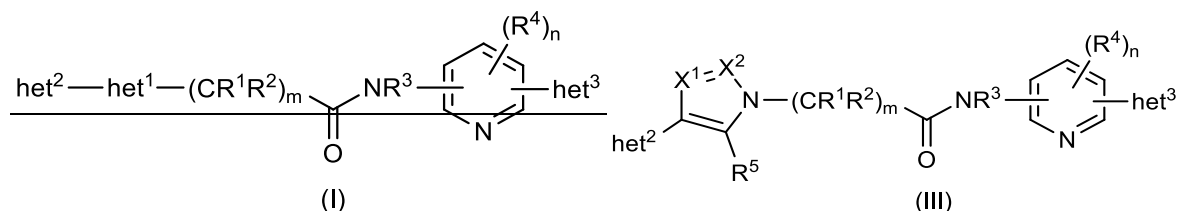


CLAIMS

1. A compound of formula (I):



wherein

~~het¹ represents a 5 membered heterocyclic ring system selected from unsubstituted or substituted: pyrazole, imidazole, oxazole, isoxazole, isothiazole, thiophene, furan, triazole, oxadiazole and thiadiazole, and when substituted the ring system is substituted with 1, 2, or 3 groups independently selected at each occurrence from: halo, C₁₋₄ alkyl, C₁₋₄ haloalkyl, -OR^{A2}, -NR^{A2}R^{B2}, -CN, -SO₂R^{A2}, and C₃₋₆ cycloalkyl;~~

~~het¹ has a bond to het² and to $(\text{CR}^1\text{R}^2)_m\text{C}(=\text{O})\text{NR}^3$, wherein het² and $(\text{CR}^1\text{R}^2)_m\text{C}(=\text{O})\text{NR}^3$ are bonded to non-adjacent atoms of het¹;~~

X¹ and X² are selected from CR⁶ and N, wherein one of X¹ and X² is CR⁶ and the other is N; and

het² is a 5 or 6 membered heterocyclic ring which may be unsubstituted or substituted, and when substituted the ring is substituted with 1, 2 or 3 groups independently selected at each occurrence from: halo, C₁₋₄ alkyl, C₁₋₄ haloalkyl, -OR^{A1}, -NR^{A1}R^{B1}, -CN, -NO₂, -NR^{A1}C(O)R^{B1}, -C(O)NR^{A1}R^{B1}, -NR^{A1}SO₂R^{B1}, -SO₂NR^{A1}R^{B1}, -SO₂R^{A1}, -C(O)R^{A1}, -C(O)OR^{A1} and C₃₋₆ cycloalkyl;

het³ is a 5 or 6 membered heterocyclic ring or a phenyl ring which may be unsubstituted or substituted, and when substituted the ring is substituted with 1, 2 or 3 groups independently selected at each occurrence from: halo, C₁₋₄ alkyl, C₁₋₄ haloalkyl, -OR^{A1}, -NR^{A1}R^{B1}, -CN, -NO₂, -NR^{A1}C(O)R^{B1}, -C(O)NR^{A1}R^{B1}, -NR^{A1}SO₂R^{B1}, -SO₂NR^{A1}R^{B1}, -SO₂R^{A1}, -C(O)R^{A1}, -C(O)OR^{A1} and C₃₋₆ cycloalkyl;

R¹ and R² are independently selected at each occurrence from: H, halo, C₁₋₄ alkyl, C₁₋₄ haloalkyl, -OR^{A3}, -NR^{A3}R^{B3} and C₃₋₆ cycloalkyl;

R³ is selected from: H, C₁₋₄ alkyl, C₁₋₄ haloalkyl, and C₃₋₆ cycloalkyl;

R⁴ is independently selected at each occurrence from: halo, C₁₋₄ alkyl, C₁₋₄ haloalkyl, -CN, -OR^{A4}, -NR^{A4}R^{B4}, -SO₂R^{A4}, C₃₋₆ cycloalkyl and C₃₋₆ halocycloalkyl;

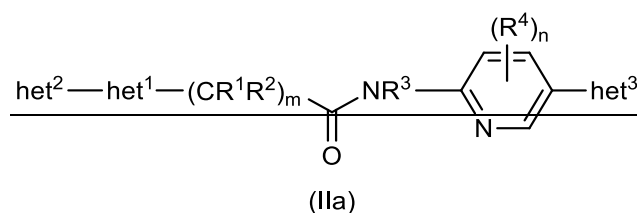
R⁵ and R⁶ are, at each occurrence, independently selected from: H, halo, C₁₋₄ alkyl, C₁₋₄ haloalkyl, -OR^{A2}, -NR^{A2}R^{B2}, -CN, -SO₂R^{A2}, and C₃₋₆ cycloalkyl;

m is selected from, 1, 2 or 3;

n is selected from 0, 1 or 2; and

R^{A1} , R^{B1} , R^{A2} , R^{B2} , R^{A3} , R^{B3} , R^{A4} and R^{B4} are at each occurrence independently selected from: H, C_{1-4} alkyl, C_{1-4} haloalkyl.

2. ~~A compound of claim 1, wherein the compound is a compound according to formulae (IIa):~~

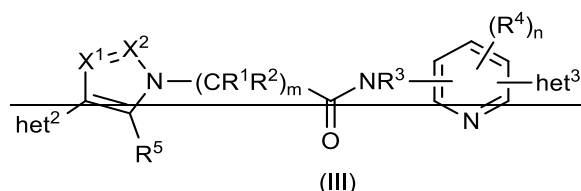


3. ~~A compound of claim 1 or claim 2, wherein het¹ represents a 5 membered heterocyclic ring system being (A) or (B):~~

~~(A) selected from unsubstituted or substituted: pyrazole, imidazole, and triazole; or~~

~~(B) selected from unsubstituted or substituted: imidazole, pyrazole or thiophene.~~

4. ~~A compound of claim 1, wherein the compound is a compound according to formula (III):~~



wherein

~~X¹ and X² are selected from CR⁶ and N; and~~

~~R⁵ and R⁶ are, at each occurrence, independently selected from: H, halo, C₁₋₄ alkyl, C₁₋₄ haloalkyl, OR^{A2}, NR^{A2}R^{B2}, CN, SO₂R^{A2}, and C₃₋₆ cycloalkyl.~~

5.2. ~~A compound of any preceding claim 1, wherein het² is a 5 or 6 membered heterocyclic ring which may be unsubstituted or substituted, and when substituted the ring is substituted with 1, 2 or 3 groups selected from: halo, C₁₋₄ alkyl, C₁₋₄ haloalkyl, -OR^{A1}, -NO₂, -NR^{A1}C(O)R^{B1}, -NR^{A1}SO₂R^{B1}, -SO₂NR^{A1}R^{B1}, -SO₂R^{A1}, -C(O)R^{A1}, -C(O)OR^{A1} and C₃₋₆ cycloalkyl;~~

provided that het² is not pyridyl.

6.3. ~~A compound of any of claims 1 to 4 or claim 2, wherein het² represents a ring selected from unsubstituted or substituted: pyrazole, imidazole, pyridine, pyrazine, pyrimidine, pyridazine, pyran, tetrahydropyran, dihydropyran, piperidine, piperazine, morpholine, thiomorpholine, oxazine, dioxine, dioxane, thiazine, oxathiane and dithiane.~~

7.4. ~~A compound of any preceding claim, wherein het³ represents an aromatic, saturated or unsaturated 6 membered heterocyclic ring which is unsubstituted or substituted and comprises at least one nitrogen atom.~~

~~8.5.~~ A compound of any preceding claim, wherein het³ represents a ring selected from unsubstituted or substituted: pyrimidine, pyrazine, pyridazine, piperazine, dioxine, dioxane, morpholine and thiomorpholine.

~~9.6.~~ A compound of any preceding claim, wherein R¹ and R² may be independently selected at each occurrence from: H, chloro, fluoro, methyl, ethyl, trifluoromethyl, trifluoroethyl, -OCF₃, -OH, -OMe, -OEt, -NH₂, -NHMe, and -NMe₂.

