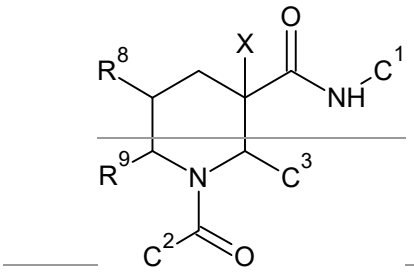
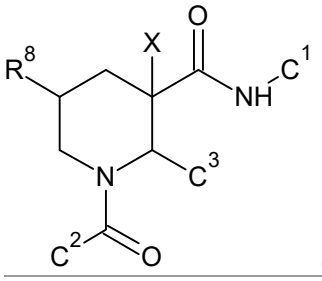
CLAIMS

1. A compound having the general formula ~~(XXI)~~(XI)



~~(XXI)~~



(XI),

and pharmaceutically acceptable salts, hydrates and rotamers thereof;

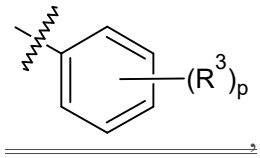
wherein

C^1 is selected from the group consisting of aryl and heteroaryl, wherein the heteroaryl group has from 1-3 heteroatoms as ring members selected from N, O and S; and wherein said aryl and heteroaryl groups are optionally substituted with from 1 to 3 R^1 substituents;

C^2 is selected from the group consisting of aryl and heteroaryl, wherein the heteroaryl group has from 1-3 heteroatoms as ring members selected from N, O and S; and wherein said aryl and heteroaryl groups are optionally substituted with from 1 to 3 R^2 substituents;

~~C^3 is selected from the group consisting of C_{1-8} alkyl or heteroalkyl, C_{3-8} cycloalkyl, C_{3-8} cycloalkyl C_{1-4} alkyl, aryl, aryl C_{1-4} alkyl, heteroaryl, heteroaryl C_{1-4} alkyl, heterocycloalkyl or heterocycloalkyl C_{1-4} alkyl, wherein the heteroalkyl group has from 1-3 heteroatoms selected from N, O and S, wherein the heterocycloalkyl group or portion has from 1-3 heteroatoms selected from N, O and S, and wherein the heteroaryl group has from 1-3 heteroatoms as ring members selected from N, O and S, and each C^3 is optionally substituted with from 1 to 3 R^3 substituents;~~

C^3 is



wherein

p is an integer selected from 0, 1, 2, or 3;

each R^1 is independently selected from the group consisting of halogen, —CN, -R^c, —CO_2R^a, —$CONR^aR^b$, —$C(O)R^a$, —$OC(O)NR^aR^b$, —$NR^bC(O)R^a$, —$NR^bC(O)_2R^c$, —NR^a—$C(O)NR^aR^b$, —$NR^aC(O)NR^aR^b$, —NR^aR^b, —OR^a, and —$S(O)_2NR^aR^b$; wherein each R^a and R^b is independently selected from hydrogen, C_{1-8} alkyl, and C_{1-8} haloalkyl, or when attached to the same nitrogen atom can be combined with the nitrogen atom to form a five or six-membered ring having from 0 to 2 additional heteroatoms as ring members selected from N, O or S, and is optionally substituted with one or two oxo; each R^c is independently selected from the group consisting of C_{1-8} alkyl or heteroalkyl, C_{1-8} haloalkyl, C_{3-6} cycloalkyl, heterocycloalkyl, aryl and heteroaryl, and wherein the aliphatic and/or cyclic portions of R^a, R^b and R^c are optionally further substituted with from one to three halogen, hydroxy, methyl, amino, alkylamino and dialkylamino groups; and optionally when two R^1 substituents are on adjacent atoms, are combined to form a fused five or six-membered carbocyclic or heterocyclic ring;

each R^2 is independently selected from the group consisting of halogen, —CN, —NO_2, —R^f, —CO_2R^d, —$CONR^dR^e$, —$C(O)R^d$, —$OC(O)NR^dR^e$, —$NR^eC(O)R^d$, —$NR^eC(O)_2R^f$, —$NR^dC(O)NR^dR^e$, —NR^dR^e, —OR^d, and —$S(O)_2NR^dR^e$; wherein each R^d and R^e is independently selected from hydrogen, C_{1-8} alkyl, and C_{1-8} haloalkyl, or when attached to the same nitrogen atom can be combined with the nitrogen atom to form a five or six-membered ring having from 0 to 2 additional heteroatoms as ring members selected from N, O or S, and is optionally substituted with one or two oxo; each R^f is independently selected from the group consisting of C_{1-8} alkyl or heteroalkyl, C_{1-8} haloalkyl, C_{3-6} cycloalkyl, heterocycloalkyl, aryl and heteroaryl, and wherein the aliphatic and/or cyclic portions of R^d, R^e and R^f are optionally further substituted with from one to three halogen, hydroxy, methyl, amino, alkylamino and dialkylamino groups, and optionally when two R^2 groups are on adjacent atoms, they are combined to form a five- or six-membered ring;

each R^3 is independently selected from the group consisting of halogen, —CN, —R^i, —CO_2R^g, —$CONR^gR^h$, —$C(O)R^g$, —$C(O)R^i$, —$OC(O)NR^gR^h$, —$NR^hC(O)R^g$, —$NR^hCO_2R^i$, —

