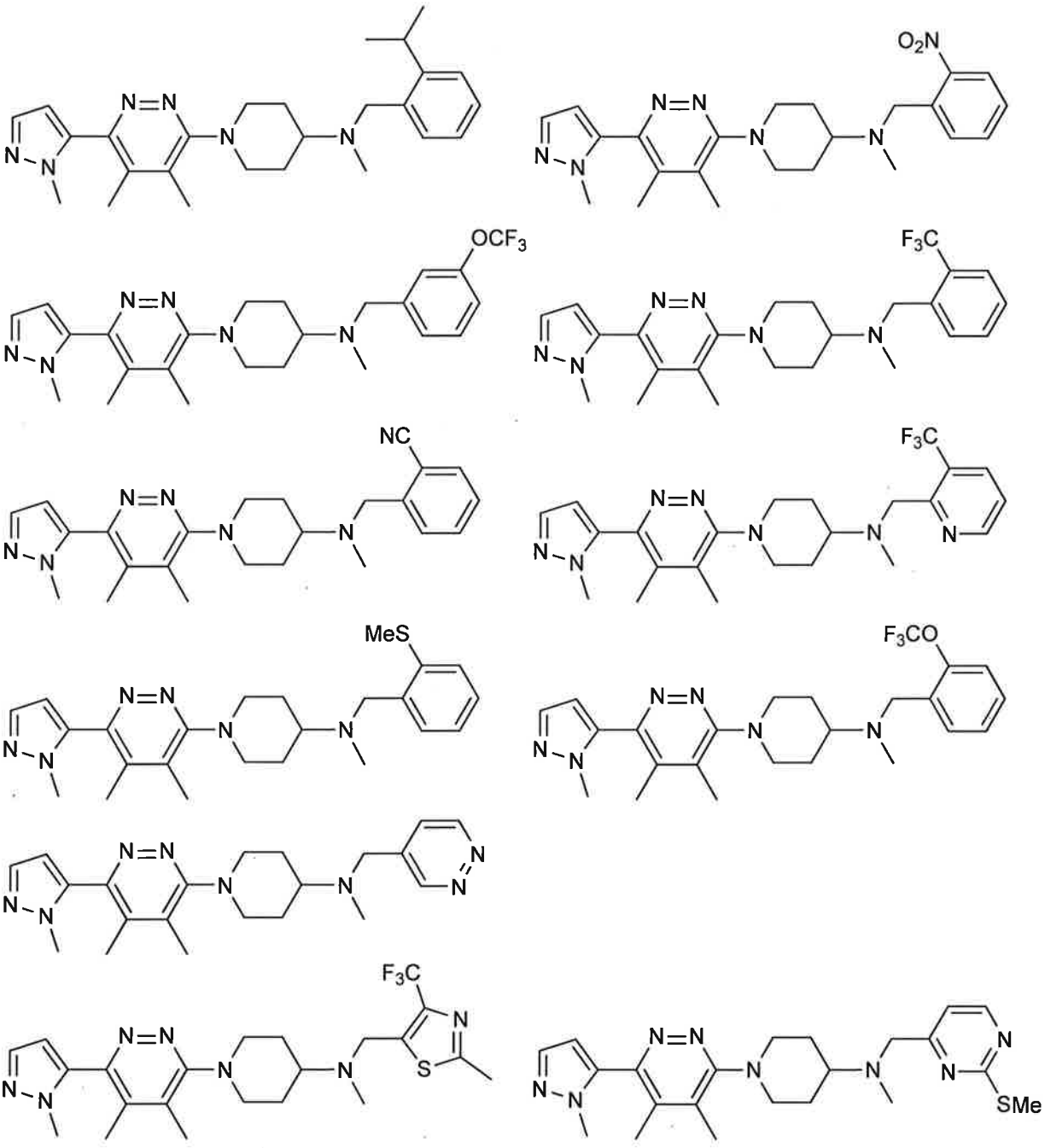


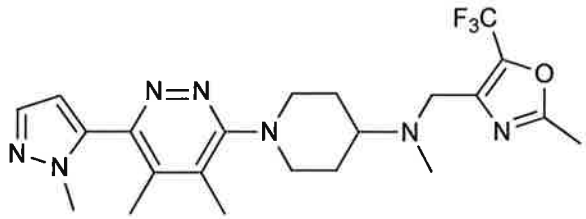


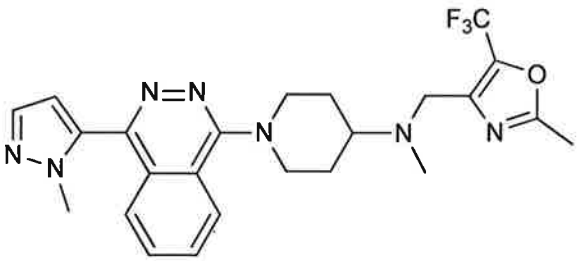


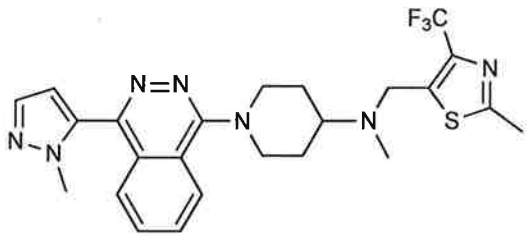


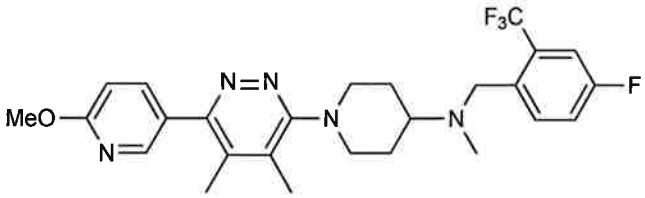
37. A compound of claim 1 wherein the compound of formula (**Ia**) is selected from:

