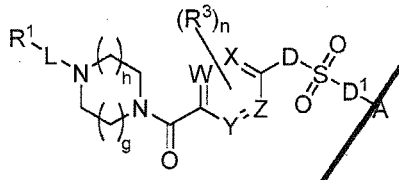
CLAIMS

What is claimed is:

1. A method for increasing lifetime of the red blood cells (RBCs) in need thereof comprising contacting blood an effective amount of (1) a compound of formula I or a pharmaceutically acceptable salt thereof; (2) a composition comprising a compound of formula I or a salt thereof, and a carrier or (3) a pharmaceutically acceptable composition comprising a compound of formula I or a pharmaceutically acceptable salt thereof, and a pharmaceutically acceptable carrier:

formula (I):



(I)

or a pharmaceutically acceptable salt thereof, wherein:

W, X, Y and Z are each independently selected from CH or N;

D and D^1 are independently selected from a bond or NR^b;

A is optionally substituted aryl or optionally substituted heteroaryl;

L is a bond, -C(O)-, $-(CR^cR^c)_m$-, -OC(O)-, $-(CR^cR^c)_m$-OC(O)-, $-(CR^cR^c)_m$-C(O)-, $-NR^bC(S)$-, or $-NR^bC(O)$- (wherein the point of the attachment to R^1 is on the left-hand side);

R^1 is selected from alkyl, cycloalkyl, aryl, heteroaryl, and heterocyclyl; each of which is substituted with 0-5 occurrences of R^d;

each R^3 is independently selected from halo, haloalkyl, alkyl, hydroxyl and $-OR^a$, or two adjacent R^3 taken together with the carbon atoms to which they are attached form an optionally substituted heterocyclyl;each R^a is independently selected from alkyl, acyl, hydroxyalkyl and haloalkyl;

each R^b is independently selected from hydrogen and alkyl;

each R^c is independently selected from hydrogen, halo, alkyl, alkoxy and halo alkoxy or two R^c taken together with the carbon atoms to which they are attached form an optionally substituted cycloalkyl;

each R^d is independently selected from halo, haloalkyl, haloalkoxy, alkyl, alkynyl, nitro, cyano, hydroxyl, $-C(O)R^a$, $-OC(O)R^a$, $-C(O)OR^a$, $-SR^a$, $-NR^aR^b$ and $-OR^a$, or two R^d taken together with the carbon atoms to which they are attached form an optionally substituted heterocyclyl;

n is 0, 1, or 2;

m is 1, 2 or 3;

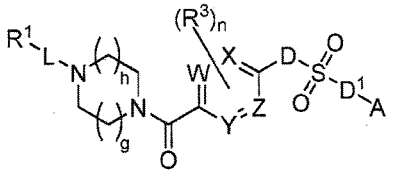
h is 0, 1, 2; and

g is 0, 1 or 2.

2. The method of claim 1, wherein the compound is added directly to whole blood or packed cells extracorporeally.
3. The method of claim 1, wherein the pharmaceutical composition is administered to a subject in need thereof.
4. A method for regulating 2,3-diphosphoglycerate levels in blood in need thereof comprising contacting blood an effective amount of (1) a compound of formula I or a pharmaceutically acceptable salt thereof; (2) a composition comprising a compound of formula I or a salt thereof, and a carrier or (3) a pharmaceutically acceptable composition comprising a compound of formula I or a pharmaceutically acceptable salt thereof, and a pharmaceutically acceptable carrier; wherein formula I is as defined in claim 1.
5. A method for treating hereditary non-spherocytic hemolytic anemia comprising administering to a subject in need thereof a therapeutically effective amount of an effective amount of (1) a compound of formula II or a pharmaceutically acceptable salt thereof; or (2) a pharmaceutically acceptable composition comprising a compound of formula II or a pharmaceutically acceptable salt thereof, and a pharmaceutically acceptable carrier; wherein formula II is as defined in claim 1.
6. A method for treating sickle cell anemia comprising administering to a subject in need thereof a therapeutically effective amount of an effective amount of (1) a compound of formula I or a pharmaceutically acceptable salt thereof; or (2) a pharmaceutically acceptable composition comprising a compound of

formula I or a pharmaceutically acceptable salt thereof, and a pharmaceutically acceptable carrier; wherein formula I is as defined in claim 1.

7. The method of any one of claims 1-6, wherein the compound is represented by formula (I):



(I)

wherein:

W, X, Y and Z are each independently selected from CH or N;

D and D^1 are independently selected from a bond or NR^b;

A is optionally substituted bicyclic heteroaryl;

L is a bond, -C(O)-, $-(CR^cR^c)_m-$, -OC(O)-, $-(CR^cR^c)_m$-OC(O)-, $-(CR^cR^c)_m$-C(O)-, $-NR^bC(S)-$, or $-NR^bC(O)-$;

R^1 is selected from alkyl, cycloalkyl, aryl, heteroaryl, and heterocyclyl; each of which is substituted with 0-5 occurrences of R^d;

each R^3 is independently selected from halo, haloalkyl, alkyl, hydroxyl and $-OR^a$ or two adjacent R^3 taken together with the carbon atoms to which they are attached form an optionally substituted cyclyl;

each R^a is independently selected from alkyl, acyl, hydroxyalkyl and haloalkyl;

each R^b is independently selected from hydrogen and alkyl;

each R^c is independently selected from hydrogen, halo, alkyl, alkoxy and halo alkoxy or two R^c taken together with the carbon atoms to which they are attached form an optionally substituted cycloalkyl;

each R^d is independently selected from halo, haloalkyl, haloalkoxy, alkyl, alkynyl, nitro, cyano, hydroxyl, $-C(O)R^a$, $-OC(O)R^a$, $-C(O)OR^a$, $-SR^a$, $-NR^aR^b$ and $-OR^a$, or two R^d taken together with the carbon atoms to which they are attached form an optionally substituted heterocyclyl;

n is 0, 1, or 2;

m is 1, 2 or 3;

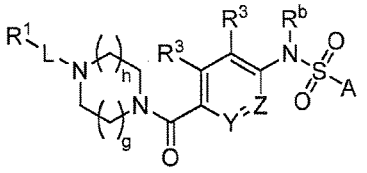
h is 0, 1, 2; and

g is 0, 1 or 2.

8. The method of claim 7, wherein h is 1 and g is 1.
9. The method of claim 8, wherein W, X, Y and Z are CH.
10. The method of claim 9, wherein D is NR^b and D^1 is a bond.
11. The method of claim 10, wherein R^b is H, methyl or ethyl.
12. The method of any one of claims 7-11, wherein L is a bond, $-(CR^cR^c)_m$-, $-NR^bC(O)$-,$-(CR^cR^c)_m-C(O)$-, -C(O)-, or -O(CO)-.
13. The method of claim 12, wherein L is a bond.
14. The method of claim 13, wherein R^1 is alkyl, aryl or heteroaryl substituted with 0-5 occurrences of R^d.
15. The method of claim 12, wherein L is $-(CR^cR^c)_m$-.
16. The method of claim 15, wherein R^1 is cycloalkyl, aryl, heteroaryl or heterocyclyl substituted with 0-5 occurrences of R^d.
17. The method of claim 12, wherein L is $-NR^bC(O)$- and R^b is hydrogen.
18. The method of claim 17, wherein R^1 is aryl substituted with 0-5 occurrences of R^d.
19. The method of claim 12, wherein L is $-(CR^cR^c)_m-C(O)$-.
20. The method of claim 19,wherein R^1 is cycloalkyl, aryl or heteroaryl substituted with 0-5 occurrences of R^d.
21. The method of claim 12, wherein L is -C(O)-.
22. The method of claim 21, wherein R^1 is aryl, alkyl, or heteroaryl substituted with 0-5 occurrences of R^d.
23. The method of claim 12, wherein L is –OC(O)-.
24. The method of claim 23, wherein R^1 is alkyl, aryl or heterocyclyl substituted with 0-5 occurrences of R^d.
25. The method of claim 12, wherein L is $-(CR^cR^c)_m-OC(O)$-.
26. The method of claim 25, wherein R^1 is heterocyclyl or cycloalkyl substituted with 0-5 occurrences of R^d.
27. The method of any one of claims 12-26, wherein n is 0.

28. The method of any one of claims 12-26, wherein n is 1 and R^3 is CH_3, CH_2CH_3, OCH_3, OCH_2CH_3, OH, F, Cl, or CF_3.

29. The method of any one of claims 1-6, wherein the compound is represented by formula (Id):

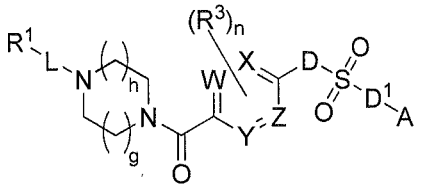


(Id).

30. The method of any one of claims 1-6, wherein the compound is selected from Figure 1.

What is claimed is:

1. Use of (1) a compound of formula I or a pharmaceutically acceptable salt thereof; (2) a composition comprising a compound of formula I or a salt thereof, and a carrier or (3) a pharmaceutically acceptable composition comprising a compound of formula I or a pharmaceutically acceptable salt thereof, and a pharmaceutically acceptable carrier: formula (I):



(I)

or a pharmaceutically acceptable salt thereof, wherein:

W, X, Y and Z are each independently selected from CH or N;

D and D^1 are independently selected from a bond or NR^b;

A is optionally substituted aryl or optionally substituted heteroaryl;

L is a bond, -C(O)-, $-(CR^cR^c)_m$-, -OC(O)-, $-(CR^cR^c)_m$-OC(O)-, $-(CR^cR^c)_m$-C(O)-, $-NR^bC(S)$-, or $-NR^bC(O)$- (wherein the point of the attachment to R^1 is on the left-hand side);

R^1 is selected from alkyl, cycloalkyl, aryl, heteroaryl, and heterocyclyl; each of which is substituted with 0-5 occurrences of R^d;

each R^3 is independently selected from halo, haloalkyl, alkyl, hydroxyl and $-OR^a$, or two adjacent R^3 taken together with the carbon atoms to which they are attached form an optionally substituted cyclyl;

each R^a is independently selected from alkyl, acyl, hydroxyalkyl and haloalkyl;

each R^b is independently selected from hydrogen and alkyl;

each R^c is independently selected from hydrogen, halo, alkyl, alkoxy and halo alkoxy or two R^c taken together with the carbon atoms to which they are attached form an optionally substituted cycloalkyl;

each R^d is independently selected from halo, haloalkyl, haloalkoxy, alkyl, alkynyl, nitro, cyano, hydroxyl, $-C(O)R^a$, $-OC(O)R^a$, $-C(O)OR^a$, $-SR^a$, $-NR^aR^b$ and $-OR^a$, or two R^d taken together with the carbon atoms to which they are attached form an optionally substituted heterocyclyl;

n is 0, 1, or 2;

m is 1, 2 or 3;

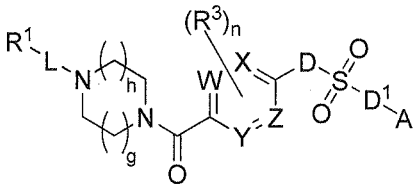
h is 0, 1, 2; and

g is 0, 1 or 2,

in the manufacture of a medicament for increasing the lifetime of red blood cells (RBCs) in need thereof.

2. The use of claim 1, wherein the compound is added directly to whole blood or packed cells extracorporeally.
3. The use of claim 1, wherein the pharmaceutical composition is to be administered to a subject in need thereof.
4. Use of (1) a compound of formula I or a pharmaceutically acceptable salt thereof; (2) a composition comprising a compound of formula I or a salt thereof, and a carrier or (3) a pharmaceutically acceptable composition comprising a compound of formula I or a pharmaceutically acceptable salt thereof, and a pharmaceutically acceptable carrier; wherein formula I is as defined in claim 1, in the manufacture of a medicament for regulating 2,3-diphosphoglycerate levels in blood in need thereof.
5. Use of (1) a compound of formula I or a pharmaceutically acceptable salt thereof; or (2) a pharmaceutically acceptable composition comprising a compound of formula I or a pharmaceutically acceptable salt thereof, and a pharmaceutically acceptable carrier; wherein formula I is as defined in claim 1, in the manufacture of a medicament for treating hereditary non-spherocytic hemolytic anemia.
6. Use of (1) a compound of formula I or a pharmaceutically acceptable salt thereof; or (2) a pharmaceutically acceptable composition comprising a compound of formula I or a pharmaceutically acceptable salt thereof, and a pharmaceutically acceptable carrier; wherein formula I is as defined in claim 1, in the manufacture of a medicament for treating sickle cell anemia.
7. Use of (1) a compound of formula I or a pharmaceutically acceptable salt thereof; or (2) a pharmaceutical composition comprising a compound of formula I or a pharmaceutically acceptable salt thereof, and a pharmaceutically acceptable carrier; wherein formula I is as defined in claim 1, in the manufacture of a medicament for treating thalassemia, e.g., beta-thalassemia; hereditary spherocytosis; hereditary elliptocytosis; abetalipoproteinemia or Bassen-Kornzweig syndrome; paroxysmal nocturnal hemoglobinuria; acquired hemolytic anemia, e.g., congenital anemias, e.g., enzymopathies; or anemia of chronic diseases.