$NR^gC(O)NR^gR^h$, —NR^gR^h, —OR^g, —OR^j, —$S(O)_2NR^gR^h$, —X^4—R^j, —NH—X^4—R^j, —O—X^4—R^j, —X^4—NR^gR^h, —X^4—NHR^j, —X^4—$CONR^gR^h$, —X^4—$NR^hC(O)R^g$, —X^4—CO_2R^g, —O—X^4—CO_2R^g, —NH—X^4—CO_2R^g, —X^4—$NR^hCO_2R^i$, —O—X^4—$NR^hCO_2R^i$, —NHR^j and —$NHCH_2R^j$, wherein X^4 is a C_{1-4} alkylene; each R^g and R^h is independently selected from hydrogen, C_{1-8} alkyl or heteroalkyl, C_{3-6} cycloalkyl and C_{1-8} haloalkyl, or when attached to the same nitrogen atom can be combined with the nitrogen atom to form a four-, five- or six-membered ring having from 0 to 2 additional heteroatoms as ring members selected from N, O or S and is optionally substituted with one or two oxo; each R^i is independently selected from the group consisting of C_{1-8} alkyl or heteroalkyl, C_{1-8} haloalkyl, C_{3-6} cycloalkyl, heterocycloalkyl, aryl and heteroaryl; and each R^j is selected from the group consisting of C_{3-6} cycloalkyl, imidazolyl, pyrimidinyl, pyrrolinyl, pyrrolyl, piperidinyl, morpholinyl, tetrahydrofuranyl, tetrahydropyranyl, and S,S-dioxo-tetrahydrothiopyranyl, and wherein the aliphatic and/or cyclic portions of R^g, R^h, R^i and R^j are optionally further substituted with from one to three halogen, methyl, CF_3, hydroxy, C_{1-4} alkoxy, C_{1-4} alkoxy-C_{1-4} alkyl, —C(O)O—C_{1-8} alkyl, amino, alkylamino and dialkylamino groups, and optionally when two R^3 groups are on adjacent atoms, they are combined to form a five- or six-membered ring;

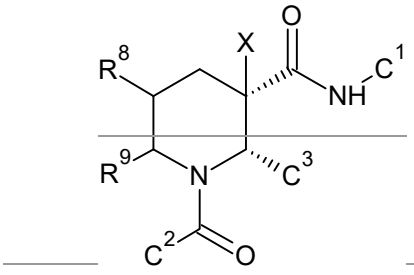
X is hydrogen or CH_3; and

R^8 ~~and R^9 are independently from each other selected from the group consisting of hydrogen, halogen, C_1-C_8 alkyl, C_1-C_8 haloalkyl, and C_1-C_8 alkoxy or R^8 and R^9 are combined to form a fused saturated or unsaturated mono- or multi-ring carbocycle in which one or more of the ring carbon atoms may be replaced independently from each other by N, S, or O~~is selected from the group consisting of chloro, C_1-C_4 alkyl, C_1-C_4 haloalkyl, and C_1-C_4 alkoxy,

and wherein in the compound, one hydrogen may be replaced by deuterium~~with the proviso that at least one of R^8 and R^9 is **not** hydrogen~~.

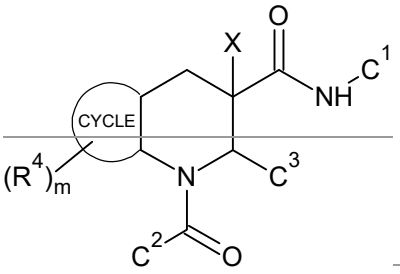
2. The compound according to claim 1, wherein X is hydrogen.

~~3. The compound according to claim 1 or claim 2, wherein the compound has formula (XXIa)~~

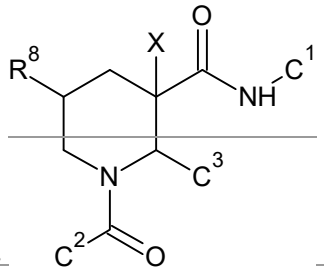


(XXIa)

4.3. The compound according to any one of claims 1 to 32, wherein the compound has formula (I) or formula (XI):

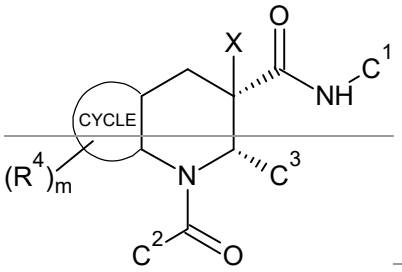


(I) or

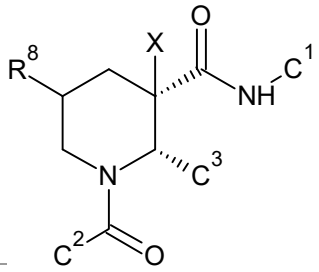


(XI),

preferably has formula (Ia) or formula (XIa):



(Ia) or



(XIa),

wherein

R^4 is selected from the group consisting of cyano, halo, nitro, hydroxyl, $(C_1$-$C_6)$alkyl, $(C_3$-$C_6)$cycloalkyl, $(C_1$-$C_6)$alkyl-OH, $(C_1$-$C_6)$-alkyl-NR^5R^6, trifluoromethyl, $(C_1$-$C_6)$alkoxy, $(C_1$-$C_6)$thioalkoxy, phenoxy, COR^7, NR^5R^6, $NHCO(C_1$-$C_6)$-alkyl, SO_3H, $SO_2(C_1$-$C_6)$-alkyl and $SO_2NR^5R^6$;