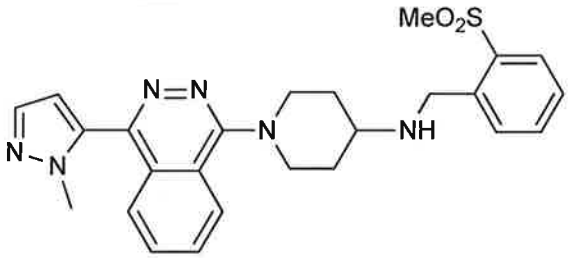


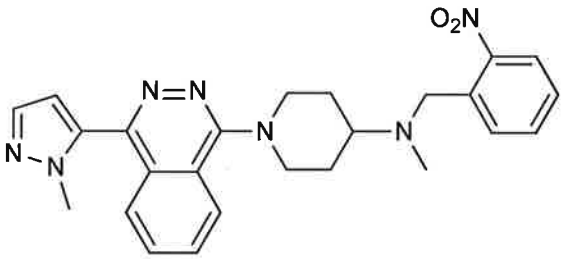


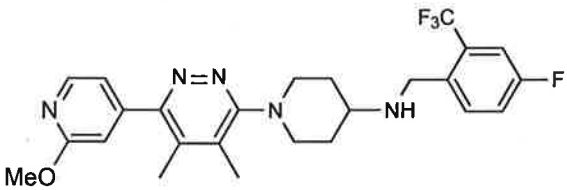


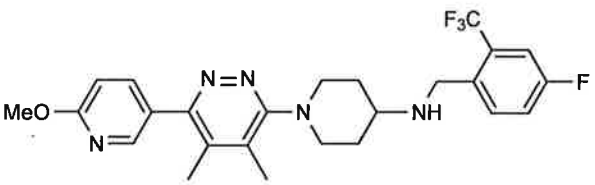


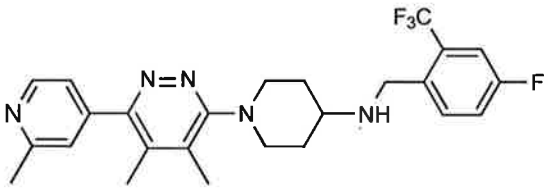


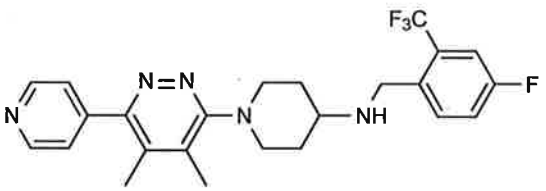












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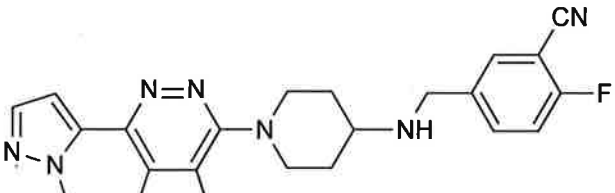