8. The use of any one of claims 1-7, wherein the compound is represented by formula (I):



(I)

wherein:

W, X, Y and Z are each independently selected from CH or N;

D and D^1 are independently selected from a bond or NR^b;

A is optionally substituted bicyclic heteroaryl;

L is a bond, -C(O)-, $-(CR^cR^c)_m$-, -OC(O)-, $-(CR^cR^c)_m$-OC(O)-, $-(CR^cR^c)_m$-C(O)-, $-NR^bC(S)$-, or $-NR^bC(O)$- (wherein the point of the attachment to R^1 is on the left-hand side);

R^1 is selected from alkyl, cycloalkyl, aryl, heteroaryl, and heterocyclyl; each of which is substituted with 0-5 occurrences of R^d;

each R^3 is independently selected from halo, haloalkyl, alkyl, hydroxyl and $-OR^a$ or two adjacent R^3 taken together with the carbon atoms to which they are attached form an optionally substituted cyclyl;

each R^a is independently selected from alkyl, acyl, hydroxyalkyl and haloalkyl;

each R^b is independently selected from hydrogen and alkyl;

each R^c is independently selected from hydrogen, halo, alkyl, alkoxy and halo alkoxy or two R^c taken together with the carbon atoms to which they are attached form an optionally substituted cycloalkyl;

each R^d is independently selected from halo, haloalkyl, haloalkoxy, alkyl, alkynyl, nitro, cyano, hydroxyl, $-C(O)R^a$, $-OC(O)R^a$, $-C(O)OR^a$, $-SR^a$, $-NR^aR^b$ and $-OR^a$, or two R^d taken together with the carbon atoms to which they are attached form an optionally substituted heterocyclyl;

n is 0, 1, or 2;

m is 1, 2 or 3;

h is 0, 1, 2; and

g is 0, 1 or 2.

9. The use of claim 8, wherein h is 1 and g is 1.

10. The use of claim 9, wherein W, X, Y and Z are CH.

11. The use of claim 10, wherein D is NR^b and D^1 is a bond.

12. The use of claim 11, wherein R^b is H, methyl or ethyl.

13. The use of any one of claims 8-12, wherein L is a bond, $-(CR^cR^c)_m-$, $-NR^bC(O)-$, $-(CR^cR^c)_m-C(O)-$, -C(O)-, or -O(CO)-.

14. The use of claim 13, wherein L is a bond and R^1 is alkyl, aryl or heteroaryl substituted with 0-5 occurrences of R^d.

15. The use of claim 13, wherein L is $-(CR^cR^c)_m-$ and R^1 is cycloalkyl, aryl, heteroaryl or heterocyclyl substituted with 0-5 occurrences of R^d.

16. The use of claim 13, wherein L is $-NR^bC(O)-$, R^b is hydrogen and R^1 is aryl substituted with 0-5 occurrences of R^d.

17. The use of claim 13, wherein L is $-(CR^cR^c)_m-C(O)-$ and R^1 is cycloalkyl, aryl or heteroaryl substituted with 0-5 occurrences of R^d.

18. The use of claim 13, wherein L is -C(O)- and R^1 is aryl, alkyl, or heteroaryl substituted with 0-5 occurrences of R^d.

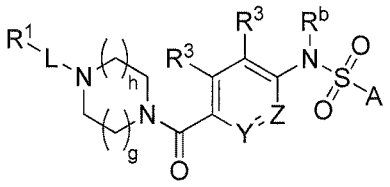
19. The use of claim 13, wherein L is $-OC(O)-$ and R^1 is alkyl, aryl or heterocyclyl substituted with 0-5 occurrences of R^d.

20. The use of claim 13, wherein L is $-(CR^cR^c)_m-OC(O)-$ and R^1 is heterocyclyl or cycloalkyl substituted with 0-5 occurrences of R^d.

21. The use of any one of claims 13-20, wherein n is 0.

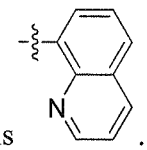
22. The use of any one of claims 13-20, wherein n is 1 and R^3 is CH_3, CH_2CH_3, OCH_3, OCH_2CH_3, OH, F, Cl, or CF_3.

23. The use of any one of claims 1-7, wherein the compound is represented by formula (Id):

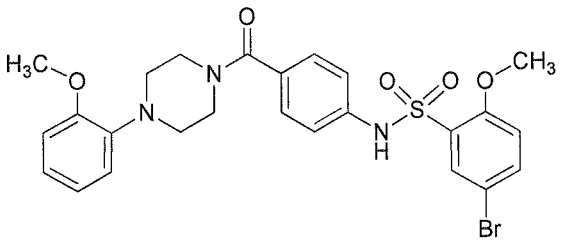


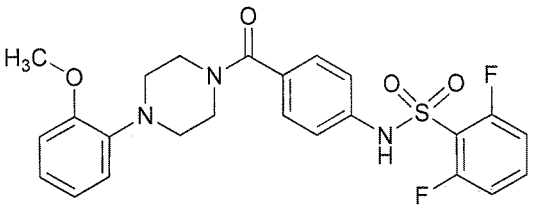
(Id).

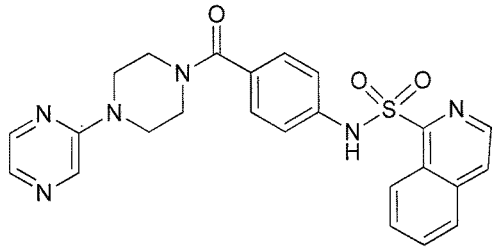
24. The use of any one of claims 8-23, wherein A is optionally substituted quinolinyl.

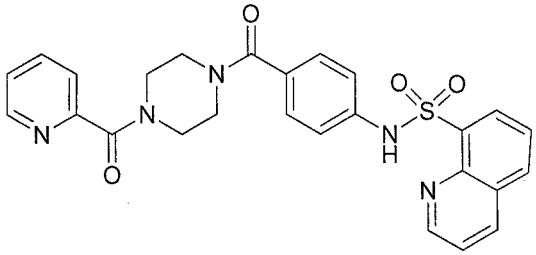
25. The use of any one of claims 8-23, wherein A is .

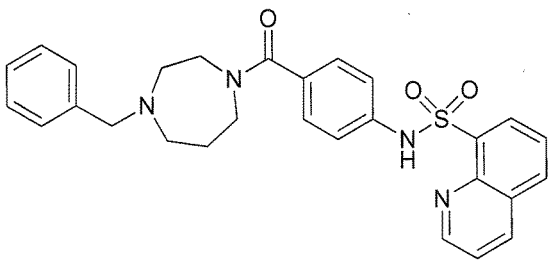
26. The use of any one of claims 1-7, wherein the compound is selected from:

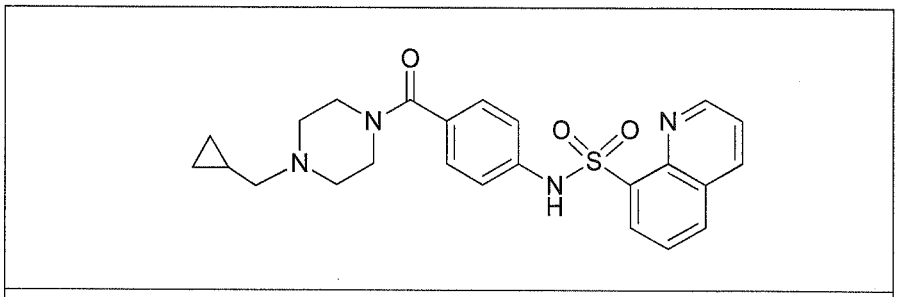


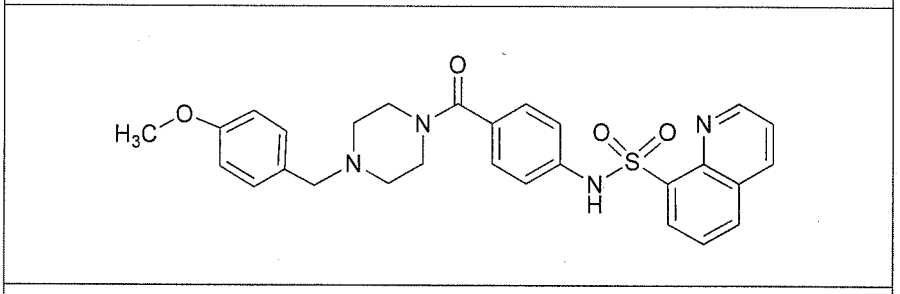


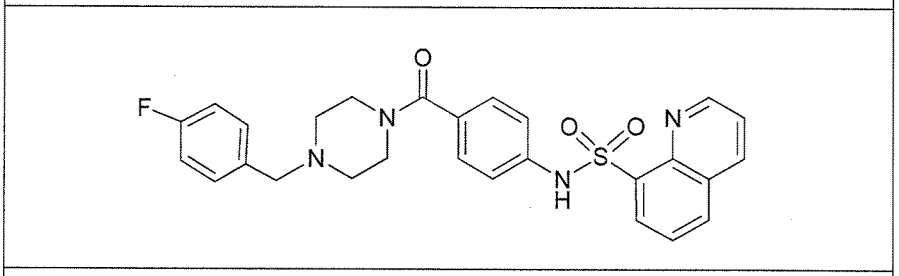


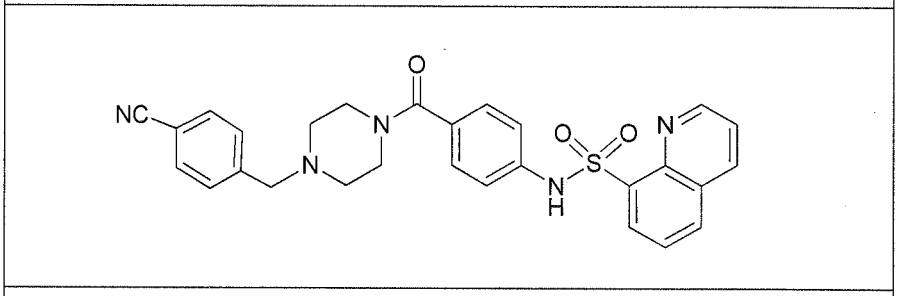


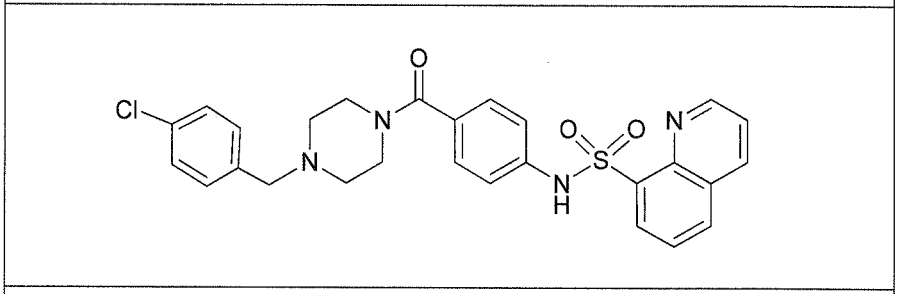


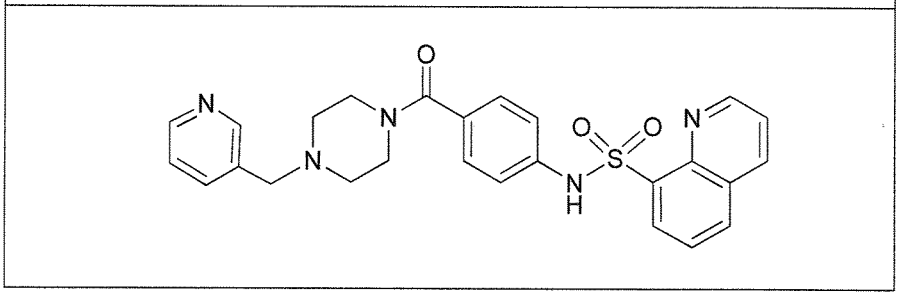


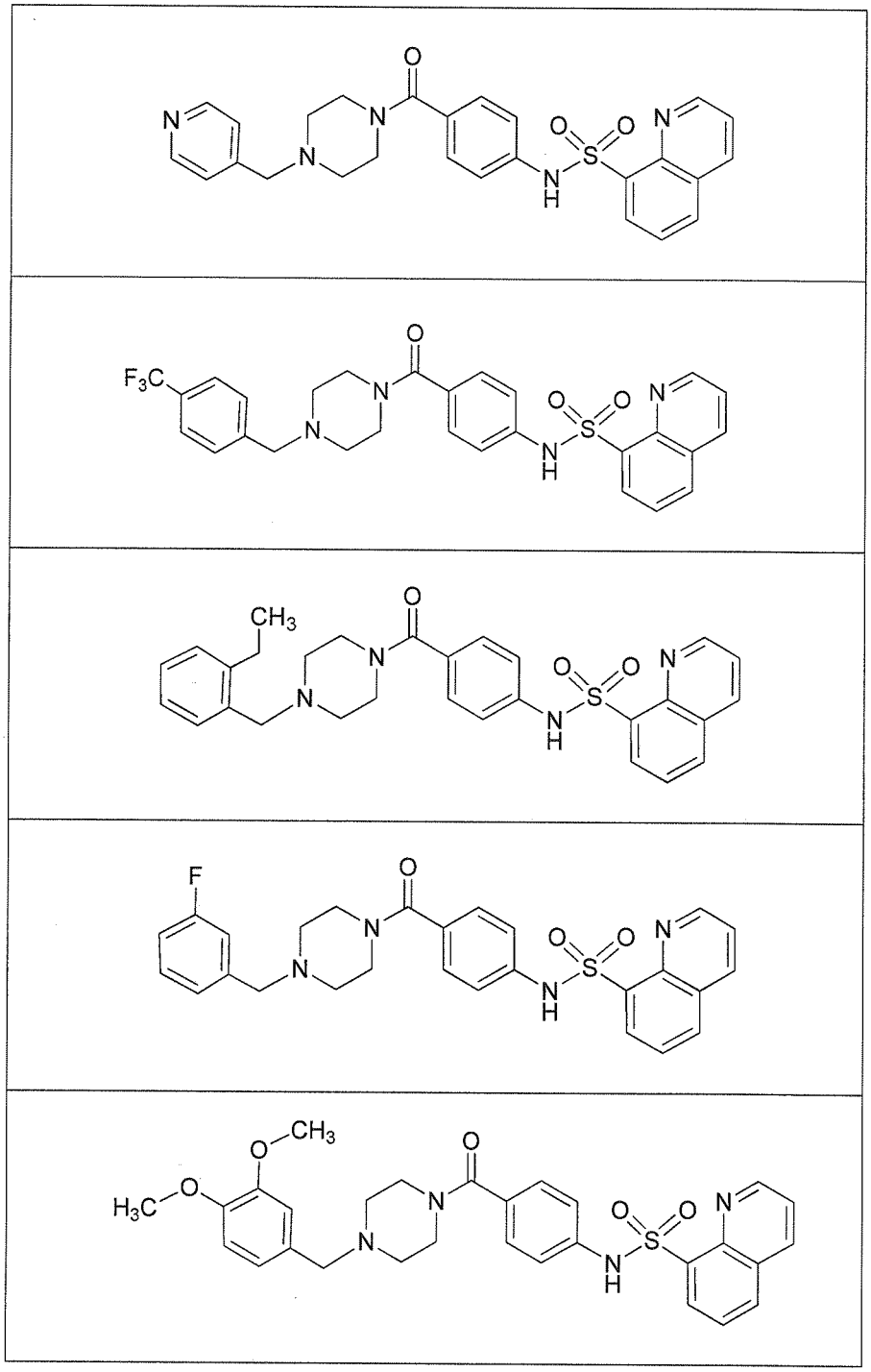


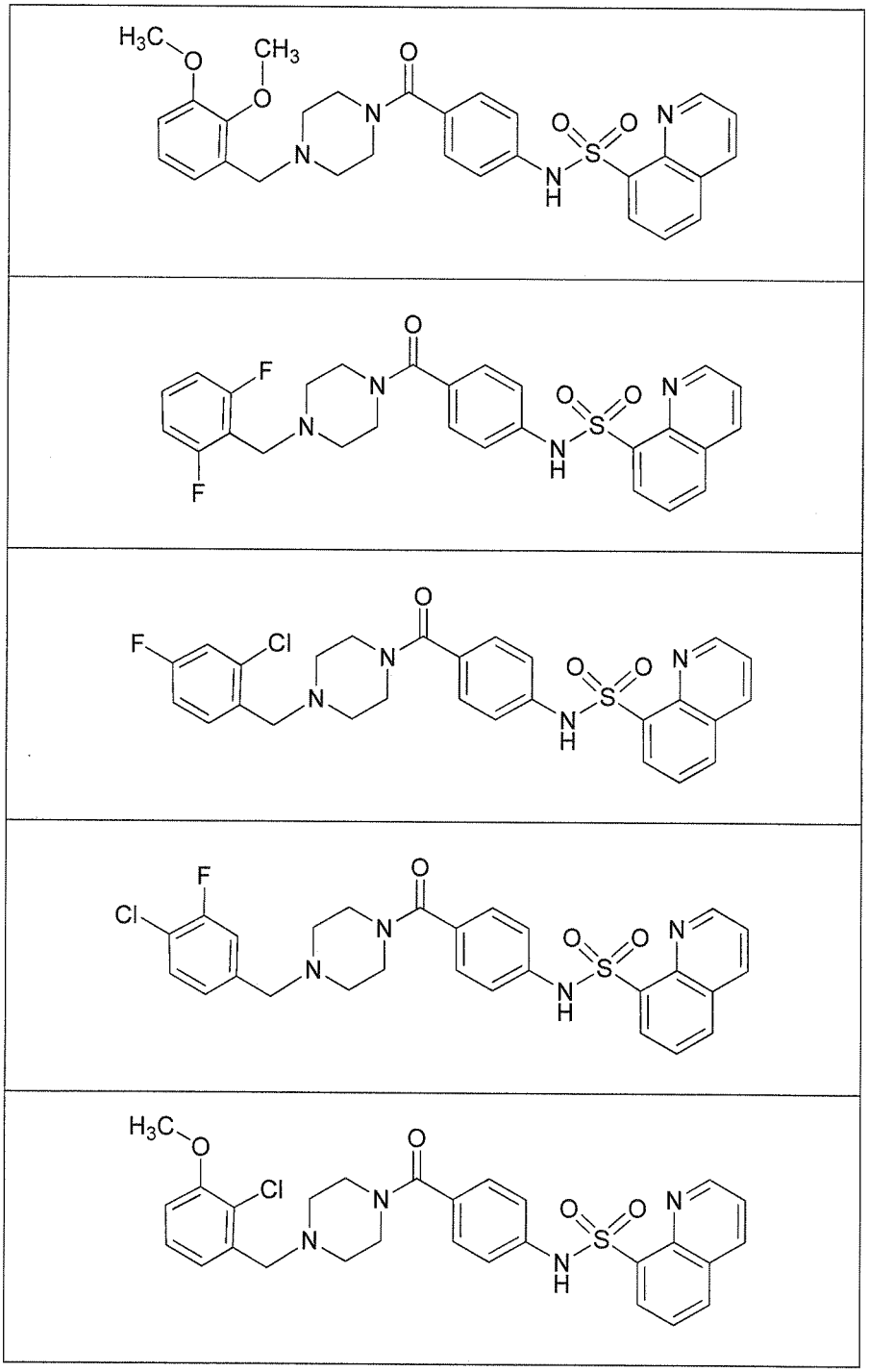


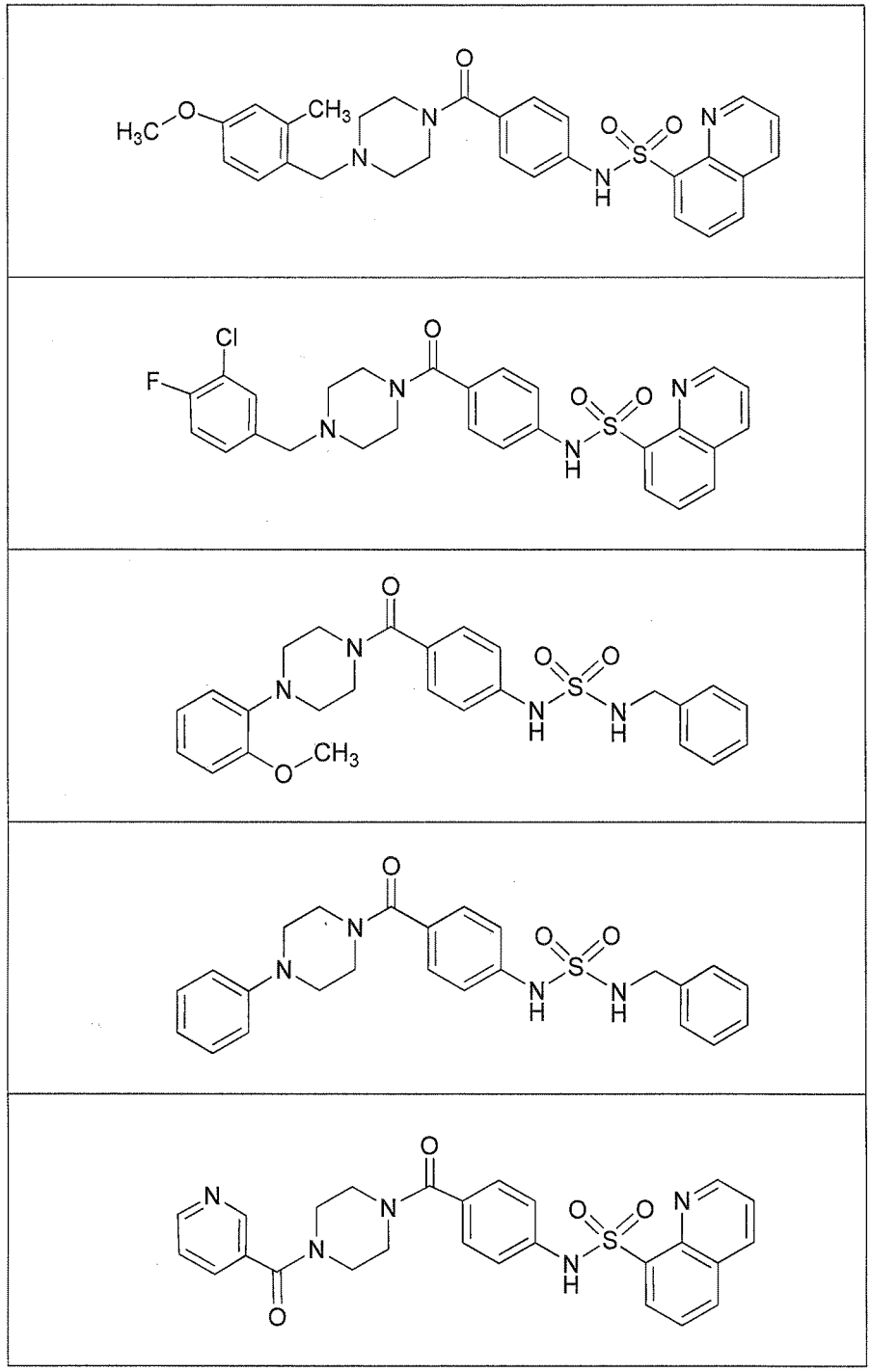


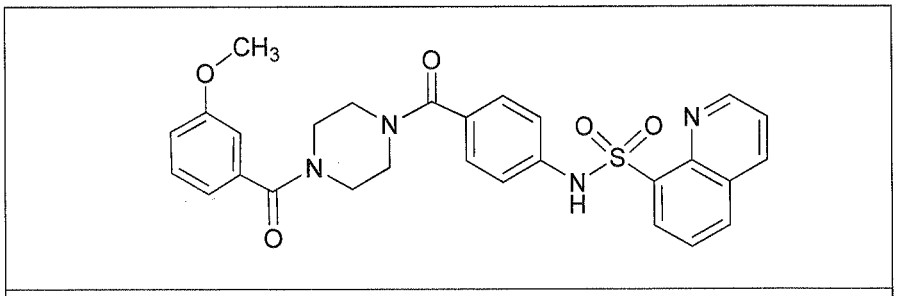


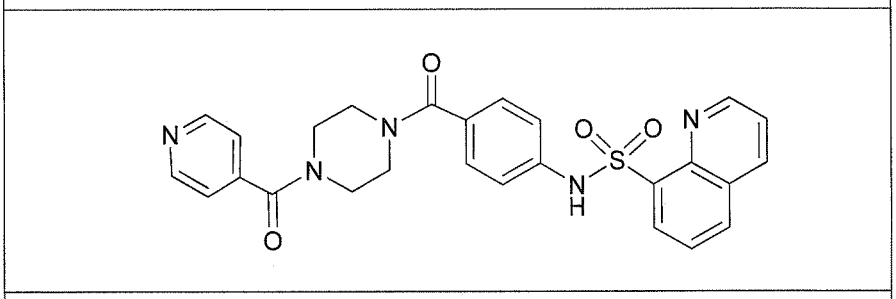