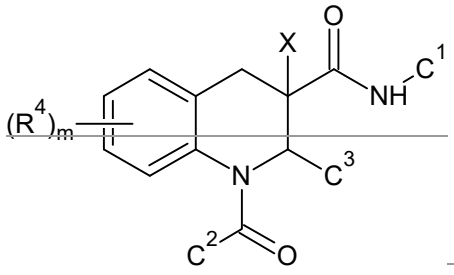
R^5 and R^6 are each independently selected from the group consisting of hydrogen, $(C_1$-$C_6)$alkyl and $(C_3$-$C_6)$cycloalkyl;

R^7 is independently hydroxyl, $(C_1$-$C_6)$alkoxy, phenoxy or $-NR^5R^6$;

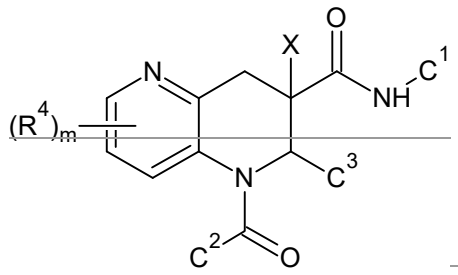
m is 0-4; and

CYCLE is a saturated or unsaturated mono- or multi-ring carbocycle in which one or more of the ring carbon atoms may be replaced independently from each other by N, S, or O.

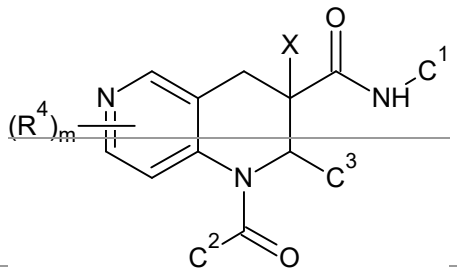
5. The compound according to any one of claims 1 to 4, wherein the compound has a formula selected from the group consisting of (II), (IIIa), (IIIb), (IIIc), and (IIId):



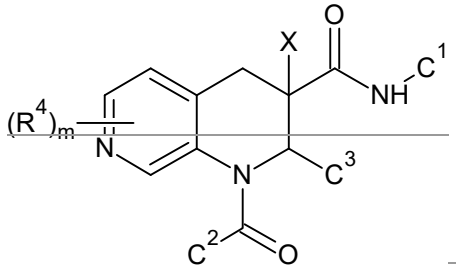
(II),



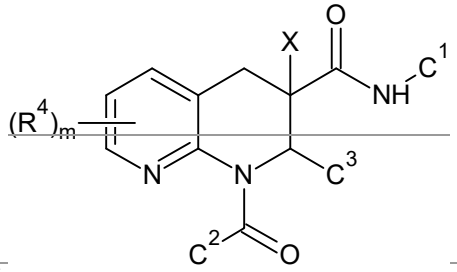
(IIIa),



(IIIb),

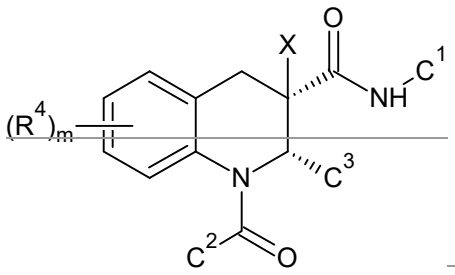


(IIIc), and

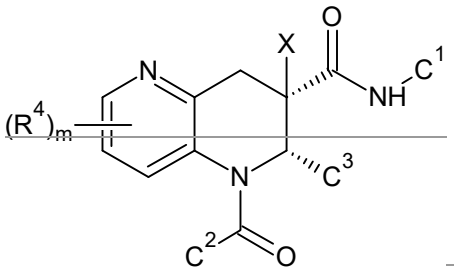


(IIId),

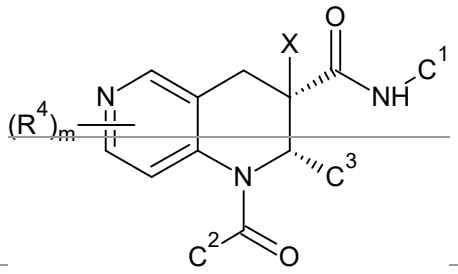
preferably has a formula selected from the group consisting of (IIa), (IIIe), (IIIf), (IIIg), and (IIIh):



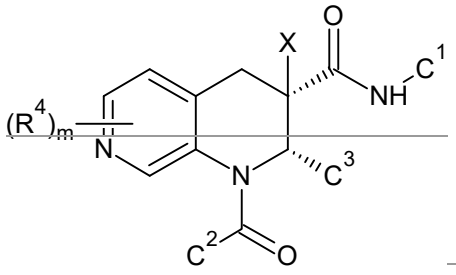
(IIa),



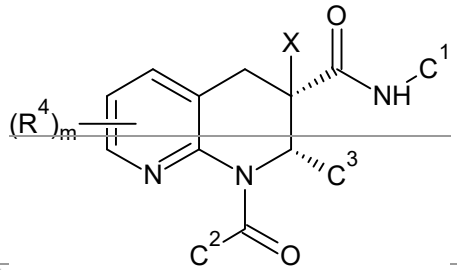
(IIIe),



(IIIf),

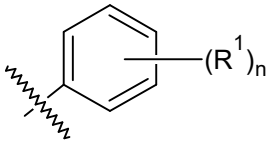


(IIIg), and



(IIIh).

6.4. The compound according to any one of claims 1 to 53, wherein C^1 is

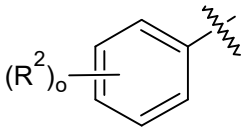


,

wherein

n is an integer selected from 0, 1, 2, or 3.

7.5. The compound according to any one of claims 1 to 64, wherein C^2 is

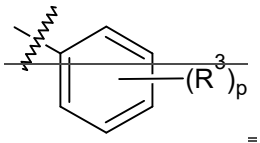


,

wherein

o is an integer selected from 0, 1, 2, or 3.