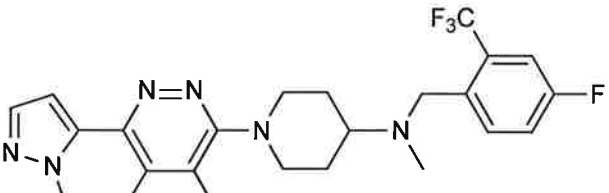

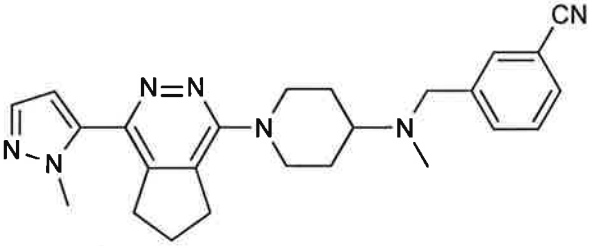

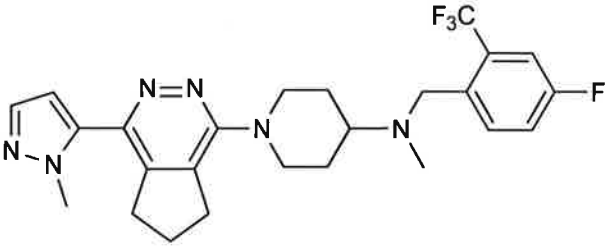

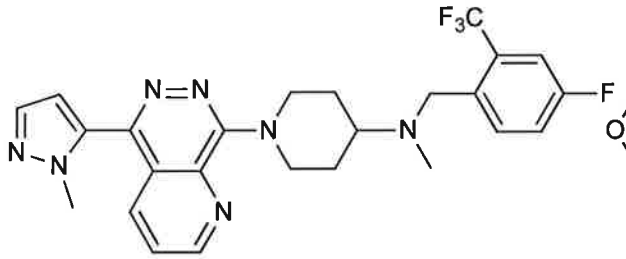

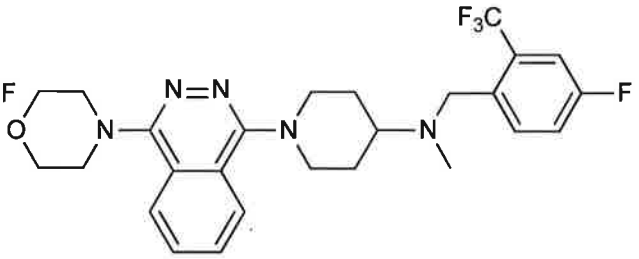

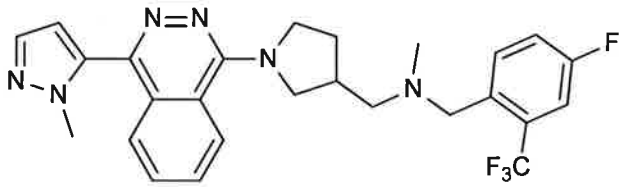

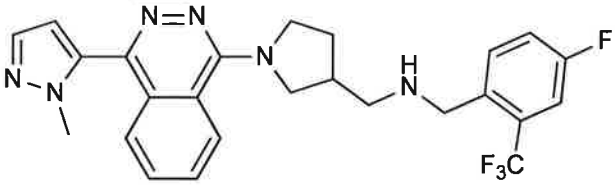

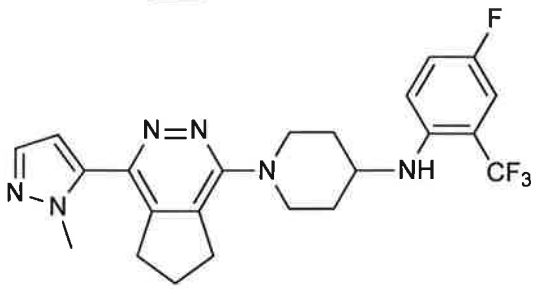

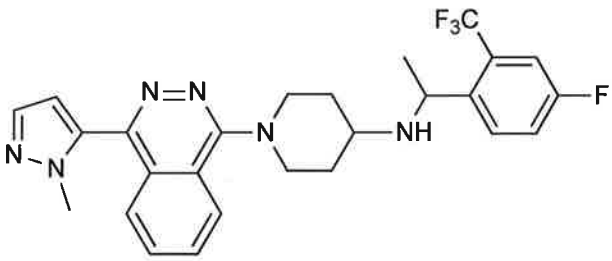

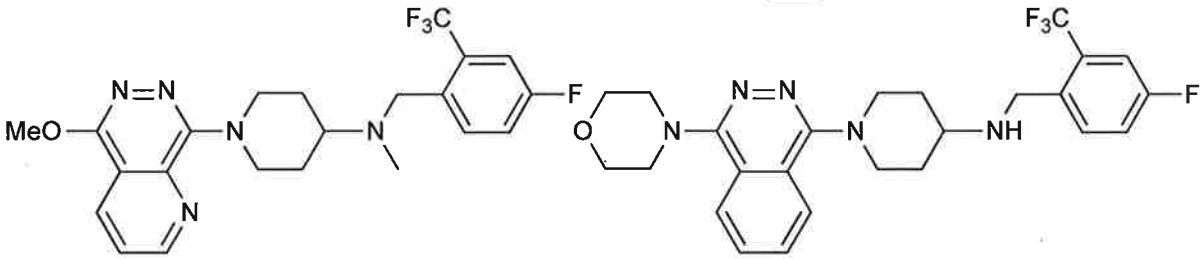

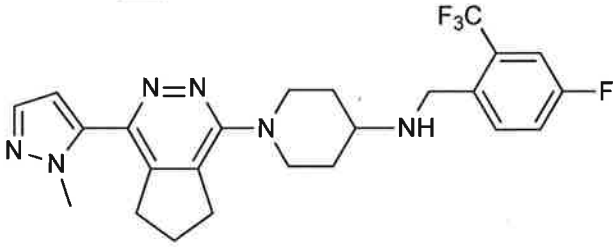

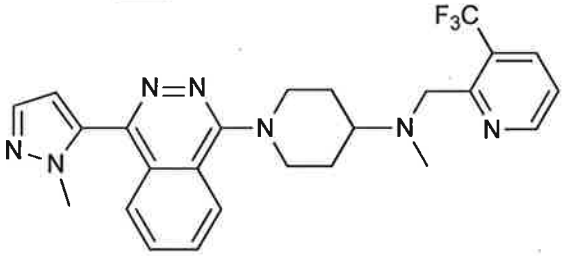

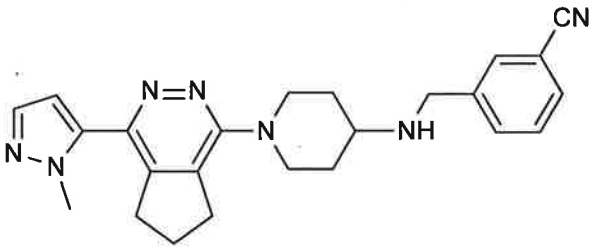

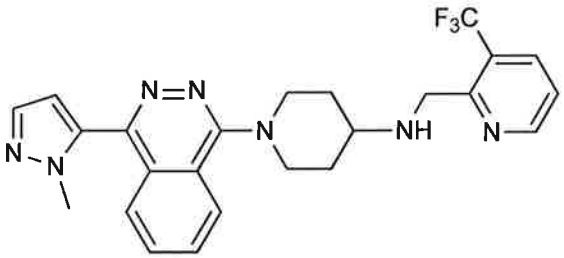