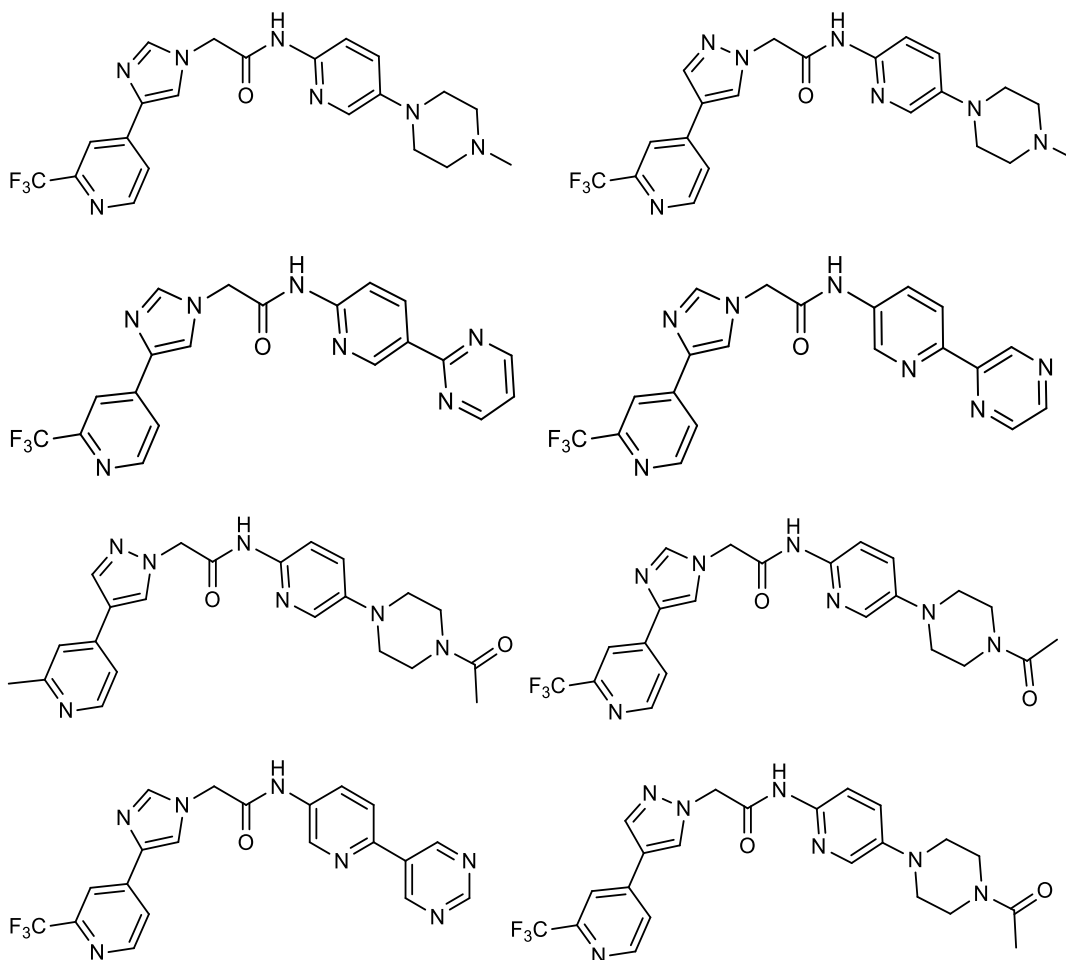
~~10.7.~~ A compound of any preceding claim, wherein R³ is H or methyl.

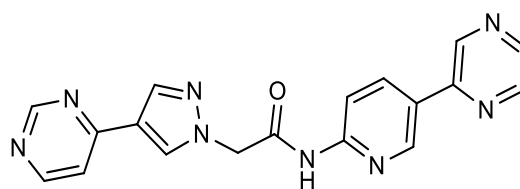
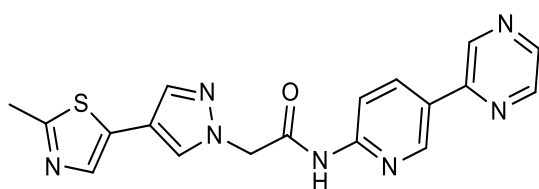
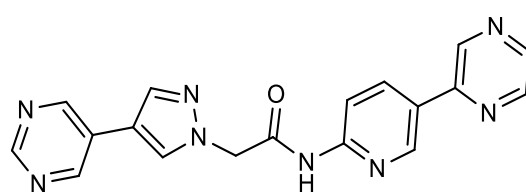
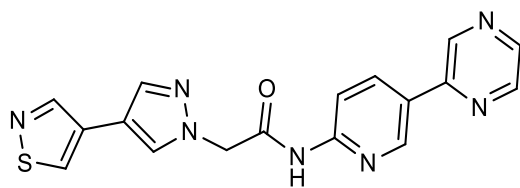
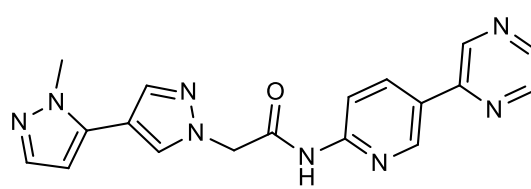
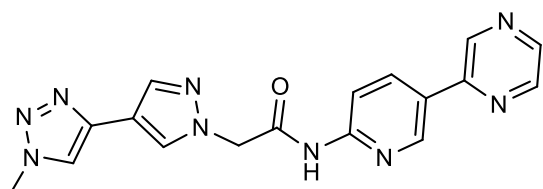
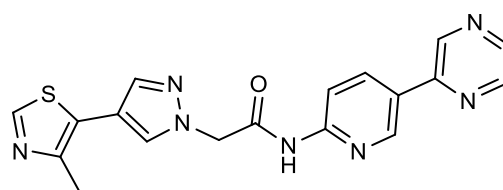
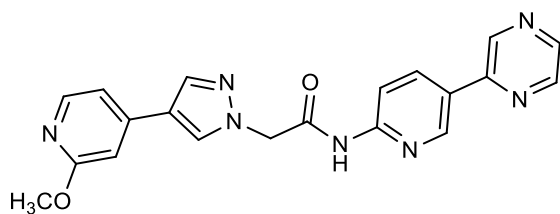
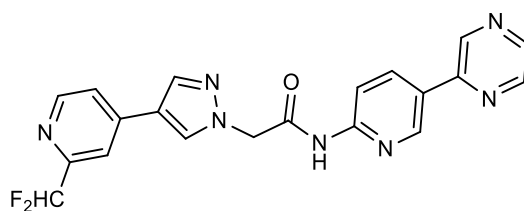
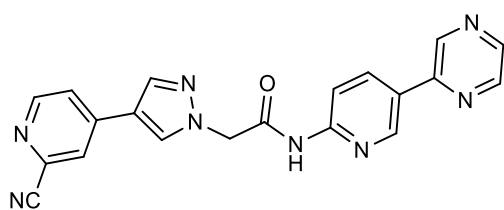
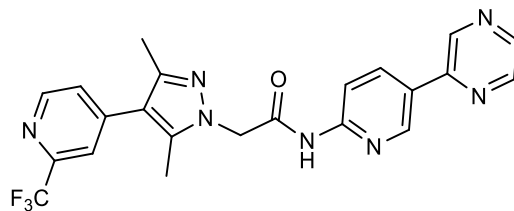
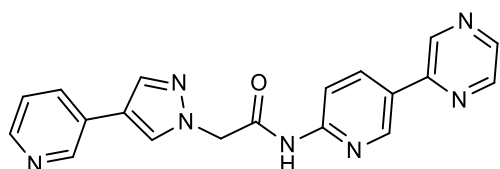
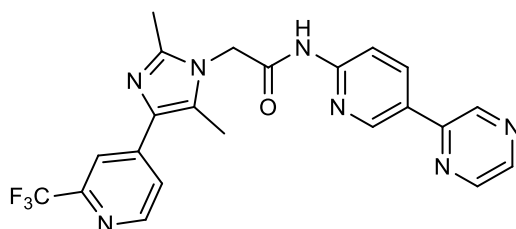
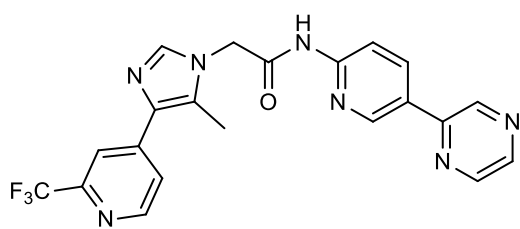
~~11.8.~~ A compound of any preceding claim, wherein R⁴ is independently selected at each occurrence from: H, chloro, fluoro, methyl, ethyl, trifluoromethyl, trifluoroethyl, -OCF₃, -OH, -OMe, -OEt, -NH₂, -NHMe, and -NMe₂.