8. The compound according to any one of claims 1 to 7, wherein ~~C^3~~ is



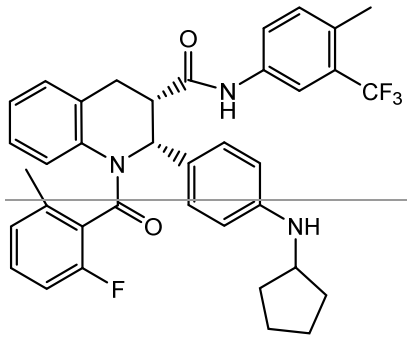
;

wherein

p is an integer selected from 0, 1, 2, or 3.

9.6. The compound according to any one of claims 1 to 4, 6, 7 or 85, wherein R_8 is selected from the group consisting of halogen, C_1-C_4 alkyl, C_1-C_4 haloalkyl, and C_1-C_4 alkoxy; preferably from the group consisting of fluoro, chloro, methyl, trifluoromethyl, and methoxy.

10. The compound according to any one of claims 1 to 8, wherein the compound is selected from the group consisting of



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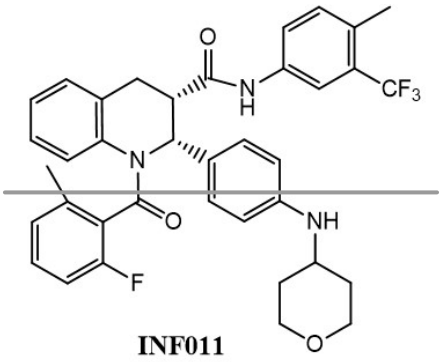

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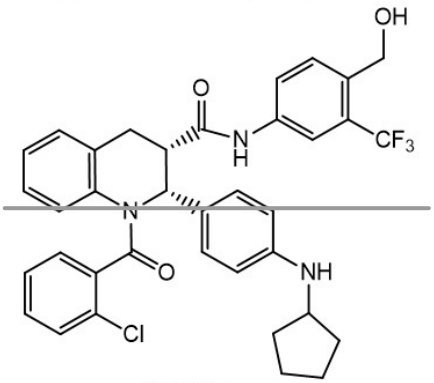

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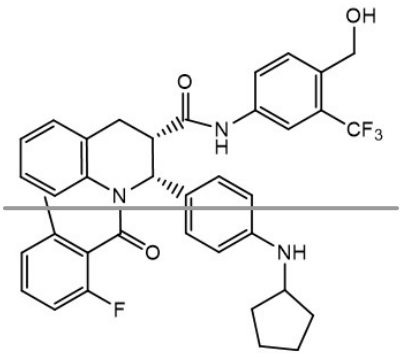

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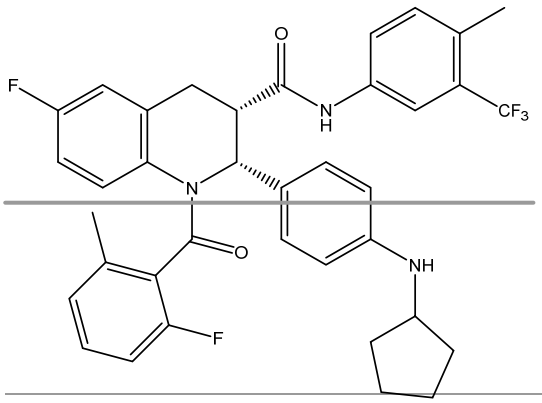

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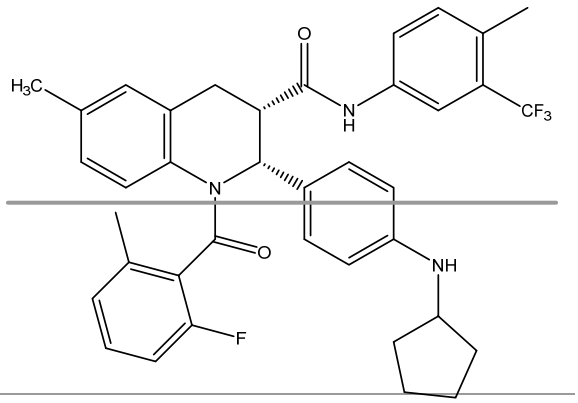

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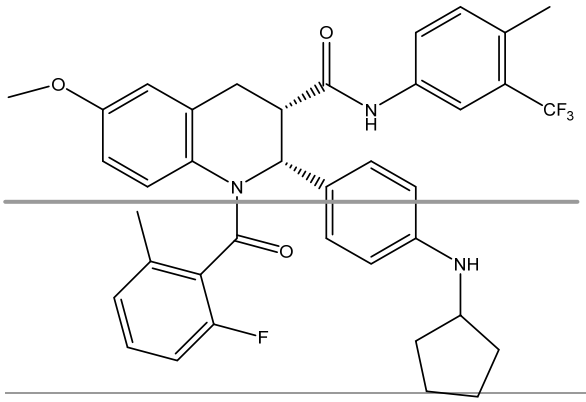

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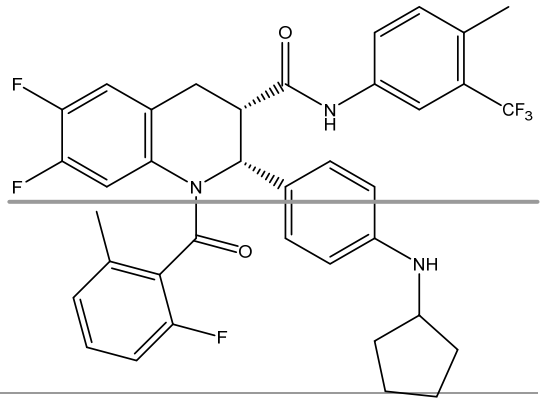