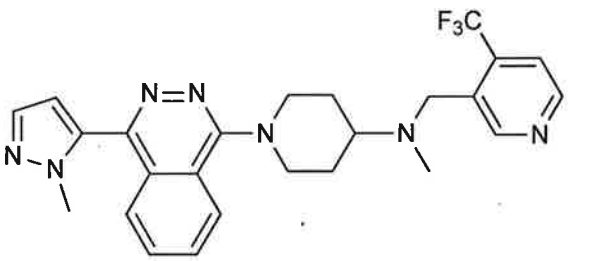

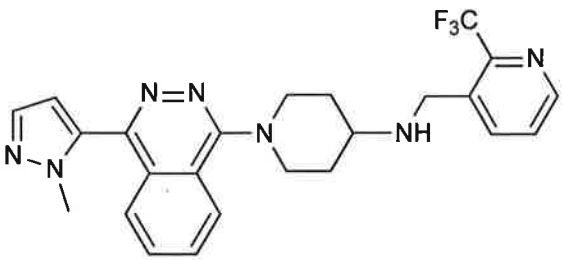

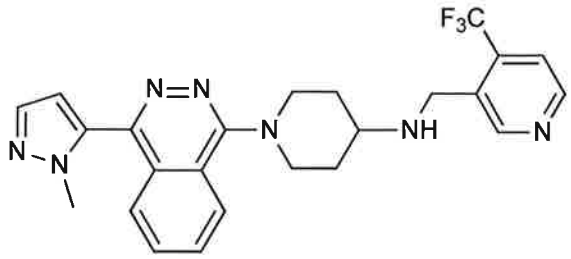

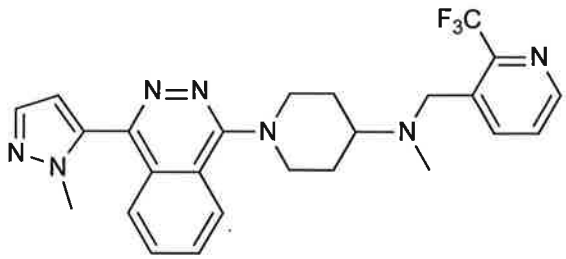

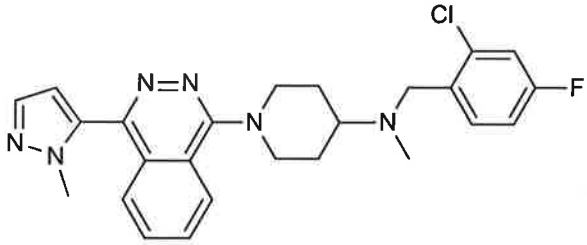

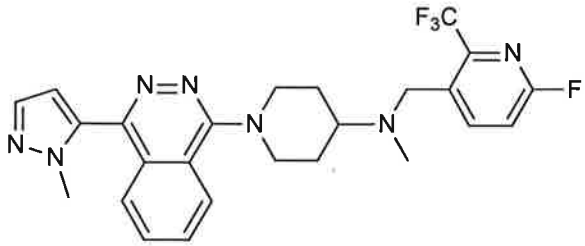

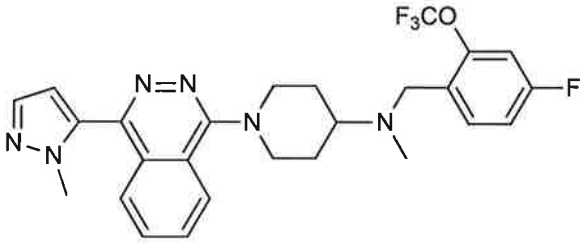

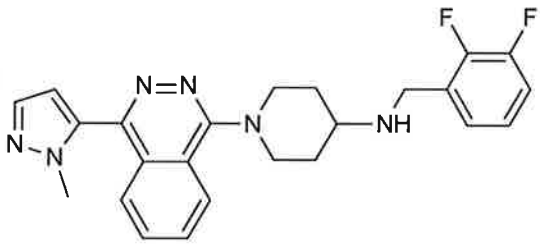

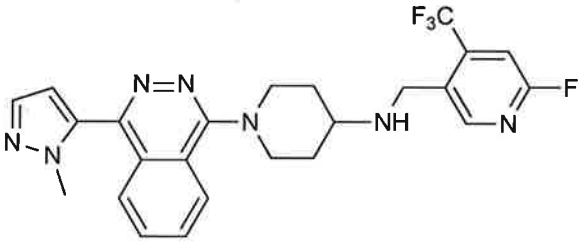

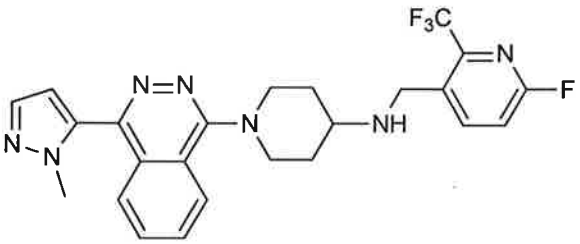

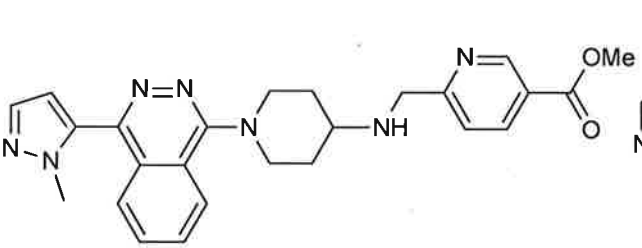

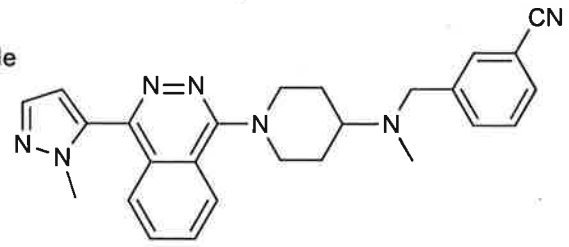

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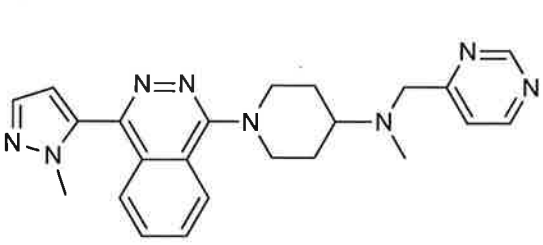