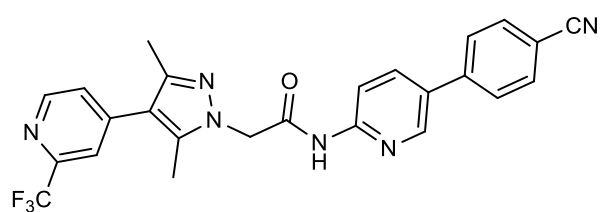
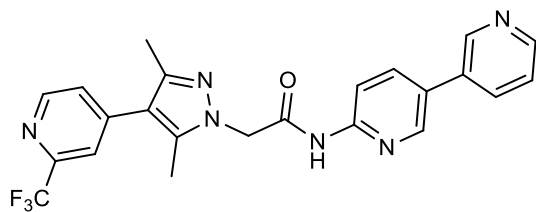
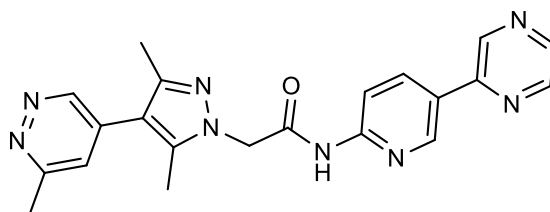
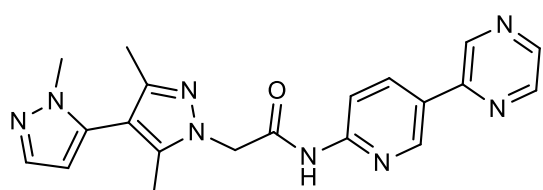
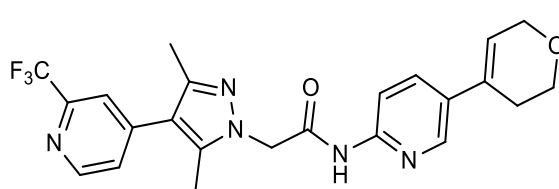
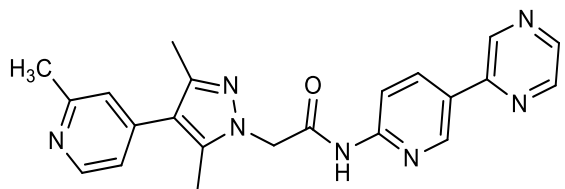
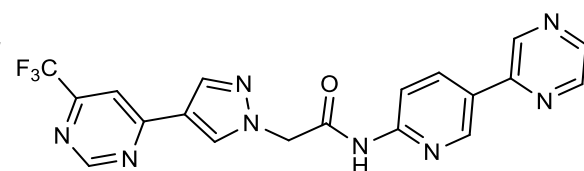
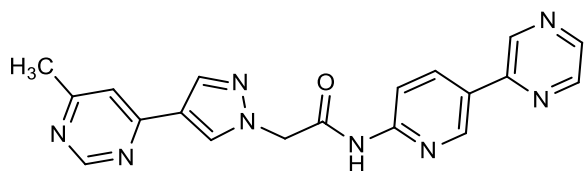
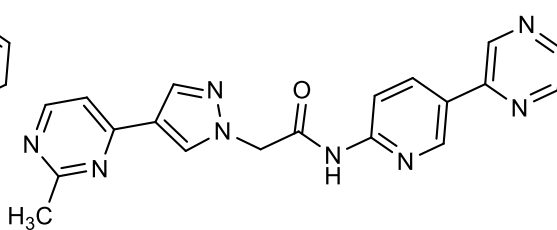
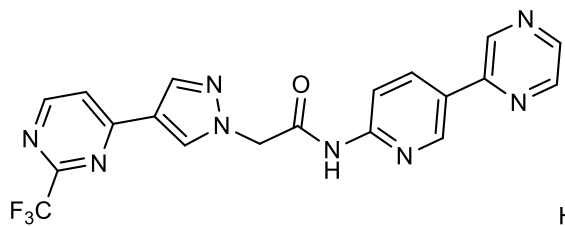
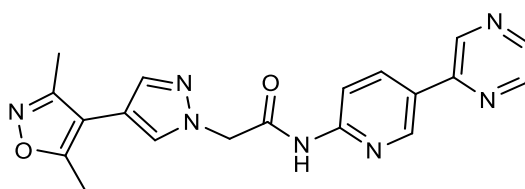
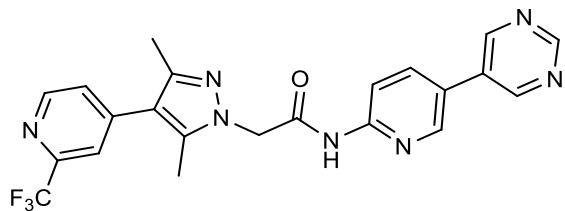
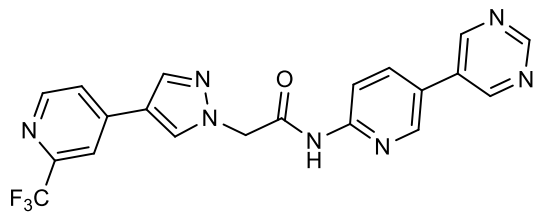
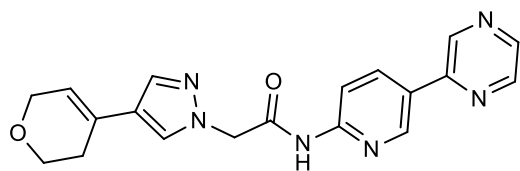
~~12.9.~~ A compound of any preceding claim, wherein m is 1.