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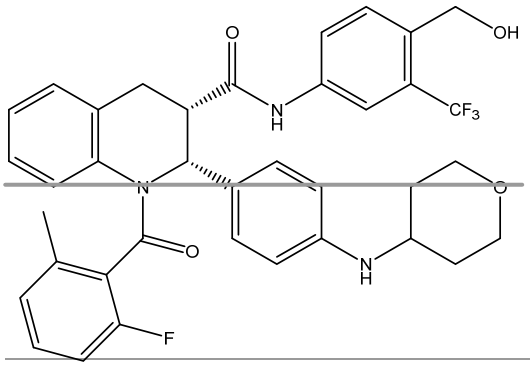

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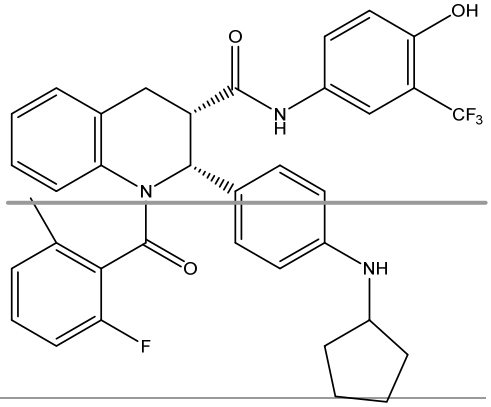

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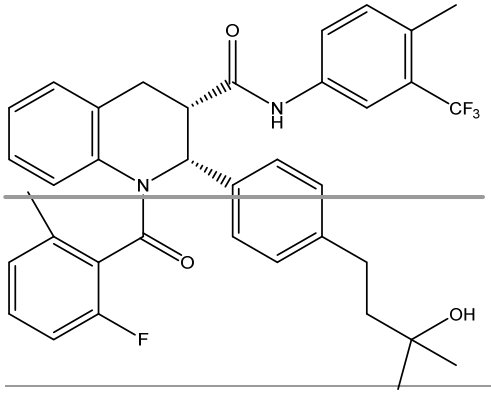

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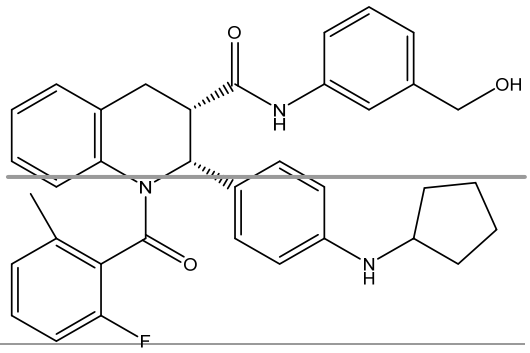

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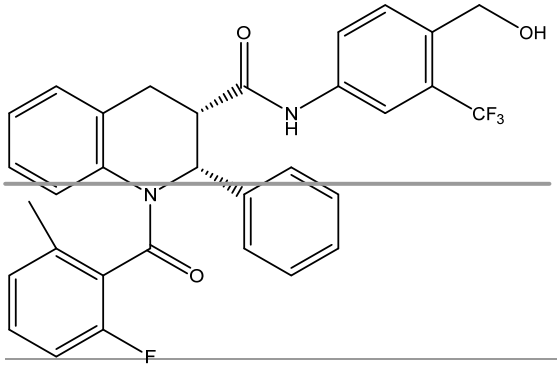

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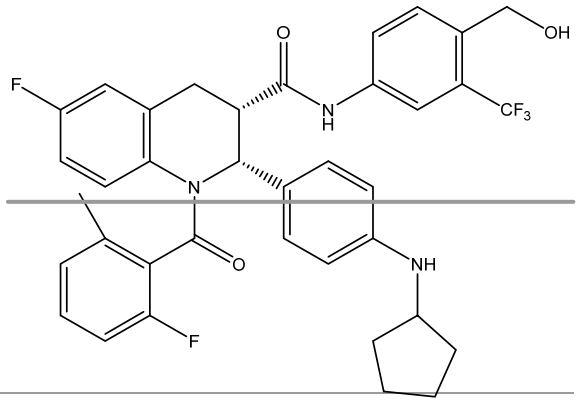

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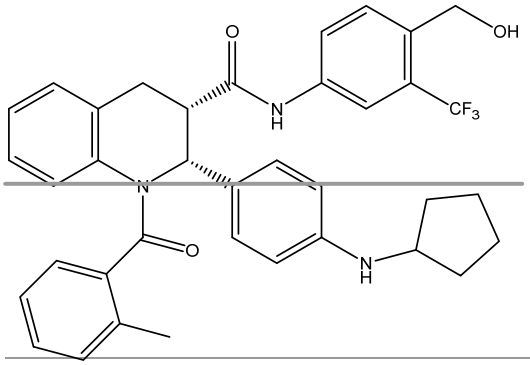

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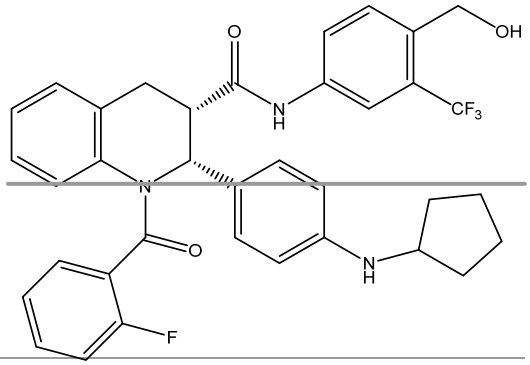