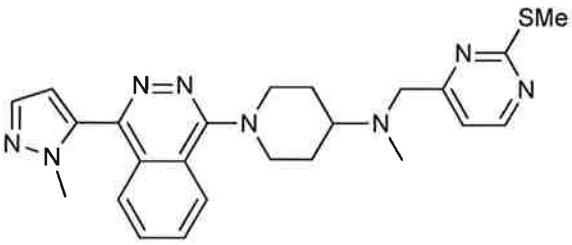

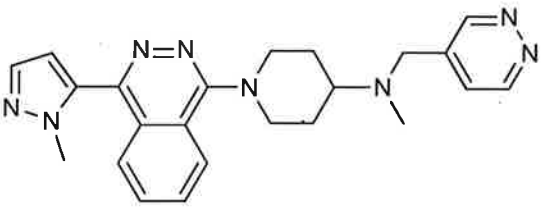

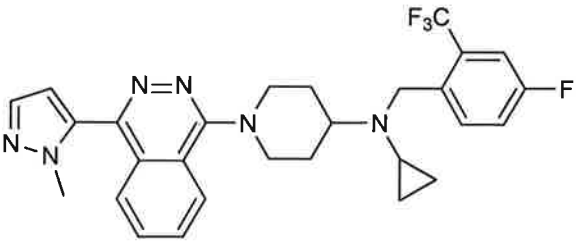

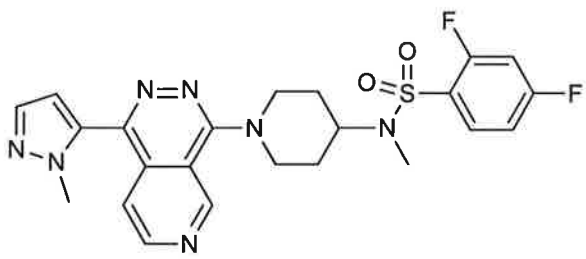

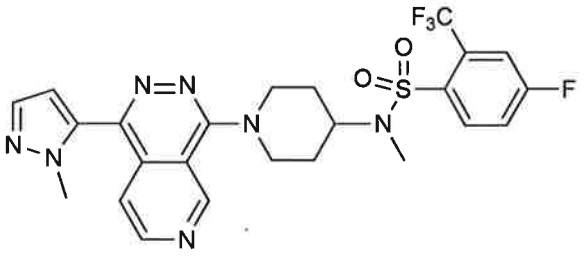

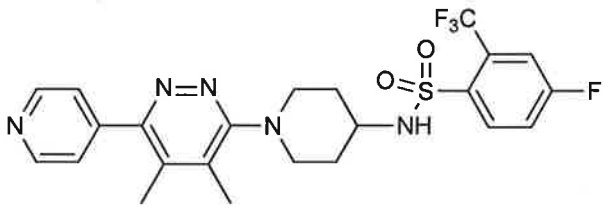

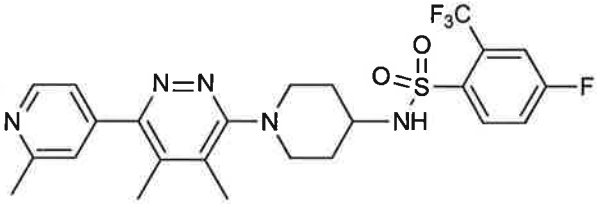

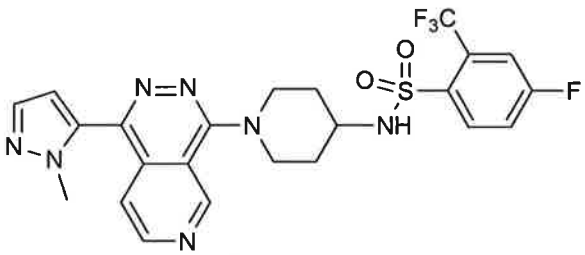

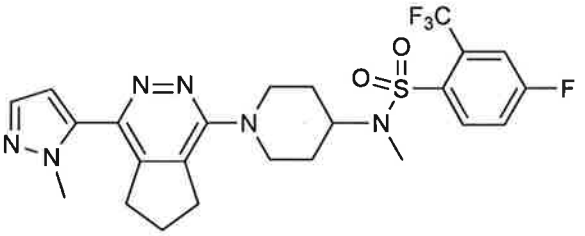

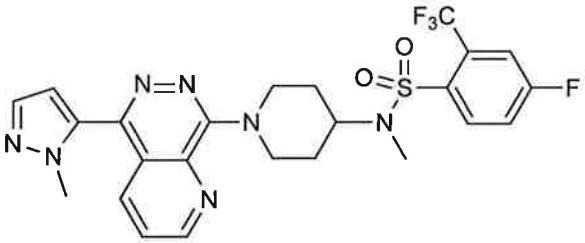

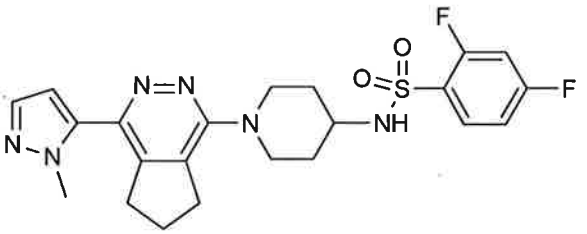

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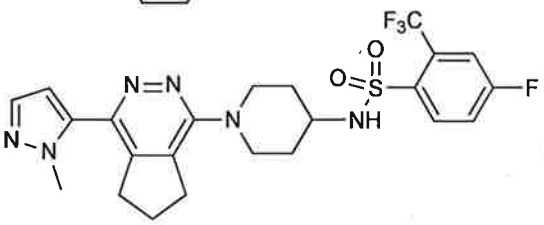