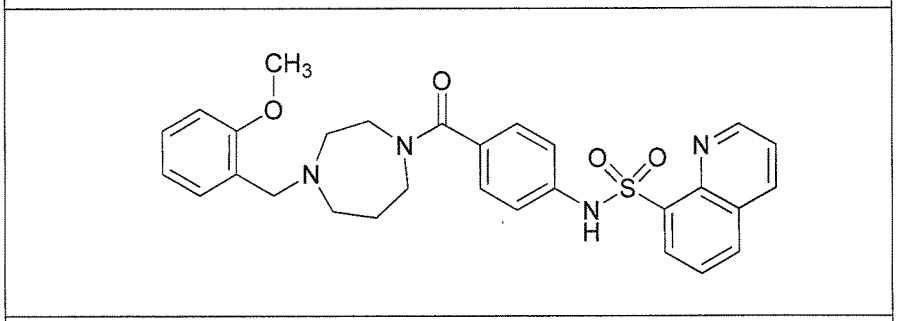


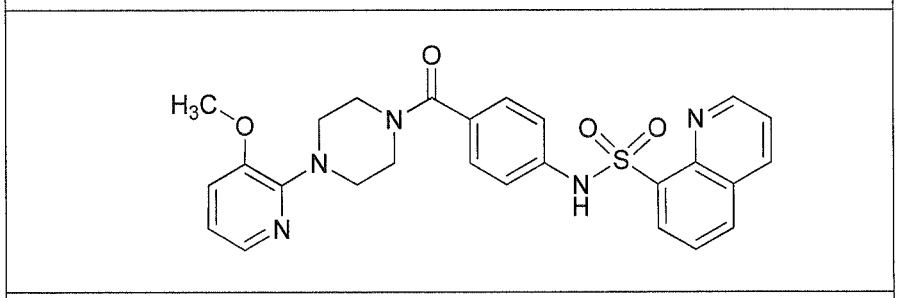


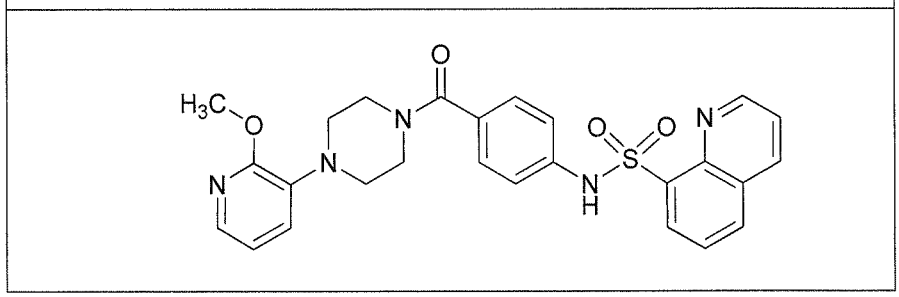


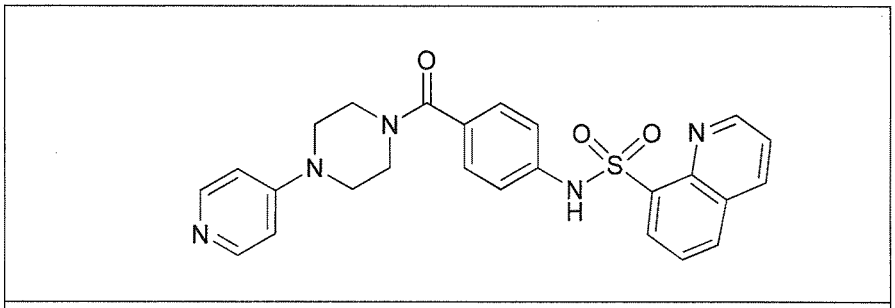


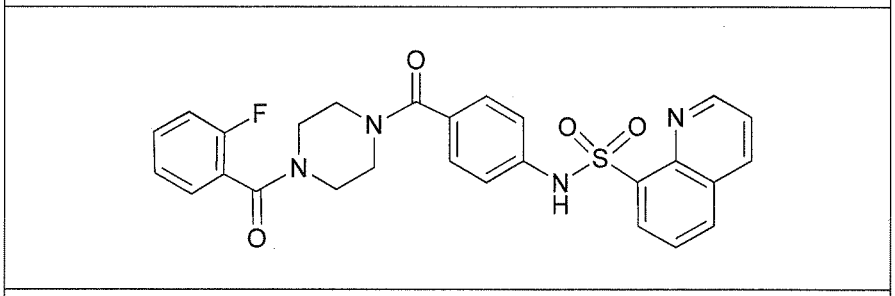


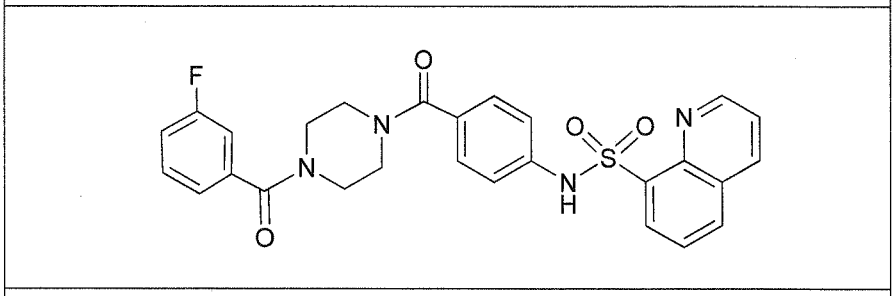


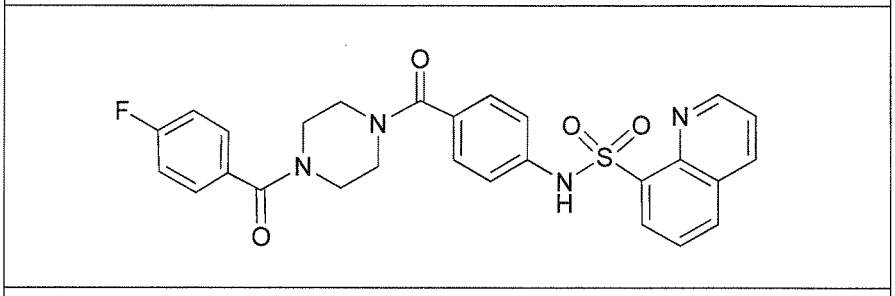


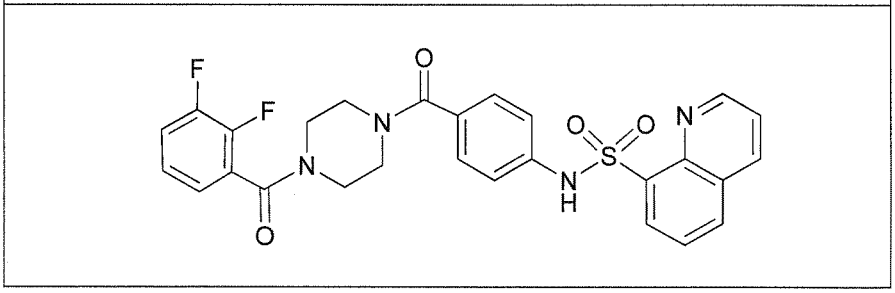


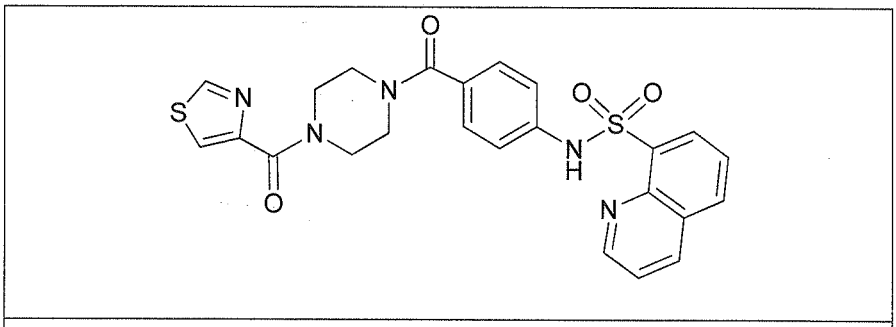


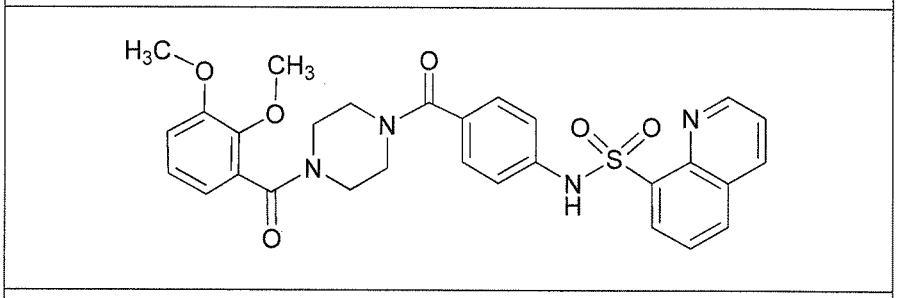


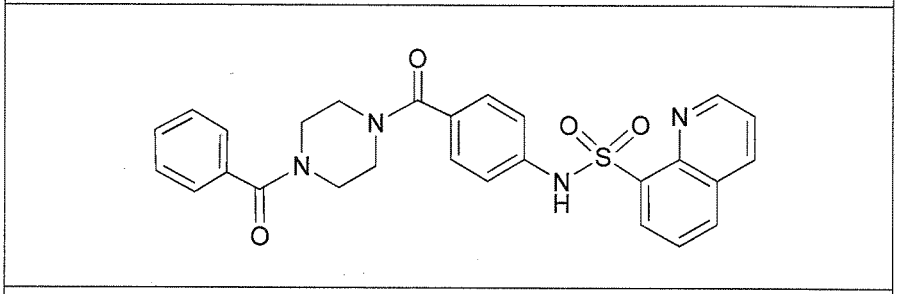


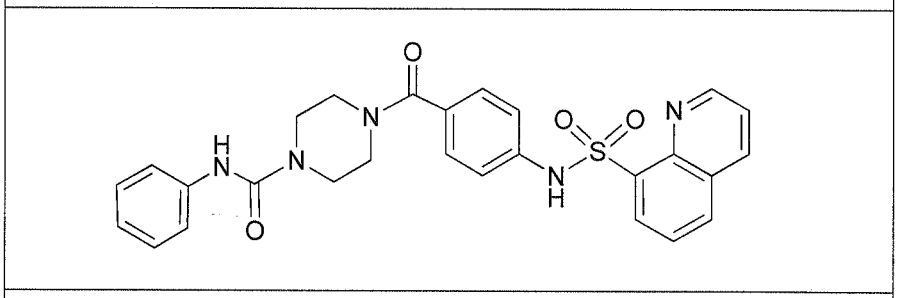