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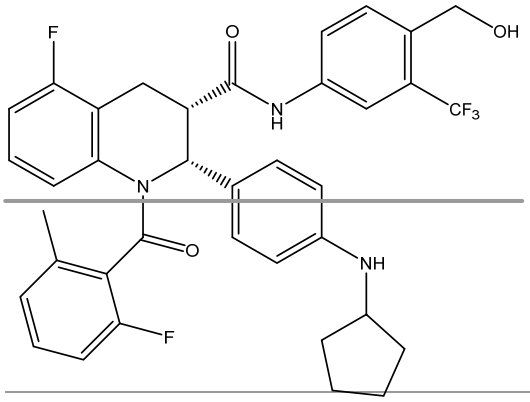

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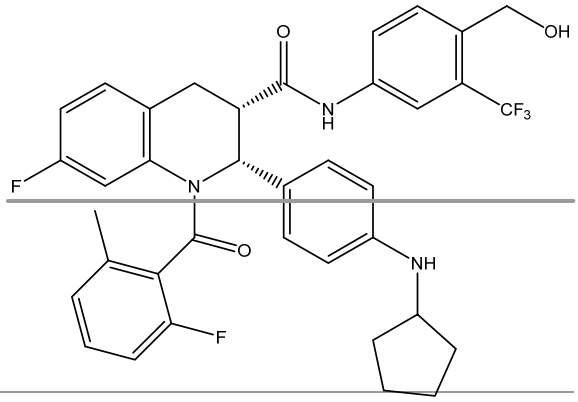

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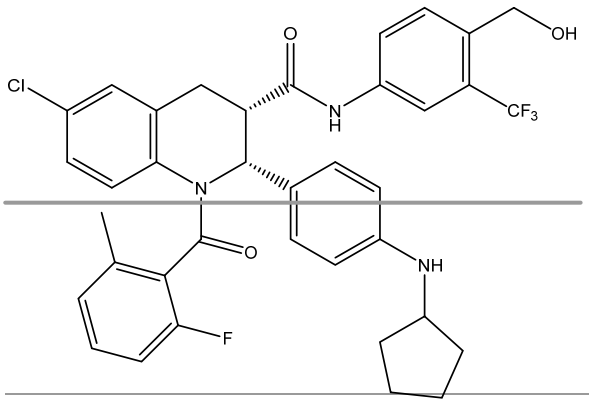
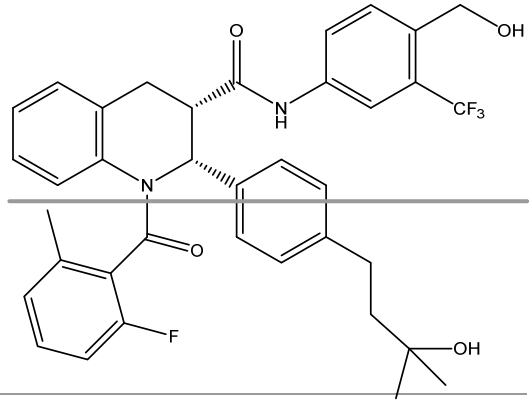
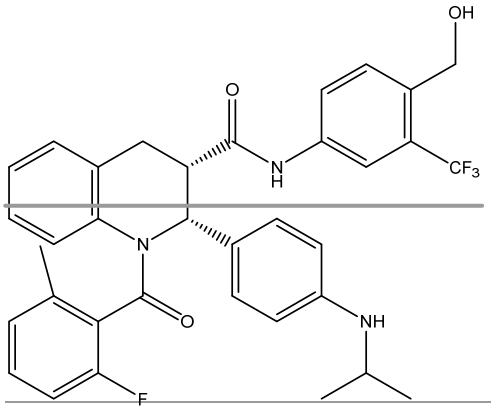
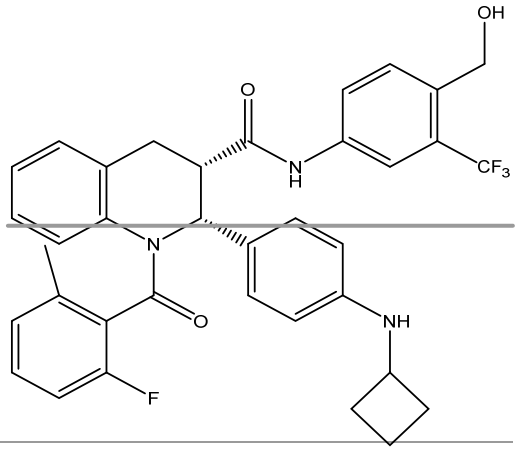