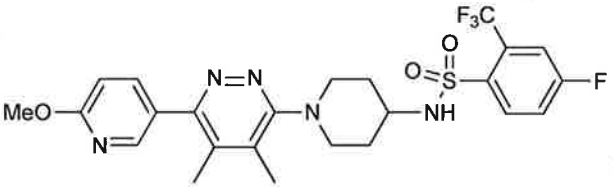

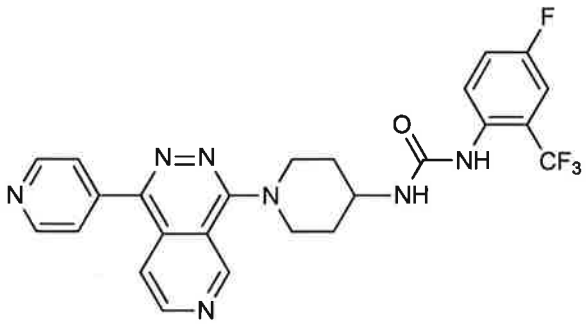

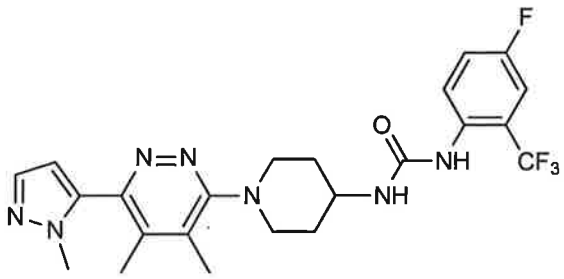

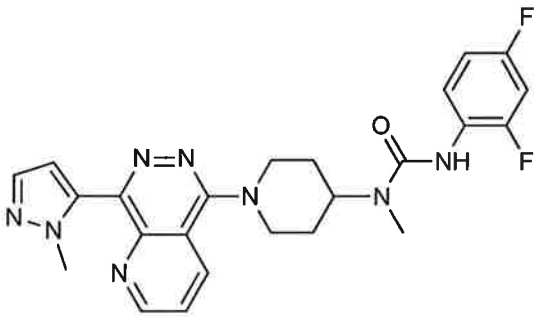

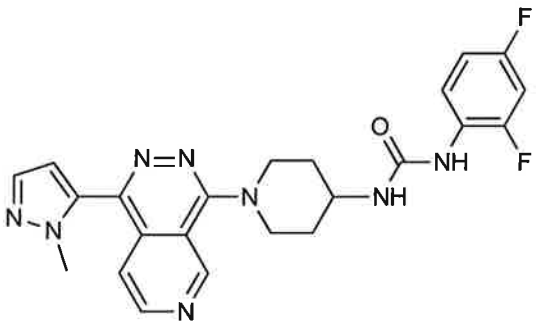

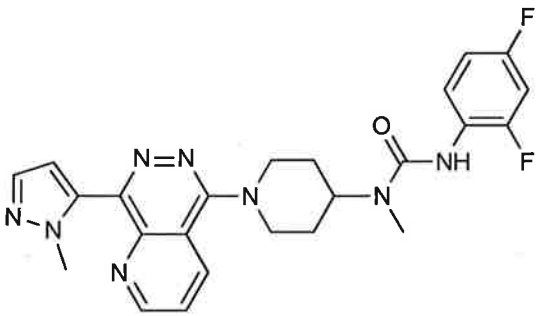

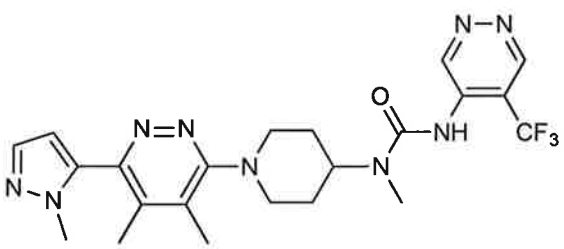

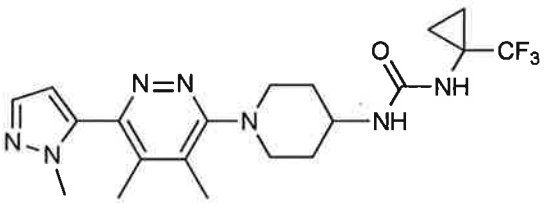

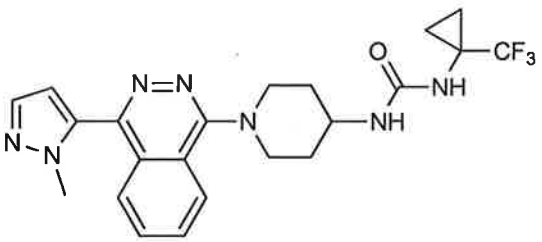

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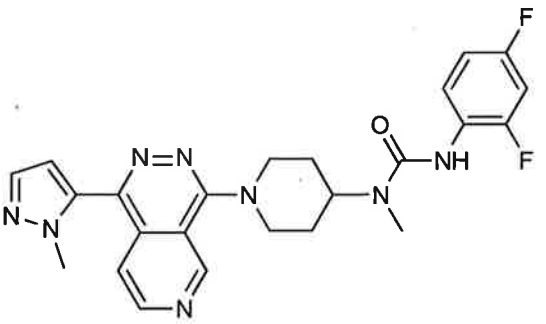