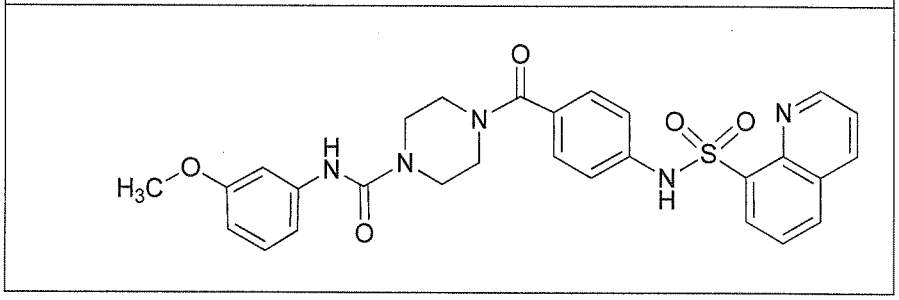


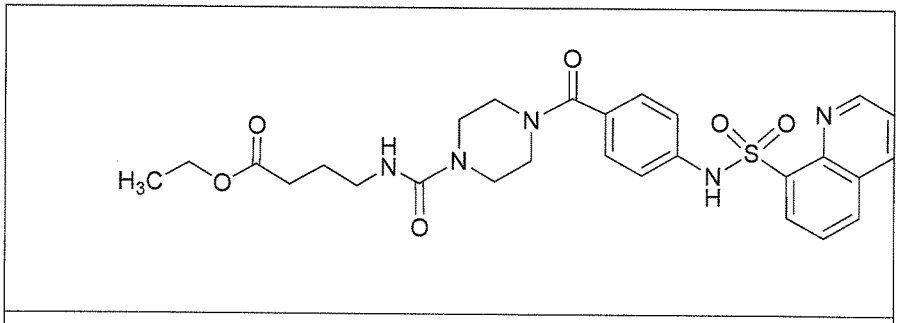


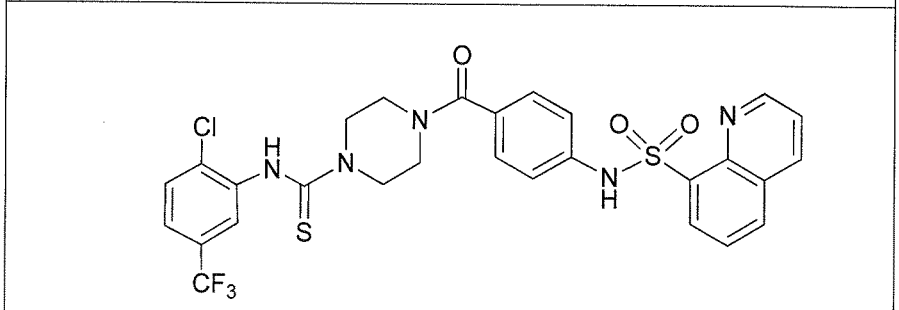


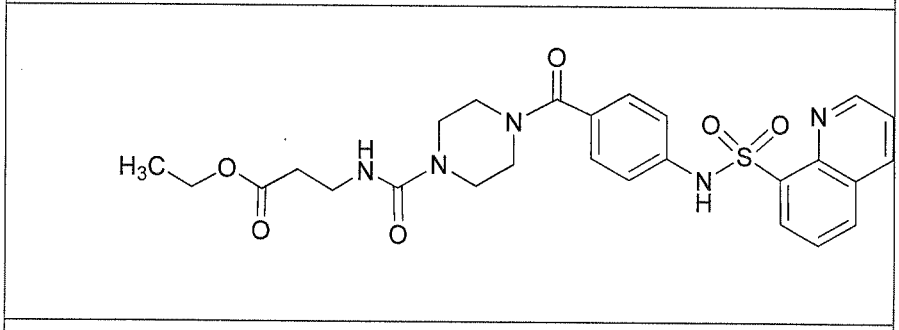


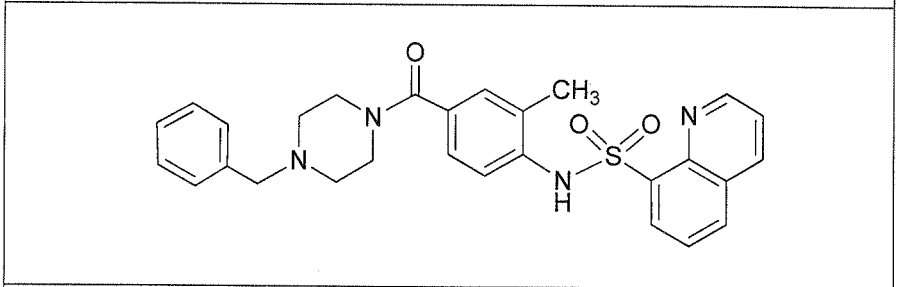


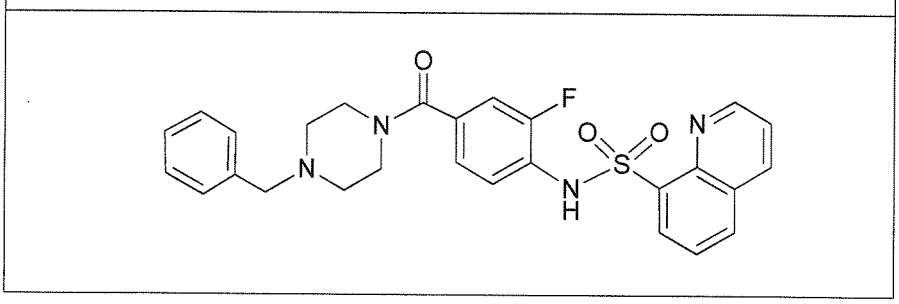


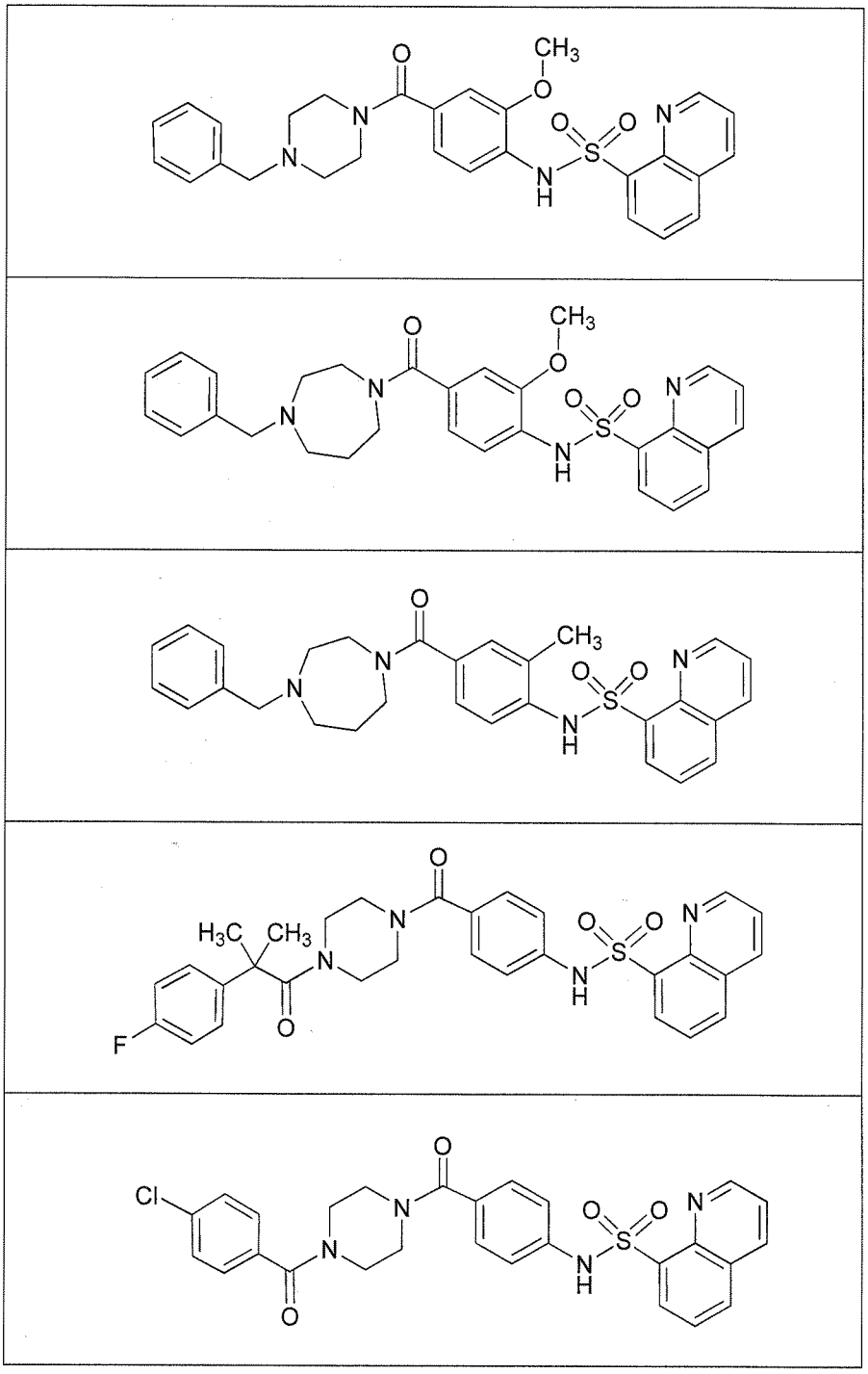


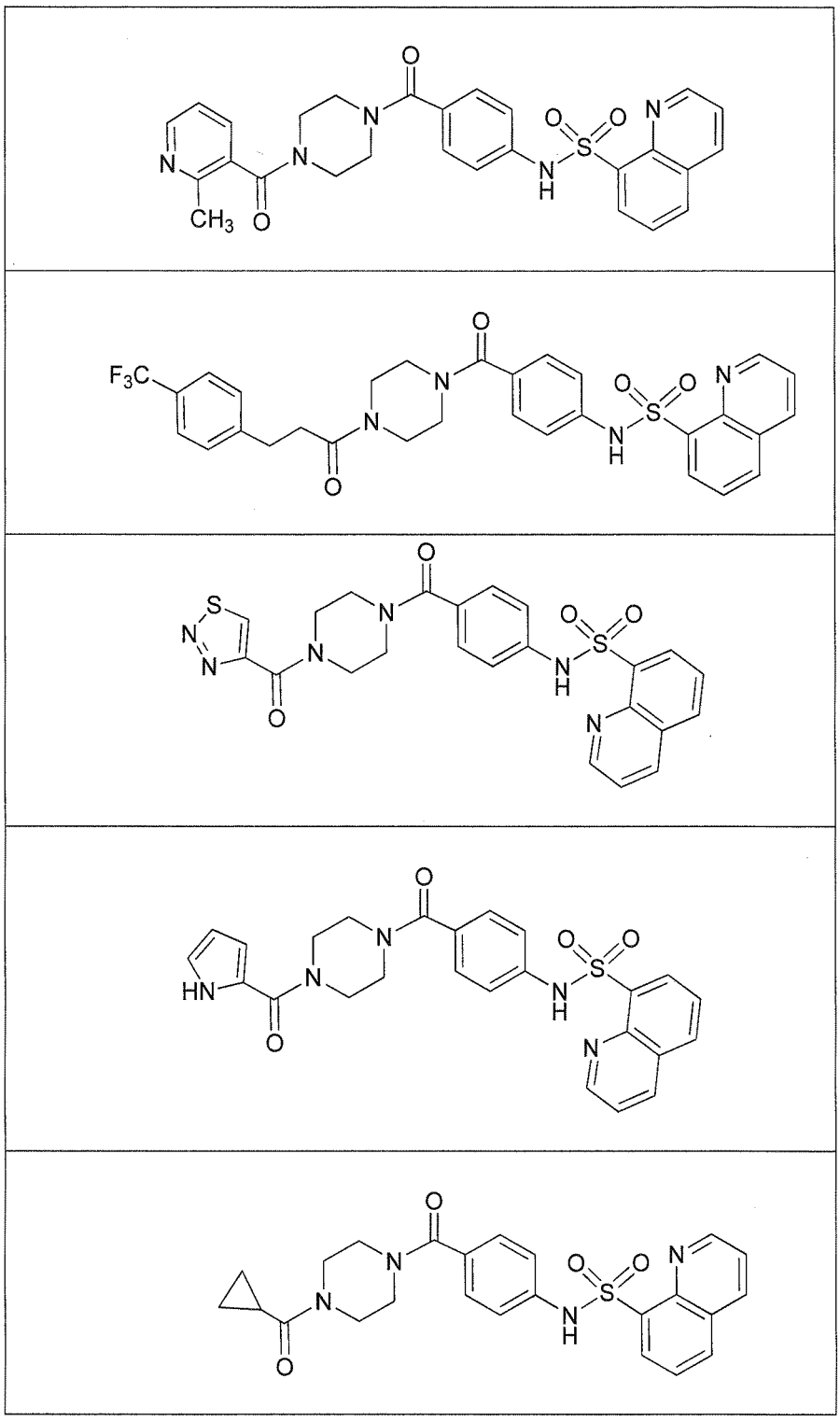


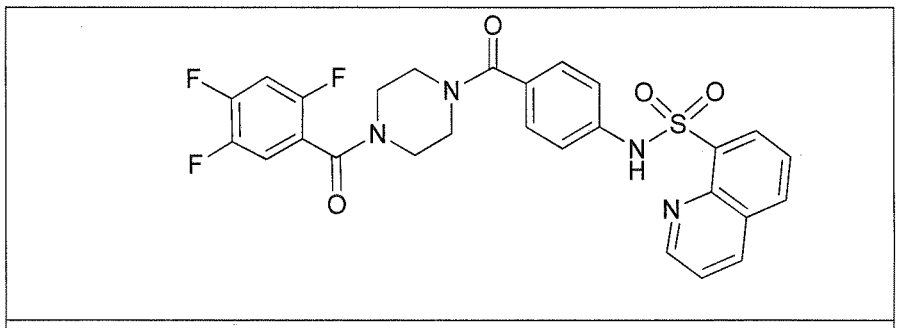


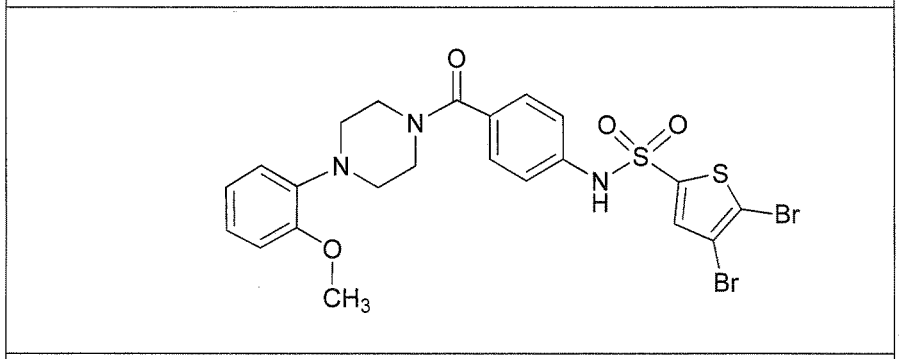


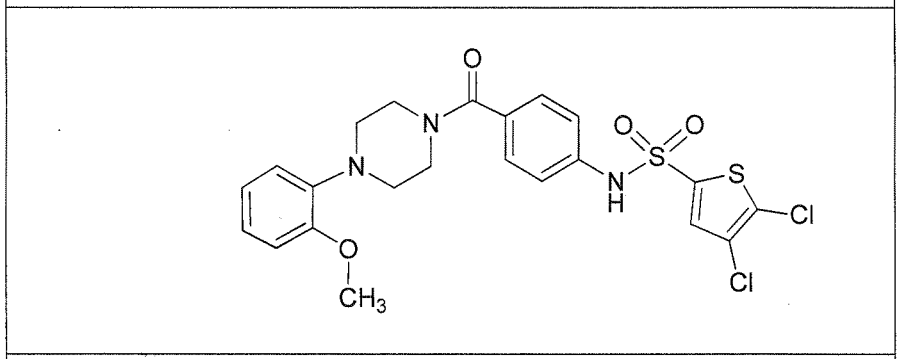