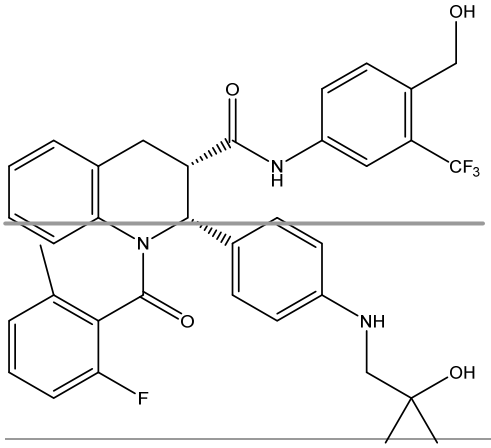


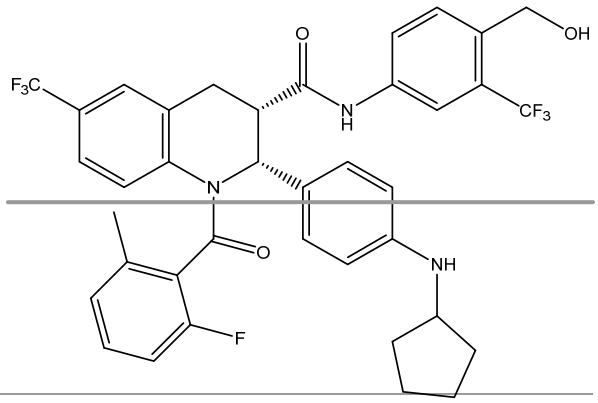
INF047, **INF048,**





INF049, **INF050,**





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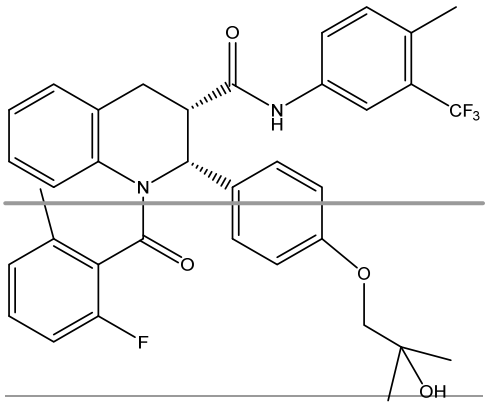
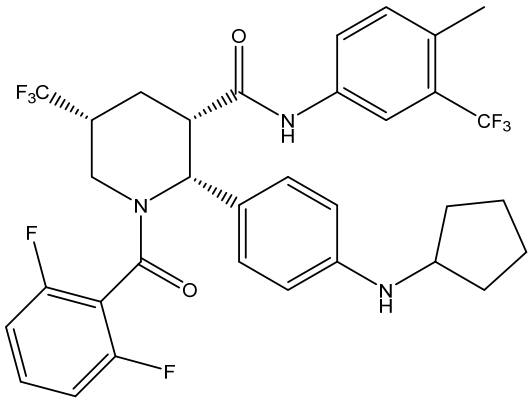
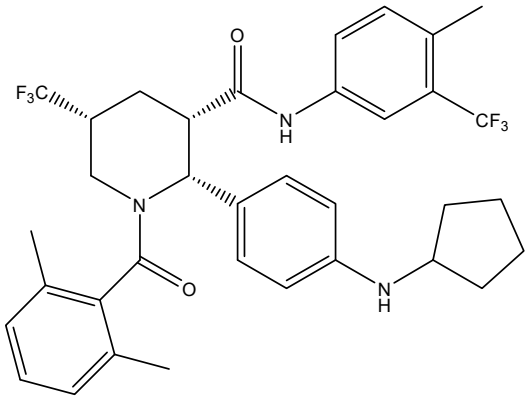


~~INF058.~~

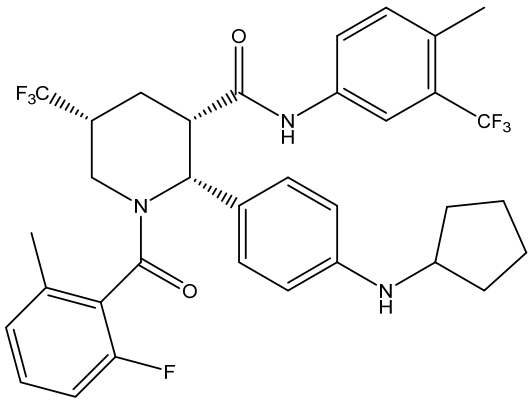
~~11.~~7. The compound according to any one of claims 1 to ~~4, 6, 7, 8, or 9~~6, wherein the compound is selected from the group consisting of



INF052,



INF053,



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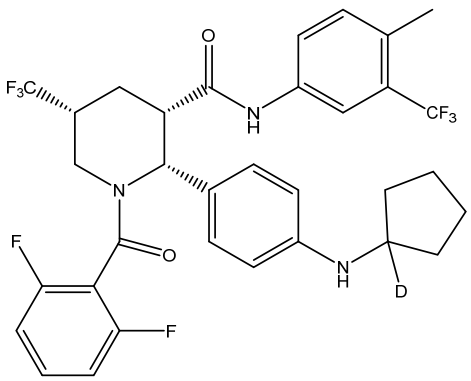
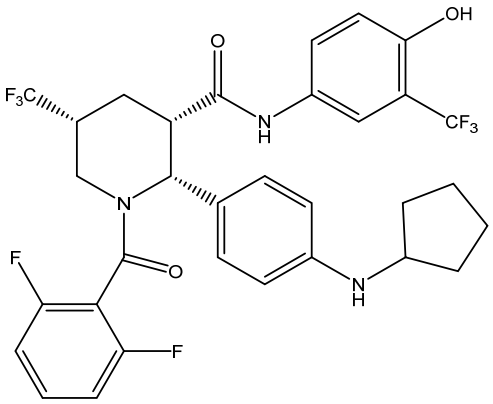