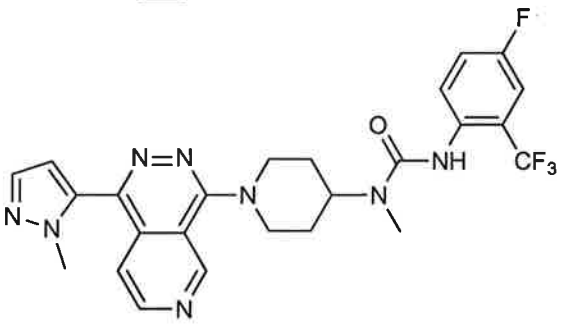

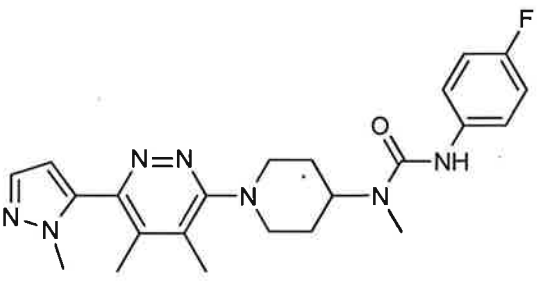

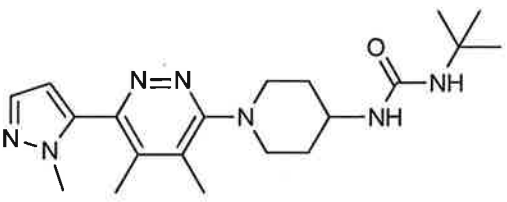

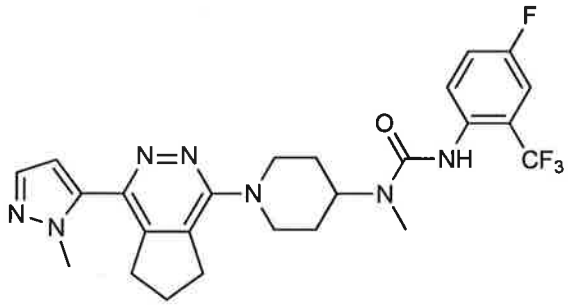

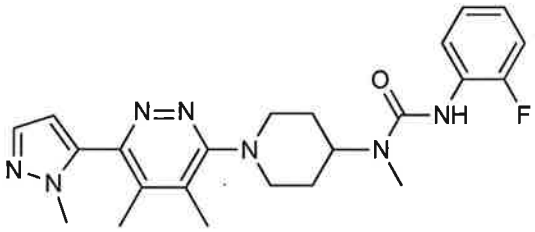

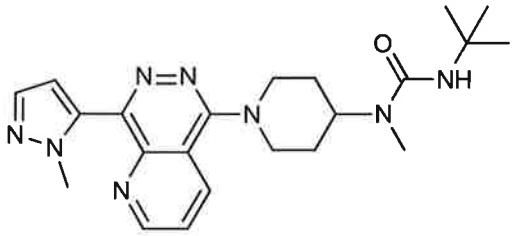

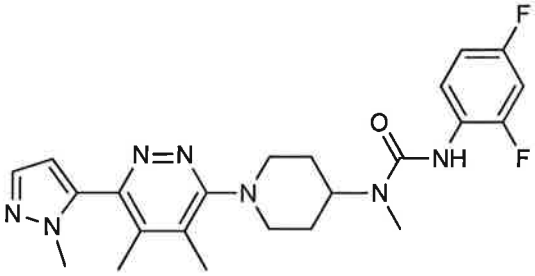

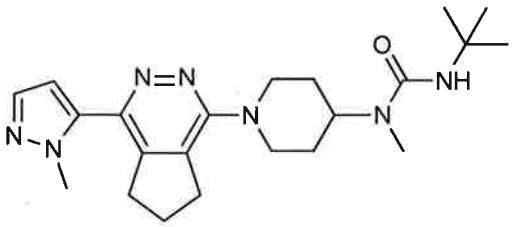

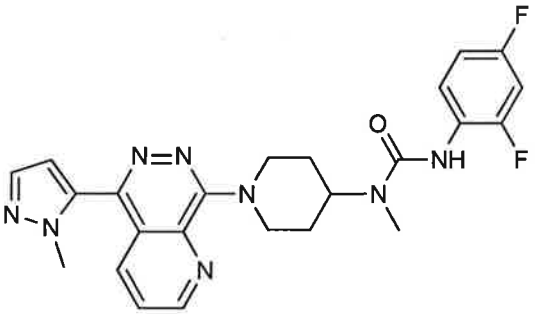

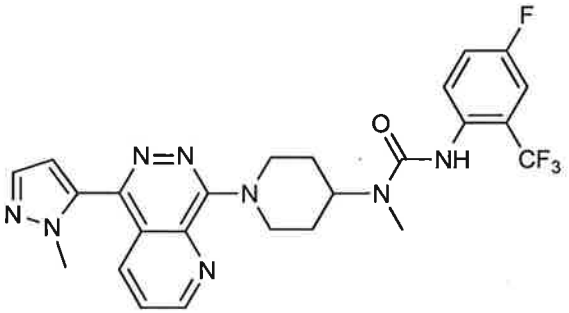

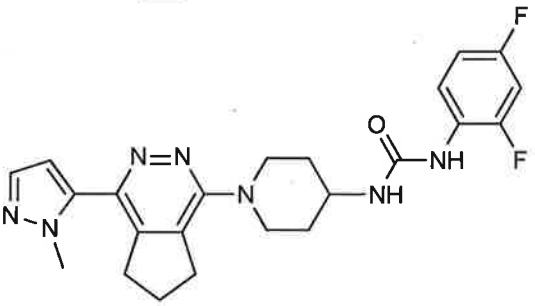

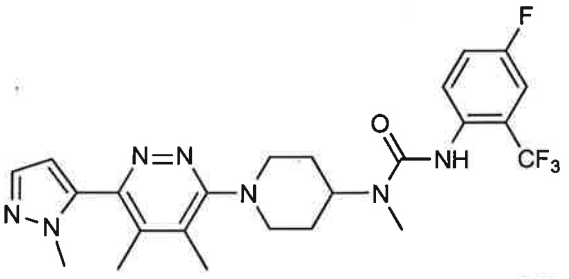

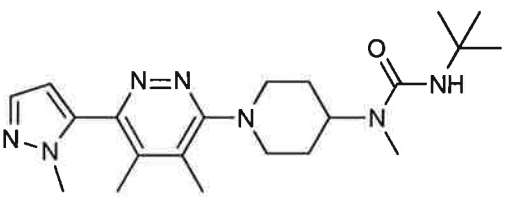

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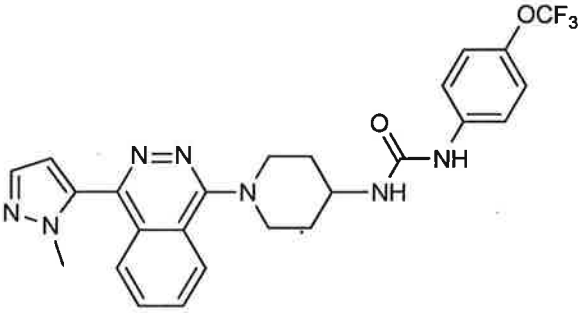

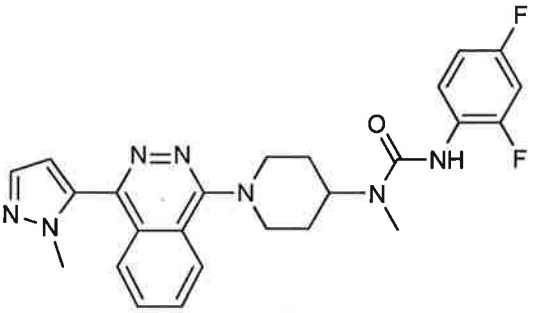

38. A compound of any preceding claim for use as a medicament.

39. The use of the compound of any of claims 1 to 37 in the manufacture of a medicament for the treatment of a condition which is modulated by the Hedgehog signalling pathway.

40. The use according to claim 39, wherein the condition which is modulated by the Hedgehog signalling pathway is cancer, sarcoma, carcinoma, blastoma, lymphoma, leukemia and haematological malignancies.

41. The use according to claim 39 or claim 40, wherein the condition which is modulated by the Hedgehog signalling pathway is selected from: basal cell carcinoma, medulloblastoma, rhabdomyosarcoma, chondrosarcoma, melanoma, small-cell lung cancer, non-small-cell lung cancer, B-cell lymphoma, multiple myeloma, brain cancer, esophagus cancer, breast cancer, ovarian cancer, stomach cancer, colorectal cancer, liver cancer, kidney cancer, head and neck cancer, mesothelioma, soft tissue sarcomas, bone sarcomas, testicular cancer, prostate cancer, pancreatic cancer, bone cancer, bone metastasis, acute leukemia, chronic leukemia, glioma, hodgkin's disease, cutaneous melanoma, bladder cancer, endocrine system cancer, parathyroid gland cancer, thyroid gland cancer, cervical cancer, endometrium cancer, ovarian cancer, skin cancer, renal cell carcinoma, pituitary adenoma, spinal axis tumours, uterine cancer, gastric cancer and biliary tract cancer.