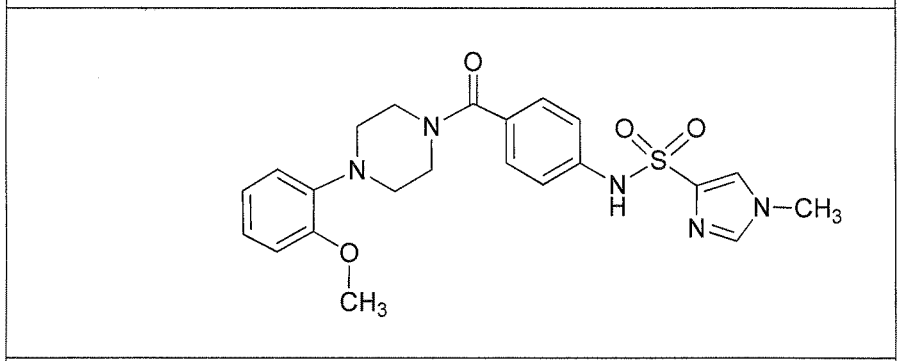


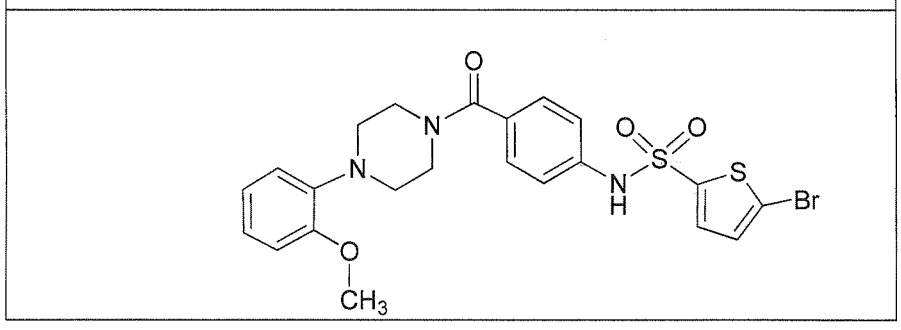


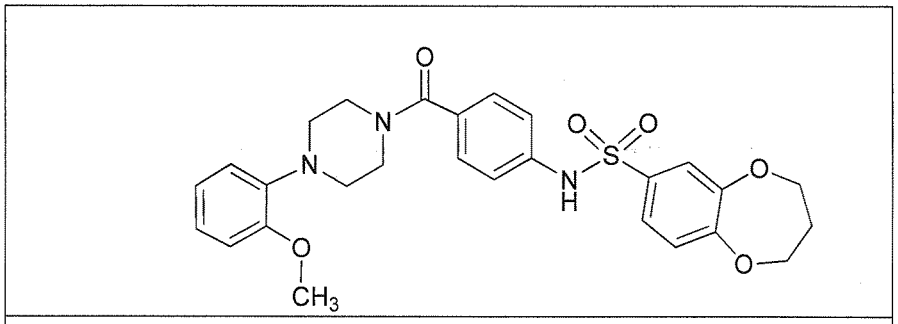


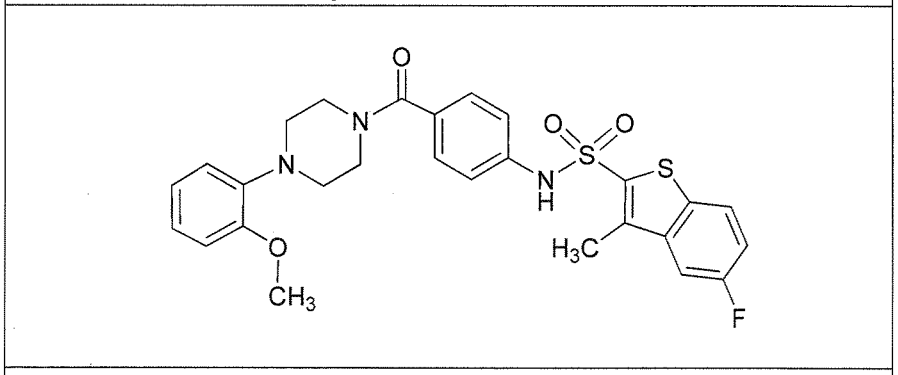


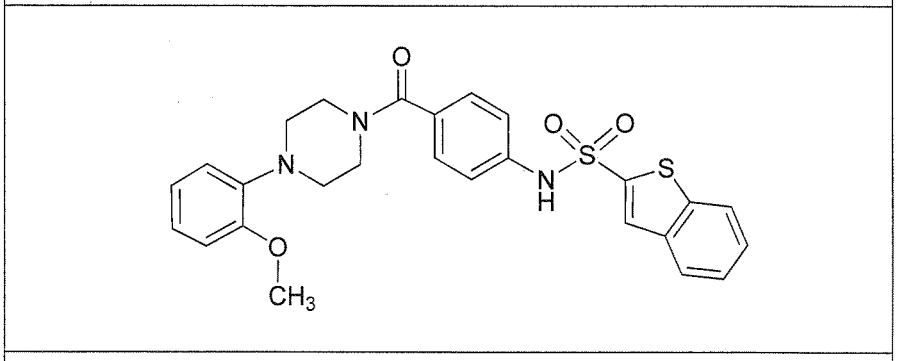


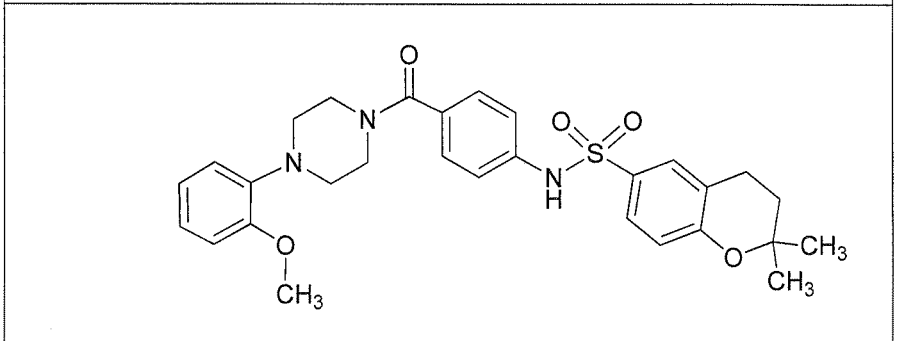


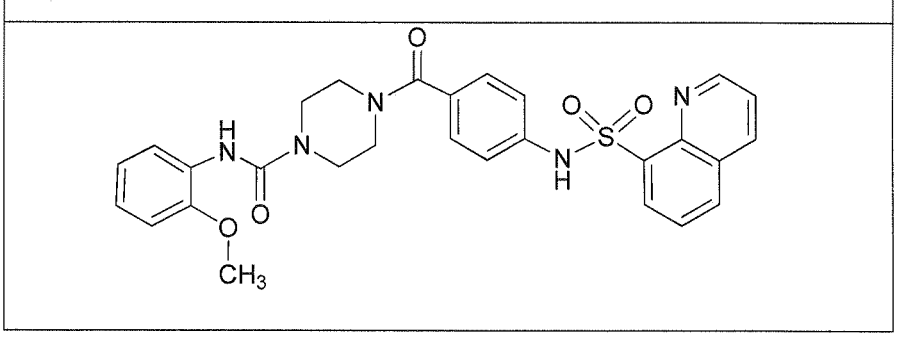


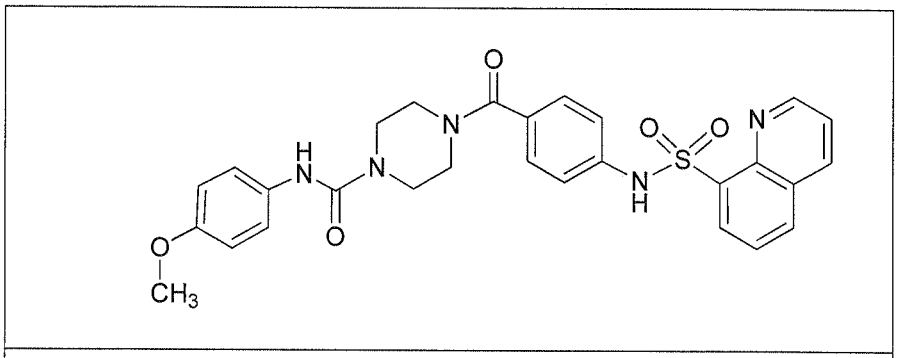


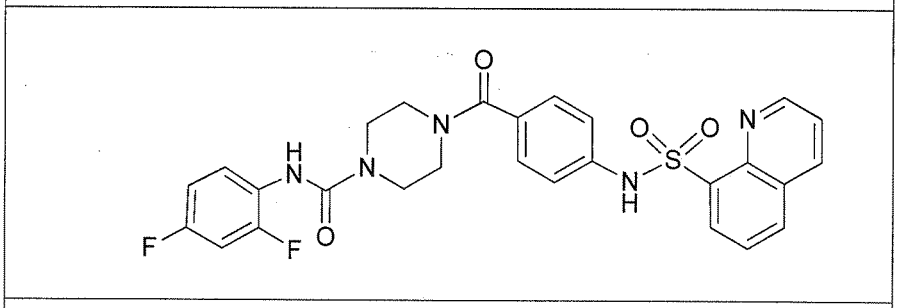


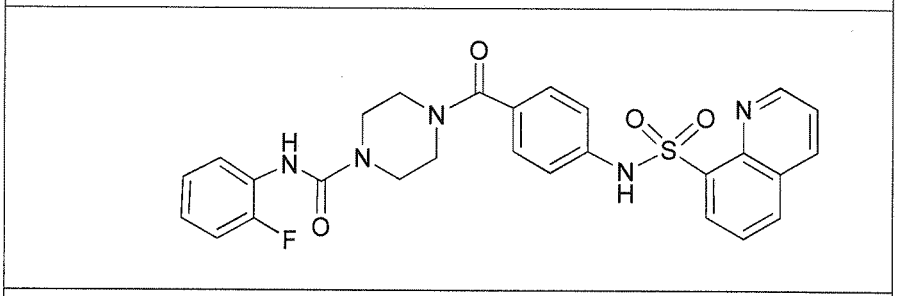


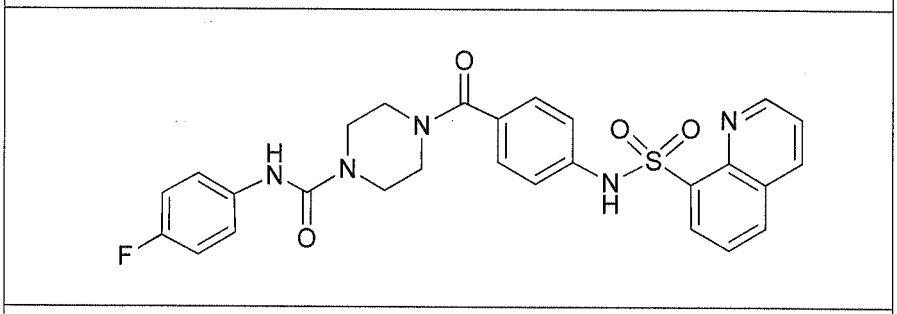