INF067,



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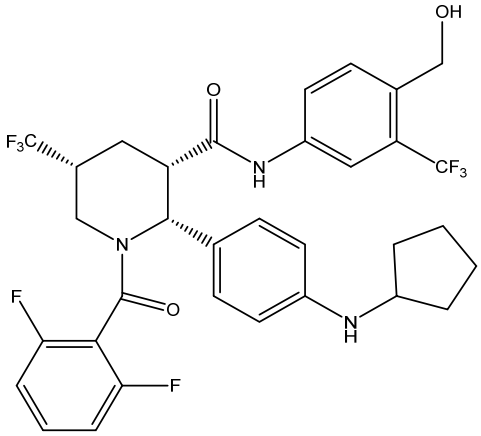

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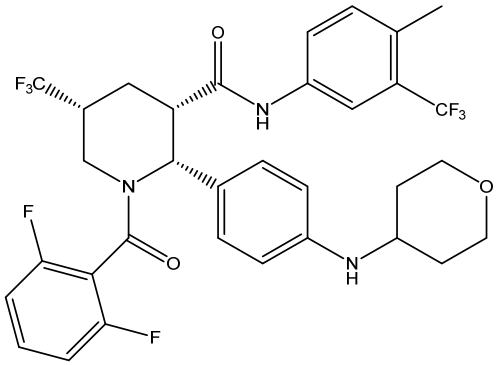

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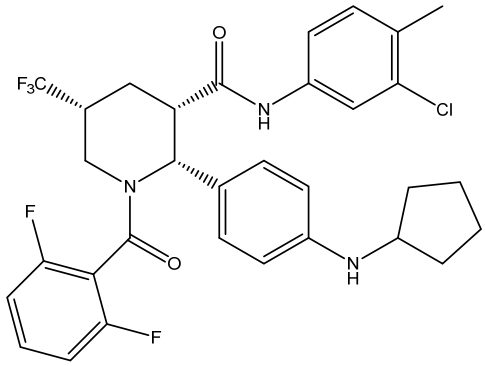

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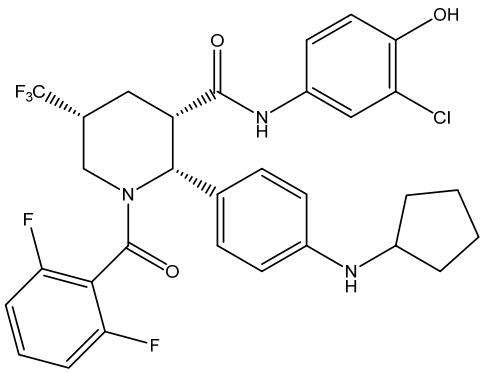

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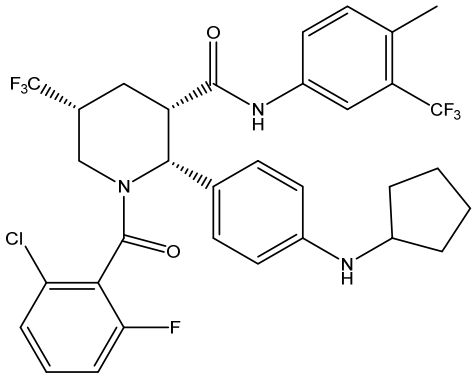
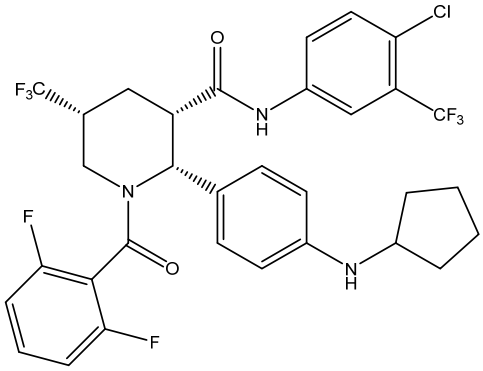
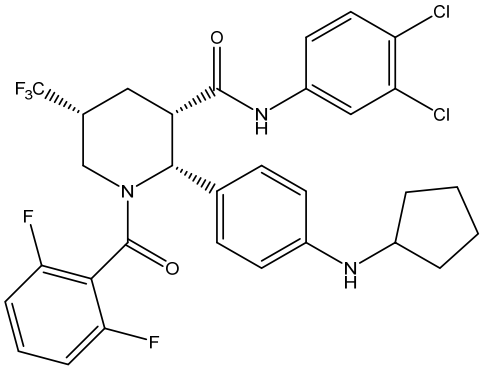


INF075,



INF077, and



INF080.

~~12.~~8. A pharmaceutical composition comprising a pharmaceutically acceptable carrier and a compound according to any one of claims 1 to ~~11~~7.

~~13.~~9. The compound according to any one of claims 1 to ~~11~~ 7 for use in medicine.

~~14.~~10. The compound according to any one of claims 1 to ~~11~~ 7 for use in the treatment of a disease or disorder involving pathologic activation of a C5a receptor.

~~15.~~11. The compound for use according to claim ~~14~~10, wherein the disease or disorder is selected from the group consisting of

- autoimmune disorders,
- inflammatory disorders or related conditions,
- cardiovascular or cerebrovascular disorders,
- HIV infection or AIDS,
- neurodegenerative disorders or related diseases, and

cancers or precancerous conditions.

1~~6~~2. Use of a compound according to any one of claims 1 to ~~11~~7 in the preparation of a medicament for the treatment of a disease or disorder involving pathologic activation of a C5a receptor.

1~~7~~3. The use according to claim 1~~6~~2, wherein the disease or disorder is selected from the group consisting of

- autoimmune disorders,

- inflammatory disorders or related conditions,
- cardiovascular or cerebrovascular disorders,
- HIV infection or AIDS,
- neurodegenerative disorders or related diseases, and
- cancers or precancerous conditions.