42. The use of the compound of any of claims 1 to 37 in the manufacture of a medicament for the treatment of a medical condition wherein the treatment comprises inhibiting stem cell production, inhibiting stem cell renewal, and/or inhibiting and/or modulating stem cell differentiation.

43. The use of the compound of any of claims 1 to 37 in the manufacture of a medicament for the treatment of cancer, sarcoma, carcinoma, blastoma, lymphoma, leukemia and haematological malignancies, wherein said medicament is used simultaneously, sequentially or separately with an additional anti-tumour agent.

44. The use according to claim 43 wherein the treatment may be of conditions treatable by the inhibition of the Hedgehog signalling pathway selected from: basal cell carcinoma, medulloblastoma, rhabdomyosarcoma, chondrosarcoma, melanoma, small-cell lung cancer, non-small-cell lung cancer, B-cell lymphoma, multiple myeloma, brain cancer, esophagus cancer, breast cancer, ovarian cancer, stomach cancer, colorectal cancer, liver cancer, kidney cancer, head and neck cancer, mesothelioma, soft tissue sarcomas, bone sarcomas, testicular cancer, prostate cancer, pancreatic cancer, bone cancer, bone metastasis, acute leukemia, chronic leukemia, glioma, hodgkin's disease, cutaneous melanoma, bladder cancer, endocrine system cancer, parathyroid gland cancer, thyroid gland cancer, cervical cancer, endometrium cancer, ovarian cancer, skin cancer, renal cell carcinoma, pituitary adenoma, spinal axis tumours, uterine cancer, gastric cancer and biliary tract cancer.

45. A pharmaceutical composition, wherein the composition comprises a compound of any of claims 1 to 37 and pharmaceutically acceptable excipients.

46. A pharmaceutical composition of claim 45 wherein the composition is a combination product and comprises an additional pharmaceutically active agent.

47. A method of providing a combination product, wherein the method comprises providing a compound of any of claims 1 to 37 simultaneously, sequentially or separately with an anti-tumour agent.

48. Use of a compound of any of claims 1-37 in combination with an anti-tumour agent.