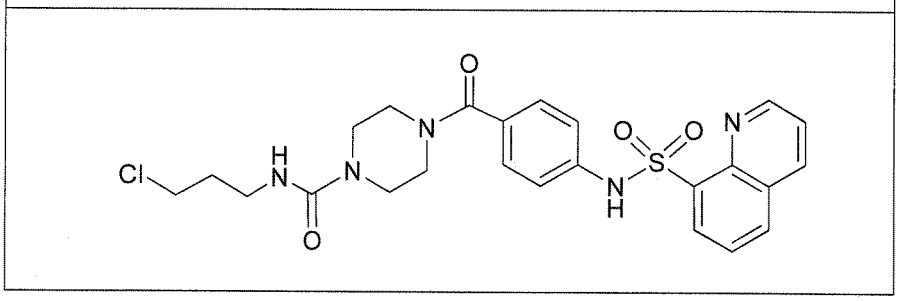


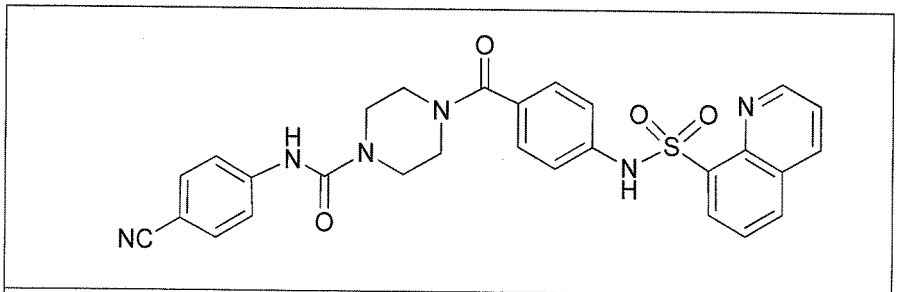


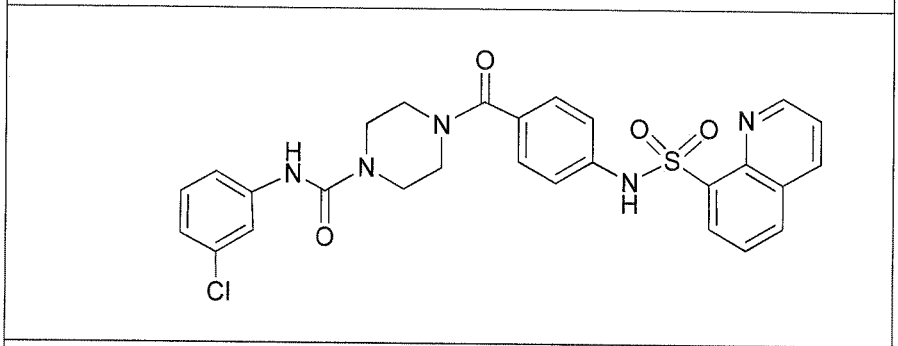


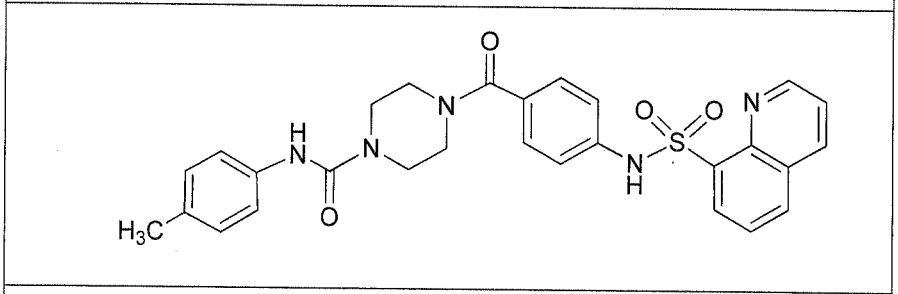


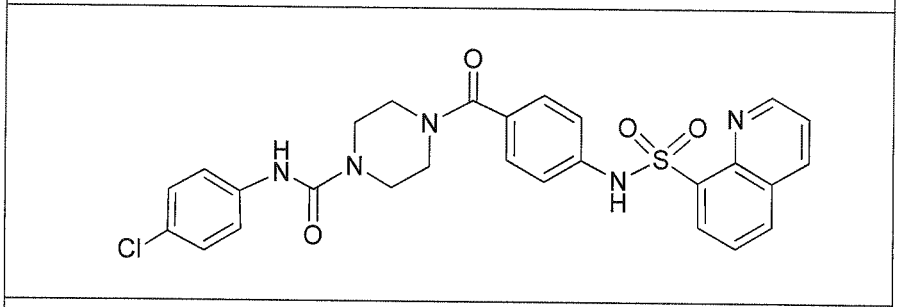


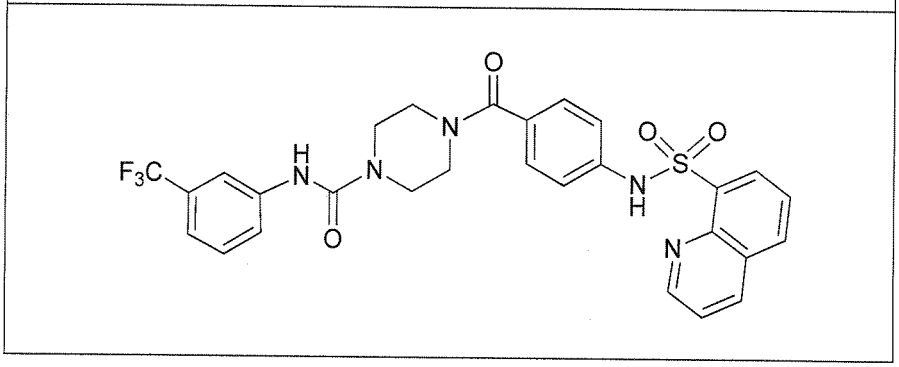


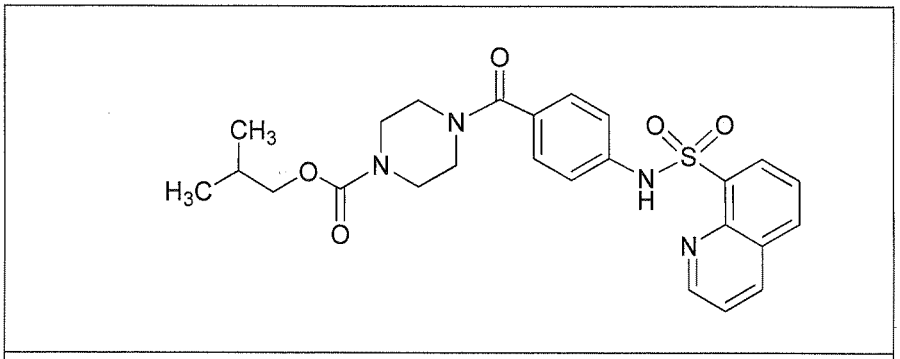


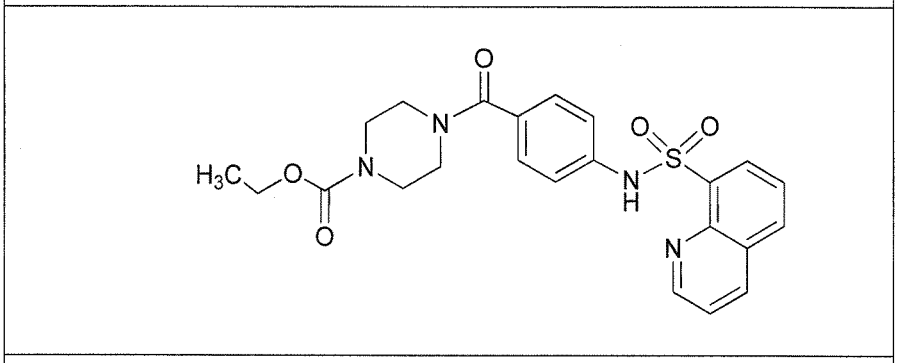


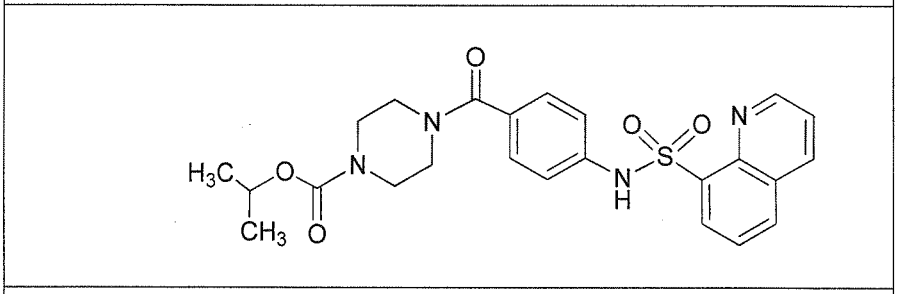


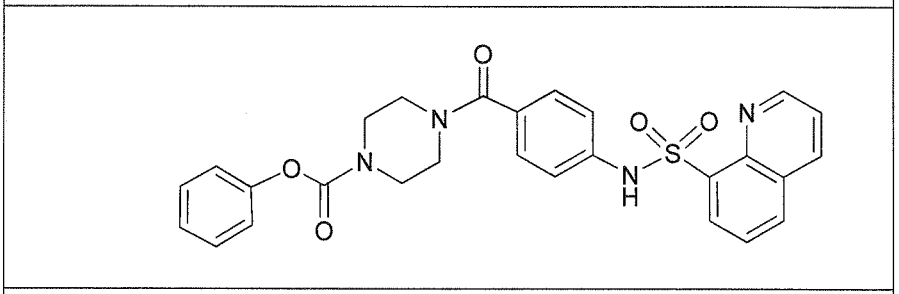


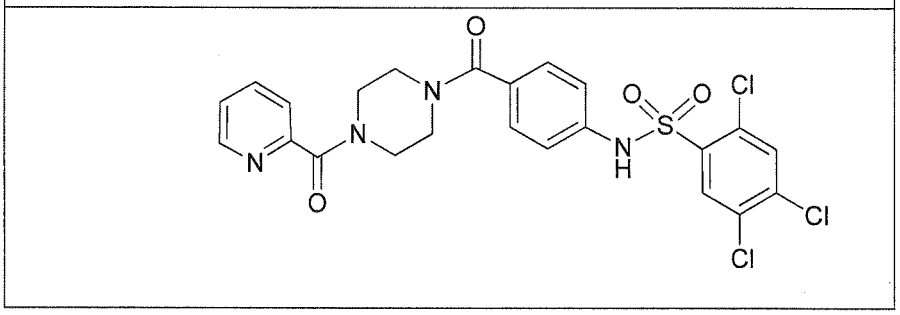


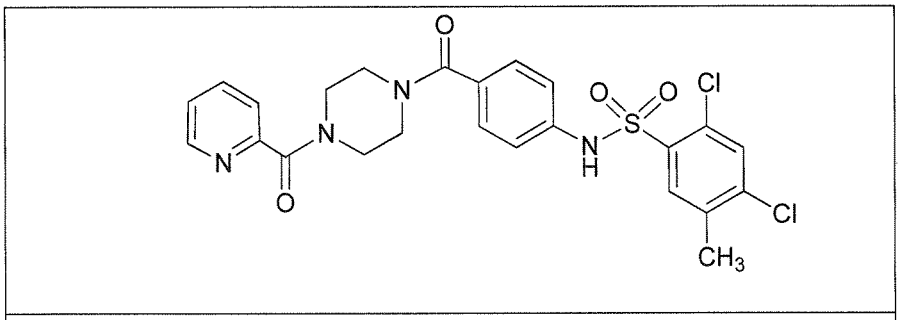