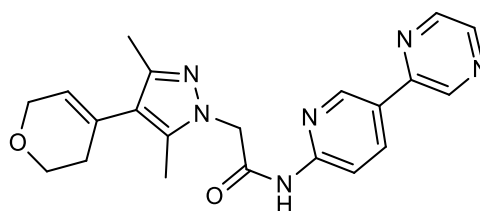
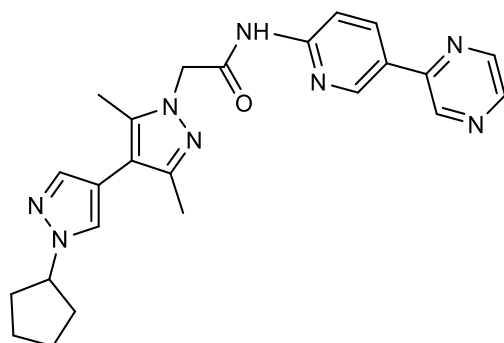
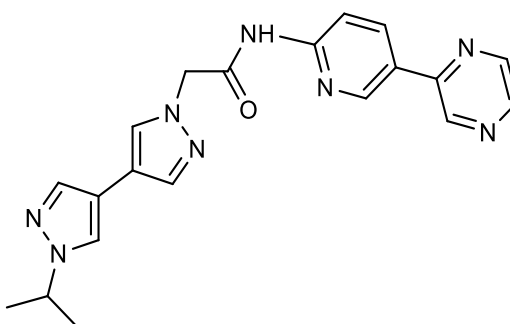
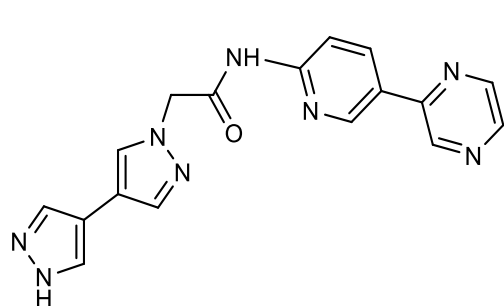
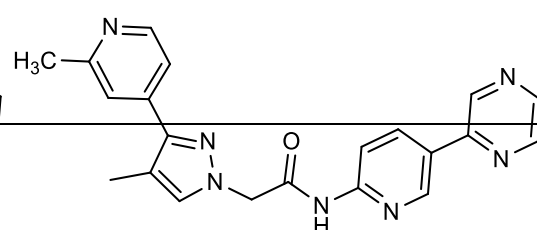
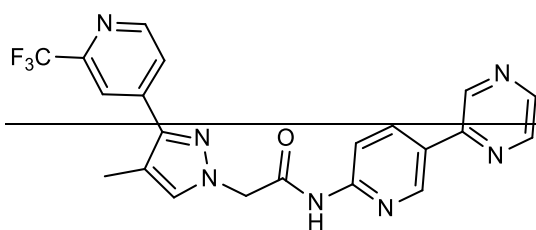
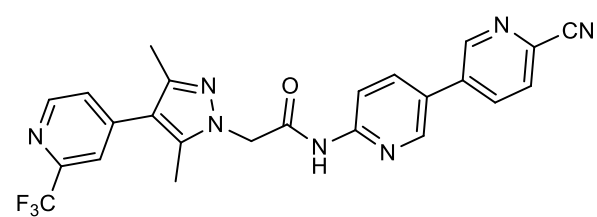
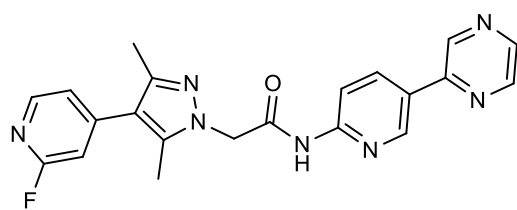
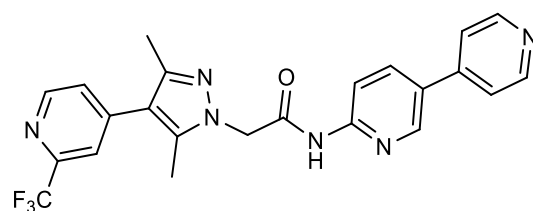
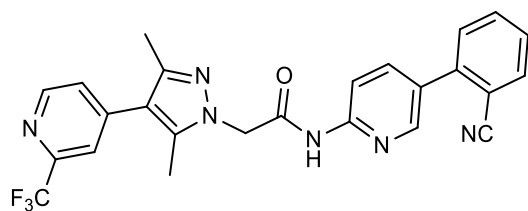
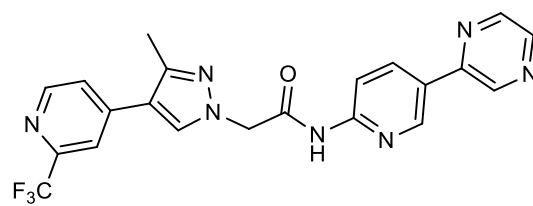
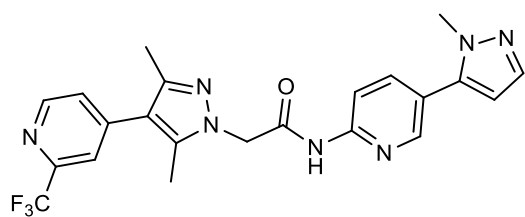
~~13.10.~~ A compound of any preceding claim, wherein n is 0.

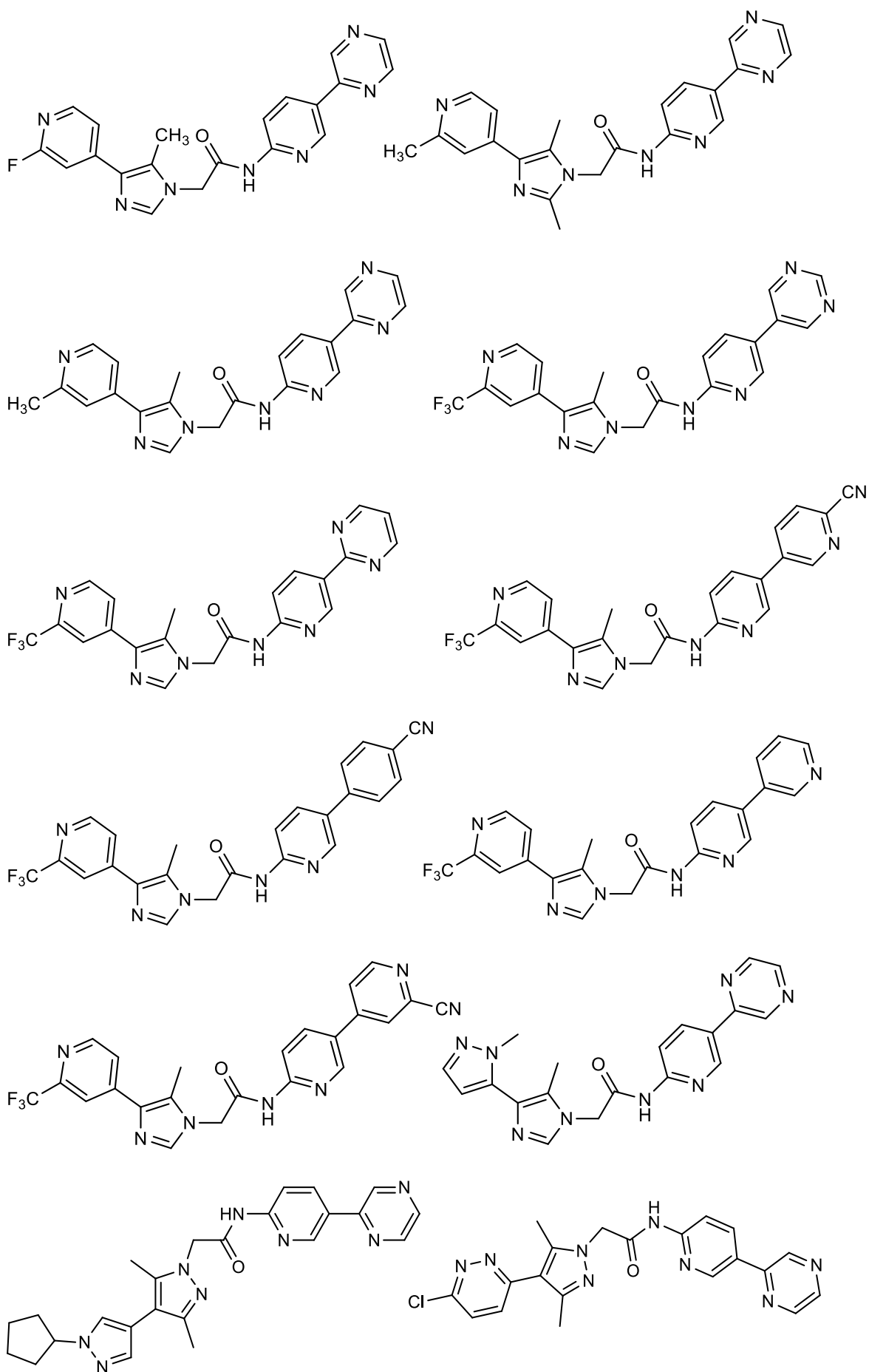
~~14.11.~~ A compound of claim 1, wherein the compound is selected from:

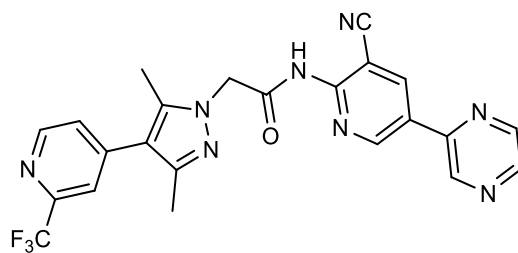
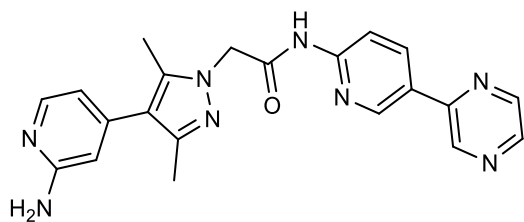
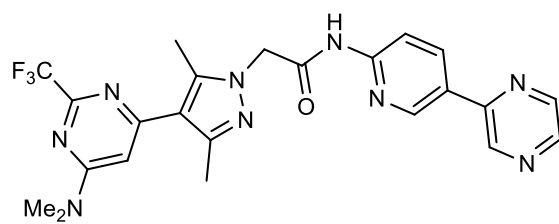
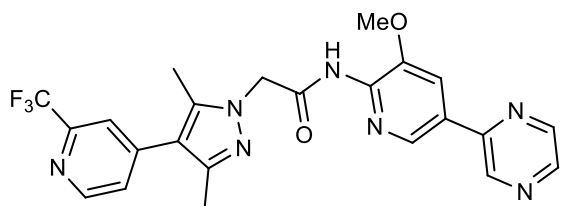
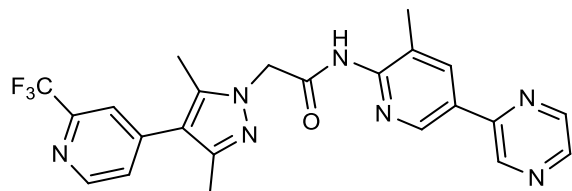
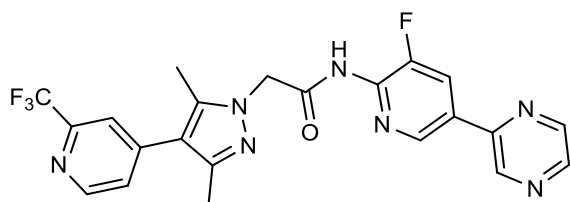
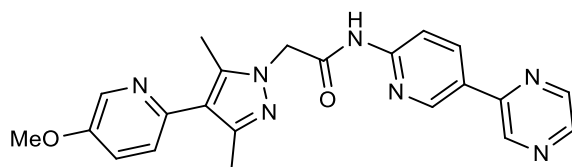
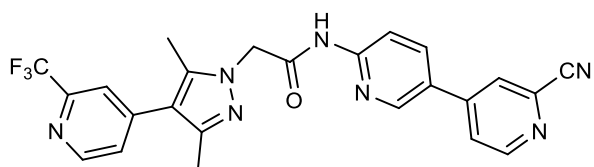
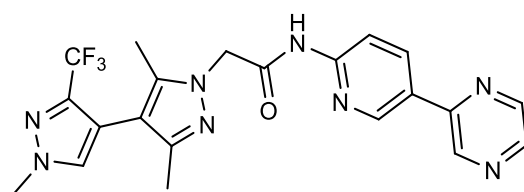
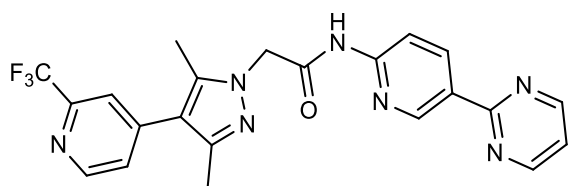
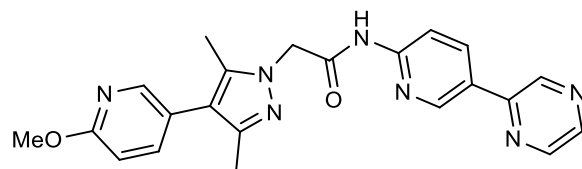
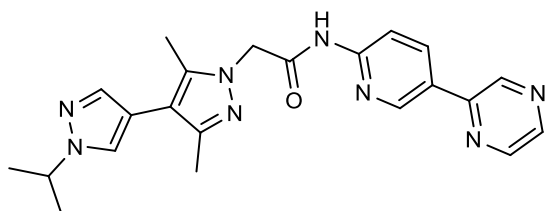
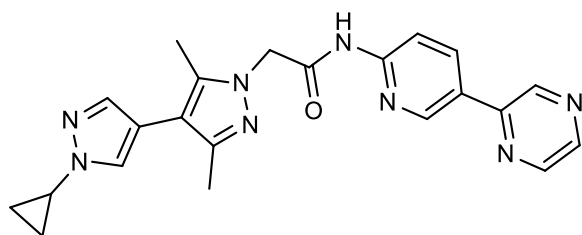
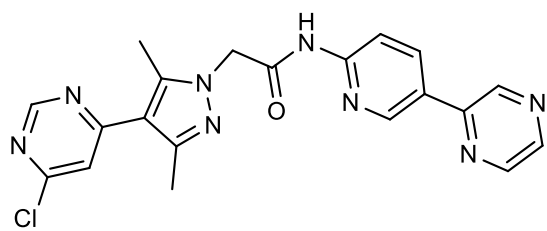


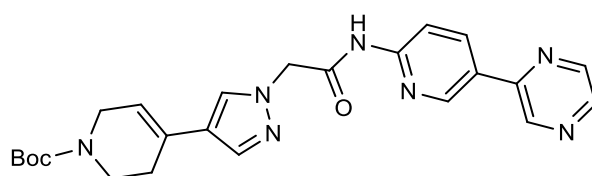
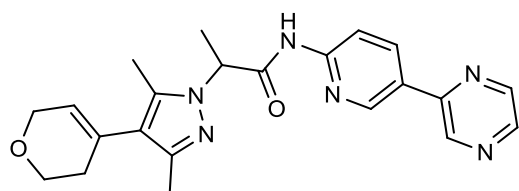
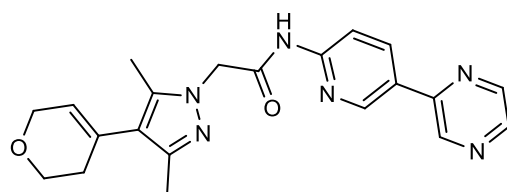
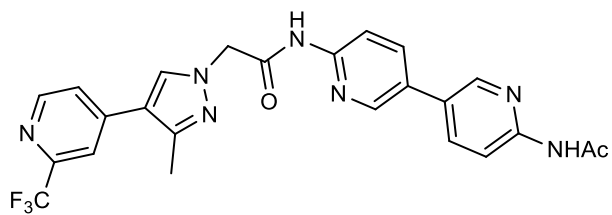
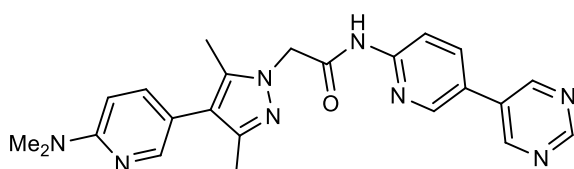
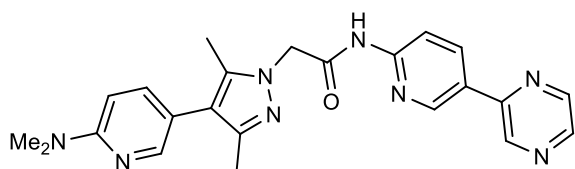
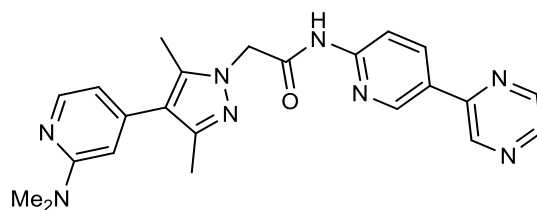
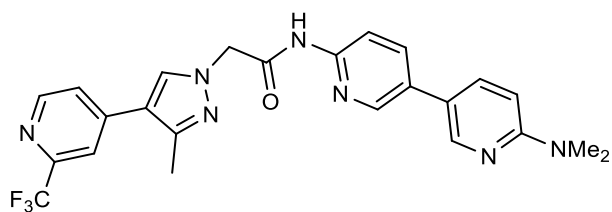
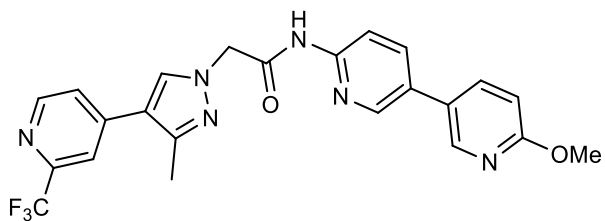
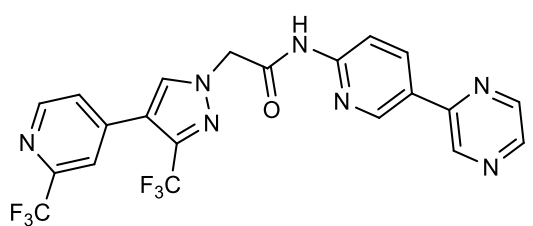
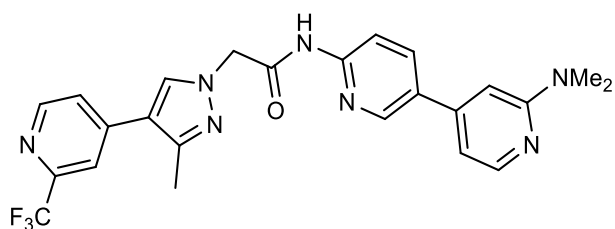
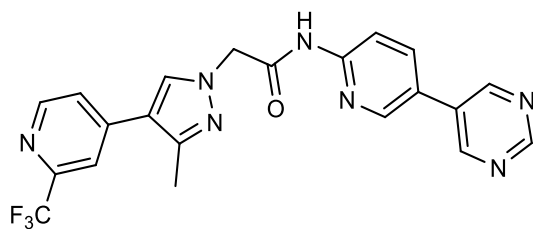
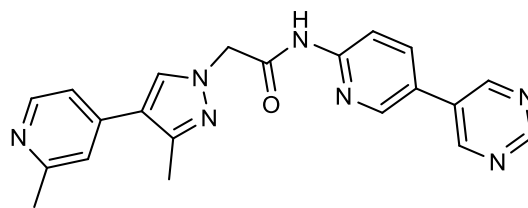
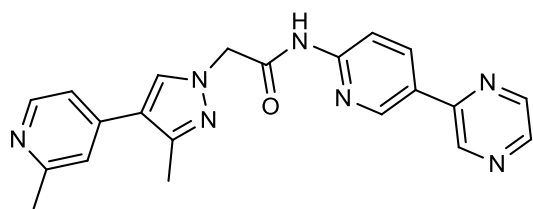


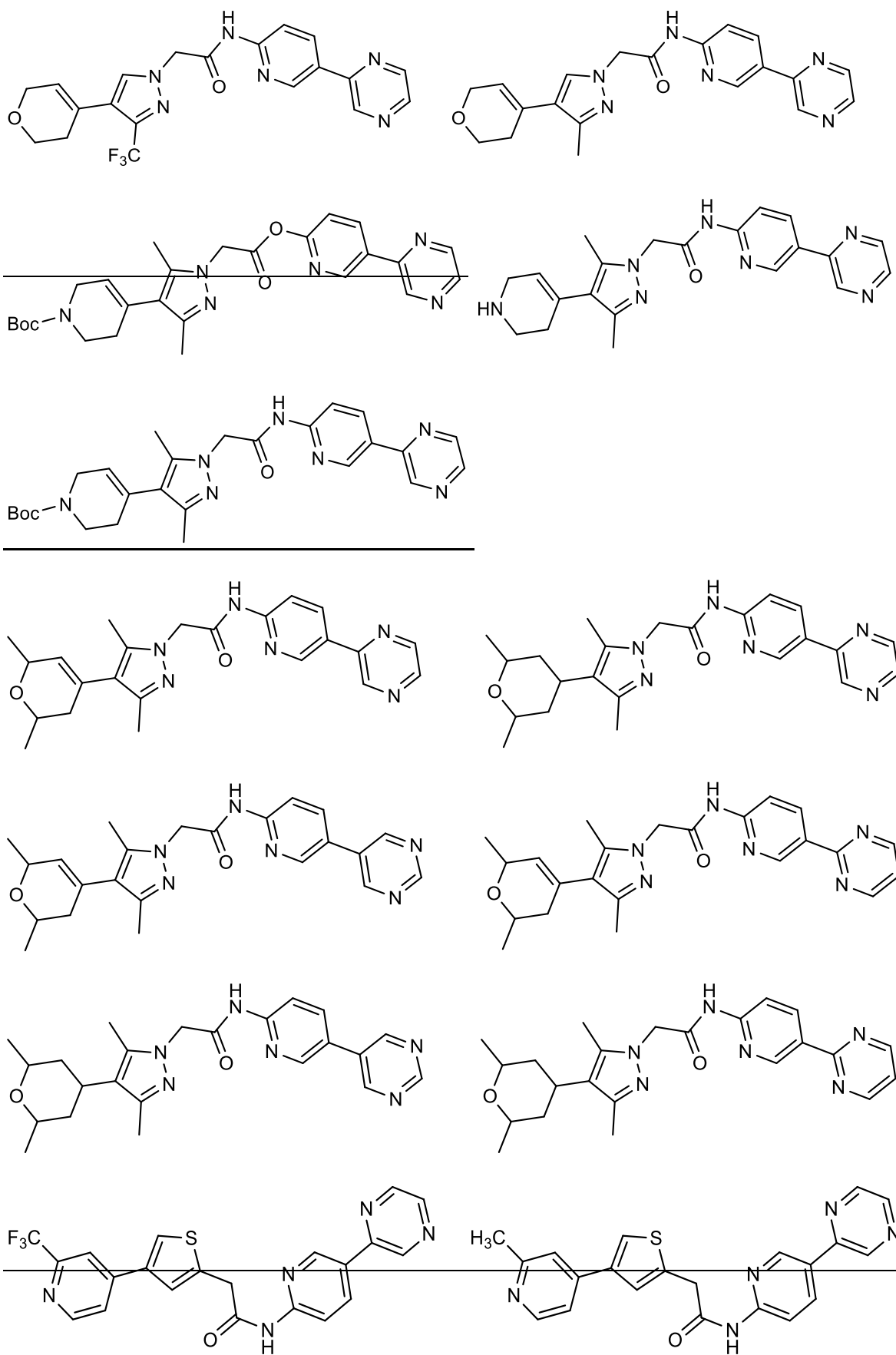


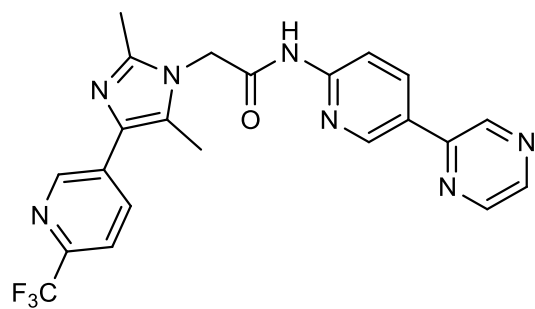
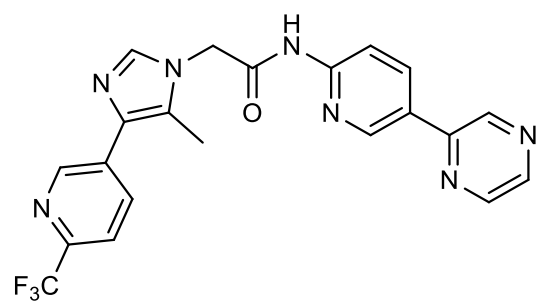
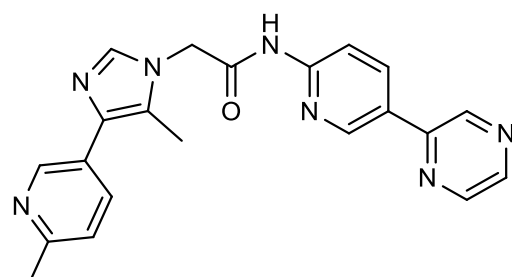
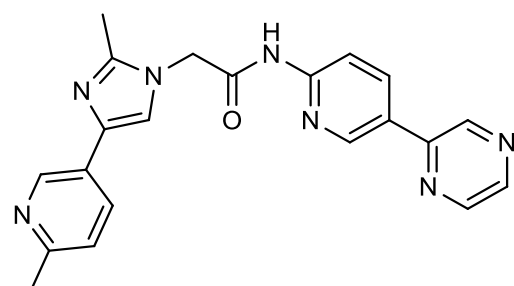
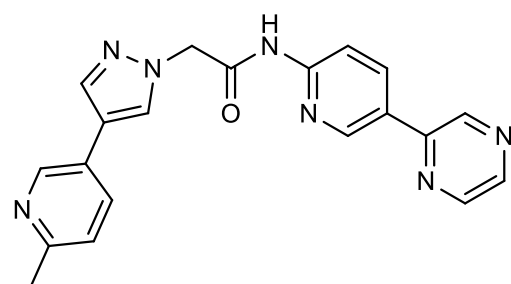
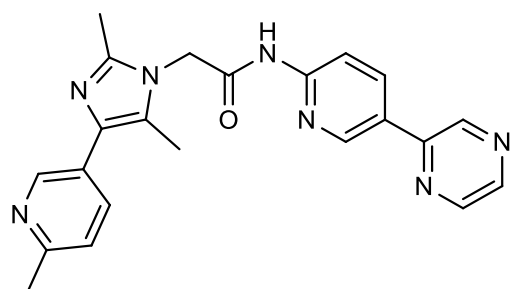
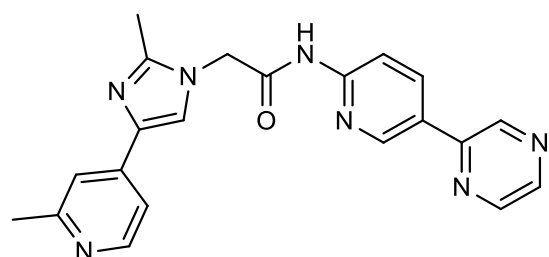
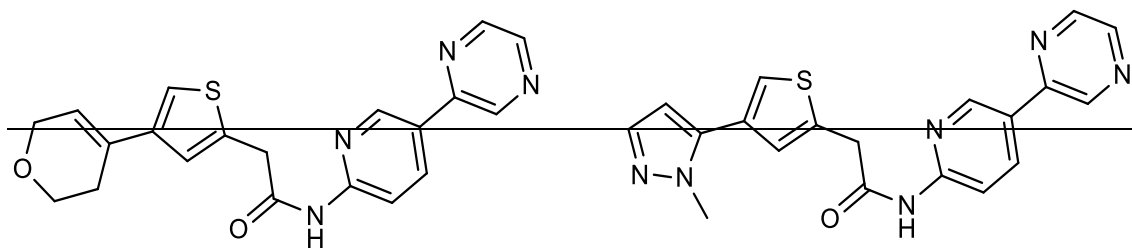


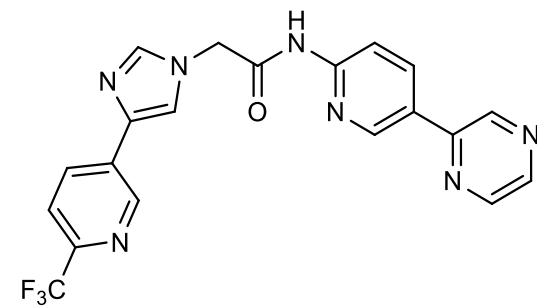
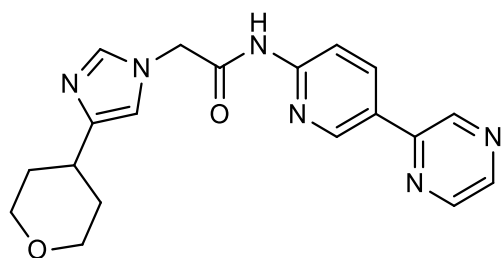
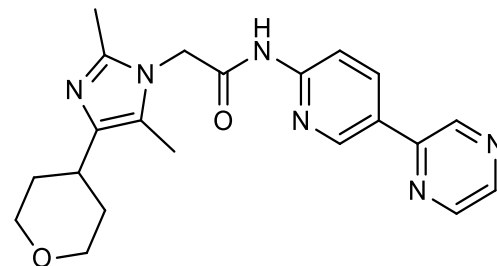
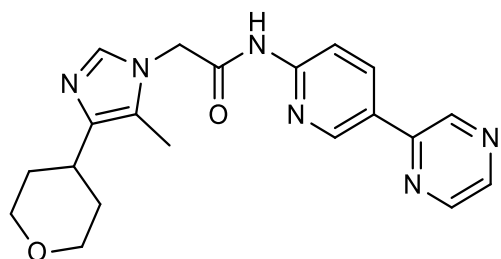
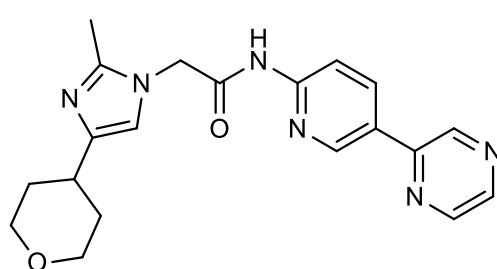
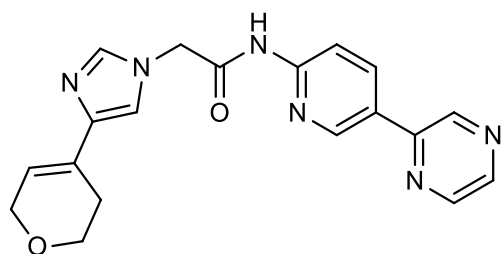
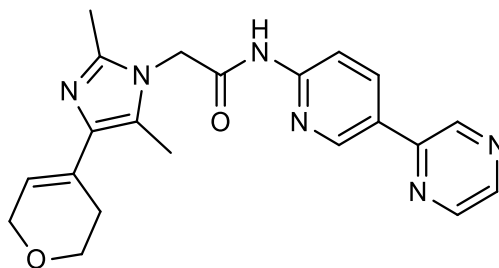
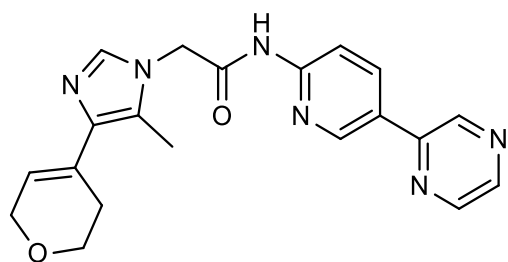
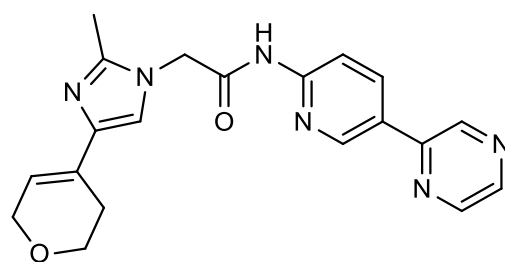
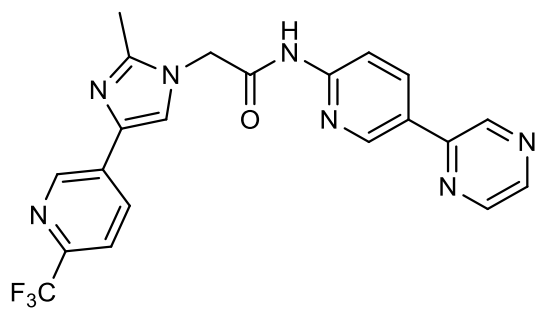


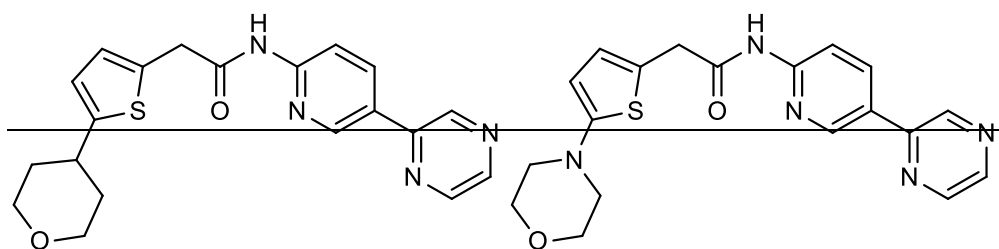
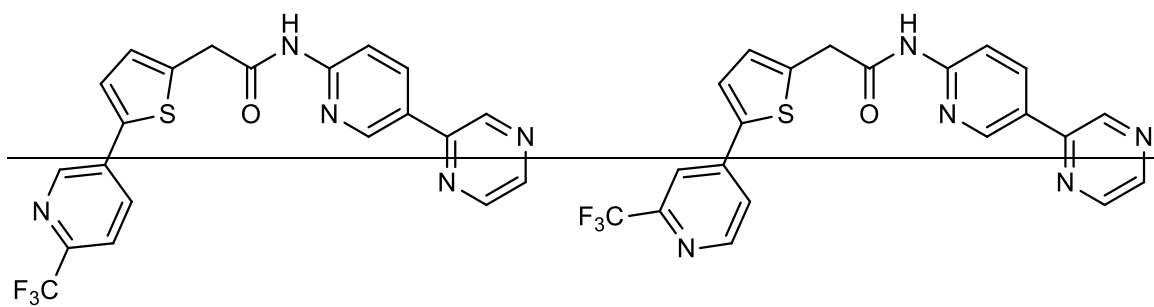
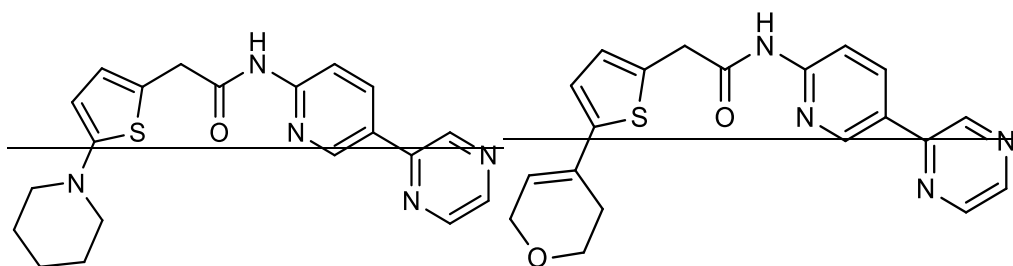
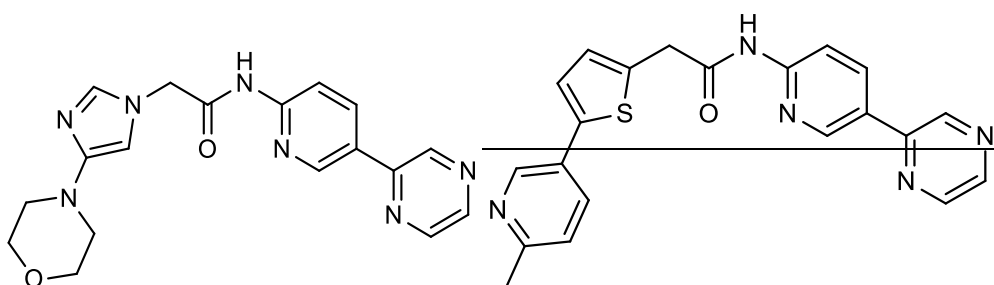
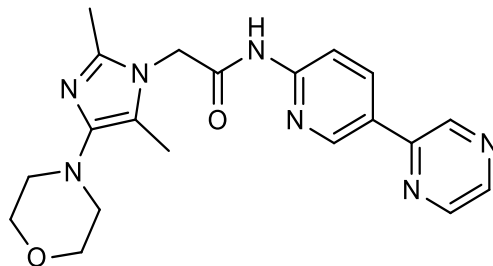
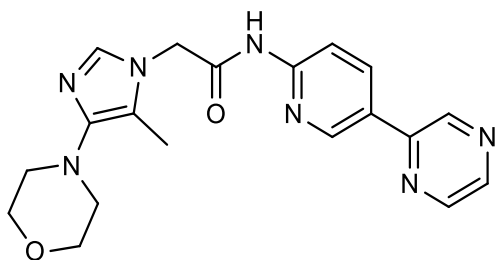
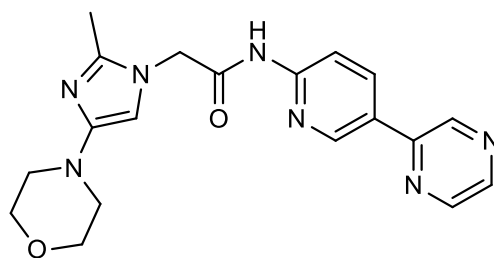
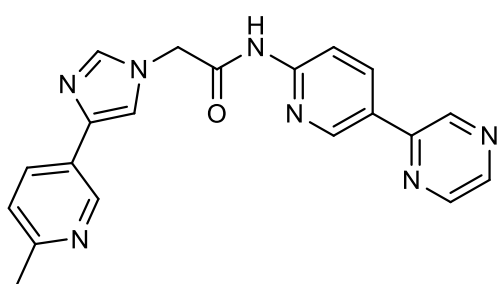


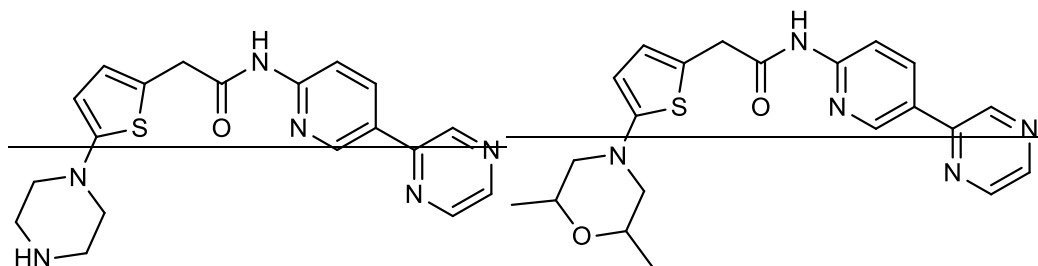












~~45.12.~~ The compound of any preceding claim for use as a medicament.

~~46.13.~~ The compound of any of claims 1 to ~~44~~11, wherein the compound is for use in the modulation of Wnt signalling.

~~47.14.~~ The compound of any of claims 1 to ~~44~~11 for use in the treatment of a condition which can be modulated by inhibition of Porcn.

~~48.15.~~ The compound for use of claim ~~47~~14, wherein the condition treatable by the inhibition of Porcn may be selected from: cancer, sarcoma, melanoma, skin cancer, haematological tumors, lymphoma, carcinoma, and leukemia.

~~49.16.~~ The compound of claim ~~47-14~~ or claim ~~48~~15, wherein the condition is selected from: esophageal squamous cell carcinoma, gastric cancer, glioblastomas, astrocytomas; retinoblastoma, osteosarcoma, chondrosarcoma, Ewing's sarcoma, rhabdomyosarcoma, Wilm's tumor, basal cell carcinoma, non-small cell lung cancer, brain tumour, hormone refractory prostate cancer, prostate cancer, metastatic breast cancer, breast cancer, metastatic pancreatic cancer, pancreatic cancer, colorectal cancer, cervical cancer, head and neck squamous cell carcinoma and cancer of the head and neck

~~20.17.~~ The compound of claim ~~47-14~~ or claim ~~48~~15, wherein the condition is selected from: skin fibrosis, idiopathic pulmonary fibrosis, renal interstitial fibrosis, liver fibrosis, proteinuria, kidney graft rejection, osteoarthritis, Parkinson's disease, cystoid macular edema, uveitis associated cystoid macular edema, retinopathy, diabetic retinopathy and retinopathy of prematurity

~~24.18.~~ The compound of any of claims 1 to ~~44~~11 for use in the treatment of a condition selected from: cancer, sarcoma, melanoma, skin cancer, haematological tumors, lymphoma, carcinoma, and leukemia.

~~22.19.~~ The compound of claim ~~24~~18, wherein the condition is selected from: esophageal squamous cell carcinoma, gastric cancer, glioblastomas, astrocytomas; retinoblastoma, osteosarcoma, chondrosarcoma, Ewing's sarcoma, rhabdomyosarcoma, Wilm's tumor, basal cell carcinoma, non-small cell lung cancer, brain tumour, hormone refractory prostate cancer, prostate cancer, metastatic breast cancer, breast cancer, metastatic pancreatic cancer, pancreatic cancer, colorectal cancer, cervical cancer, head and neck squamous cell carcinoma and cancer of the head and neck.

~~23.20.~~ The compound of claim ~~24~~18, wherein the condition is selected from: skin fibrosis, idiopathic pulmonary fibrosis, renal interstitial fibrosis, liver fibrosis, proteinuria, kidney graft rejection,

osteoarthritis, Parkinsons's disease, cystoid macular edema, uveitis associated cystoid macular edema, retinopathy, diabetic retinopathy and retinopathy of prematurity.

~~24.21.~~ A use of a compound of any of claims 1 to ~~44-11~~ in the manufacture of a medicament for the treatment of a condition which is modulated by Porcn.

~~25.22.~~ A pharmaceutical formulation comprising a compound of any of claims 1 to ~~44-11~~ and a pharmaceutically acceptable excipient.

~~26.23.~~ The pharmaceutical composition of claim ~~2522~~, wherein the pharmaceutical composition is a combination product comprising an additional pharmaceutically active agent.