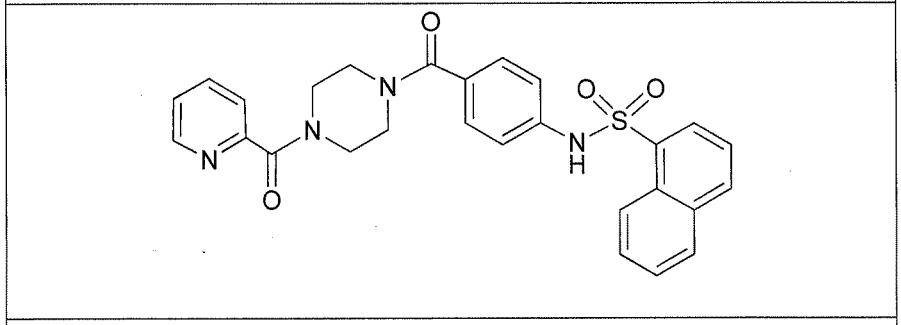


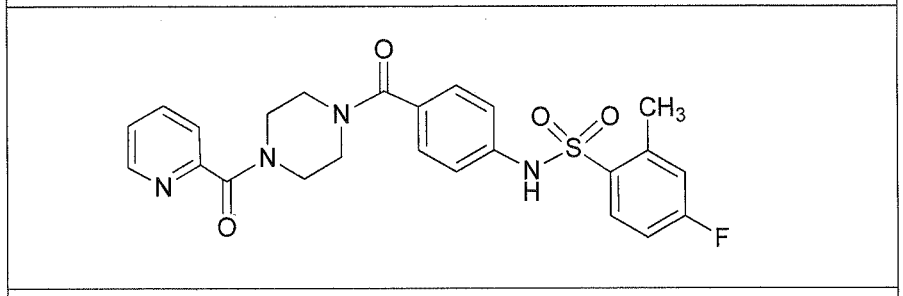


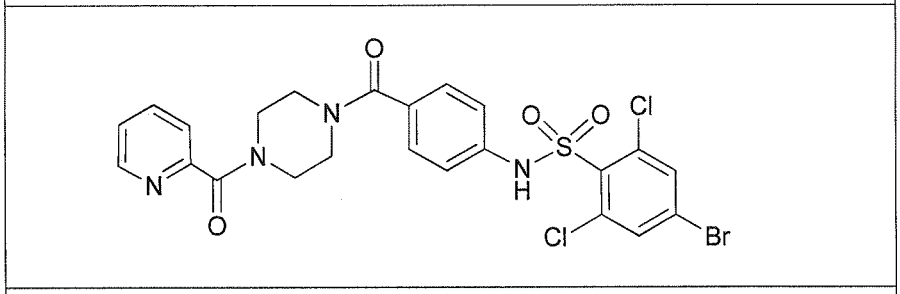


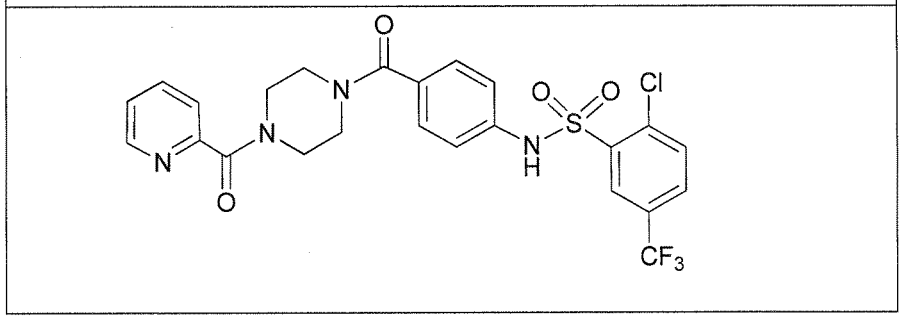


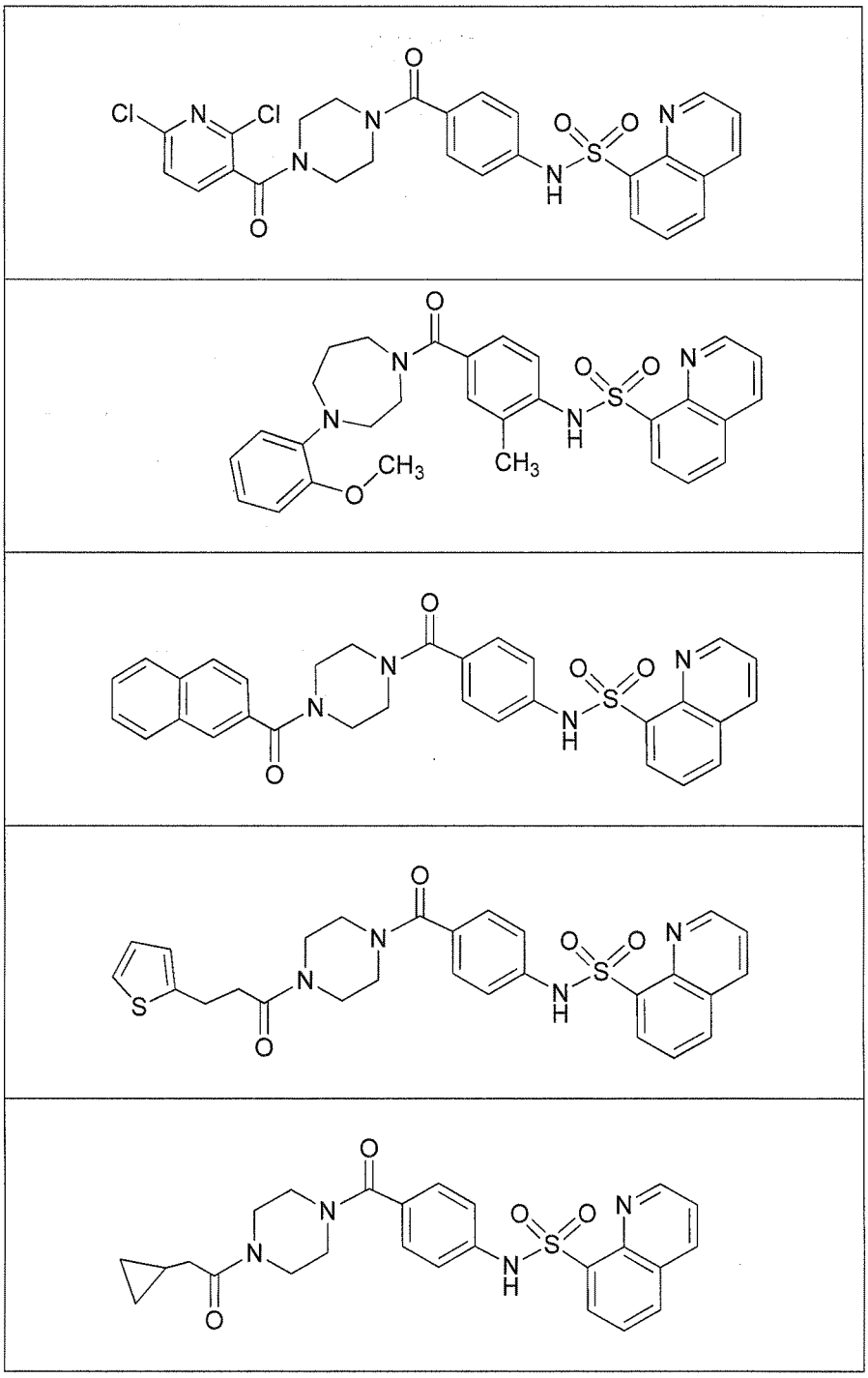


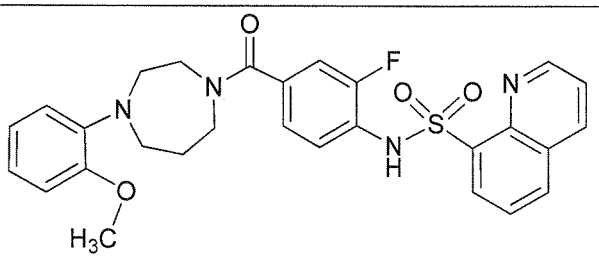


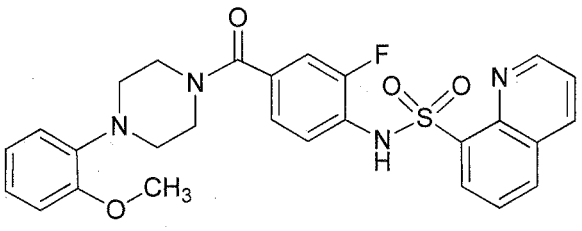


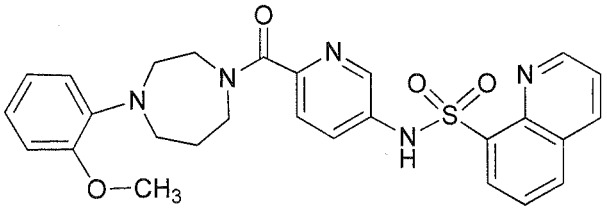


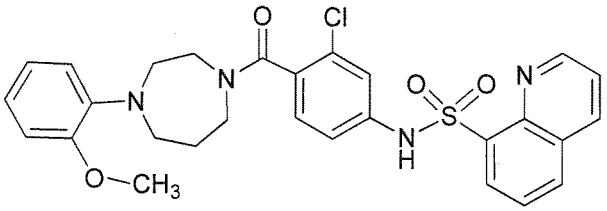


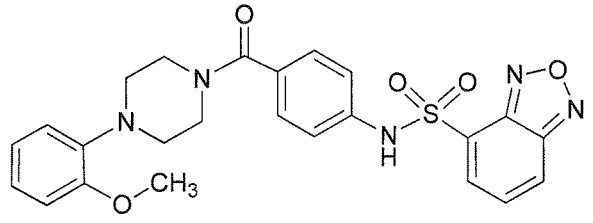


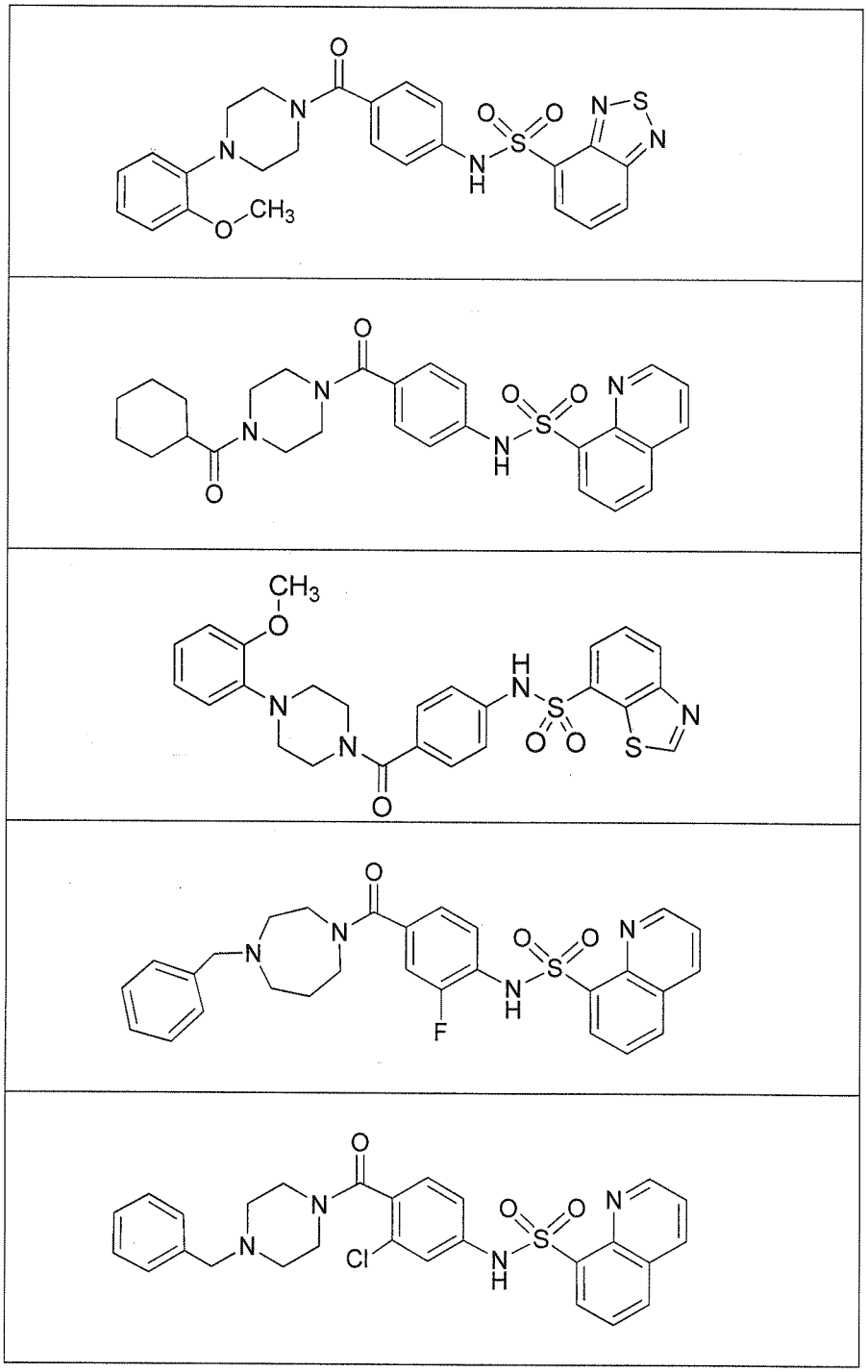


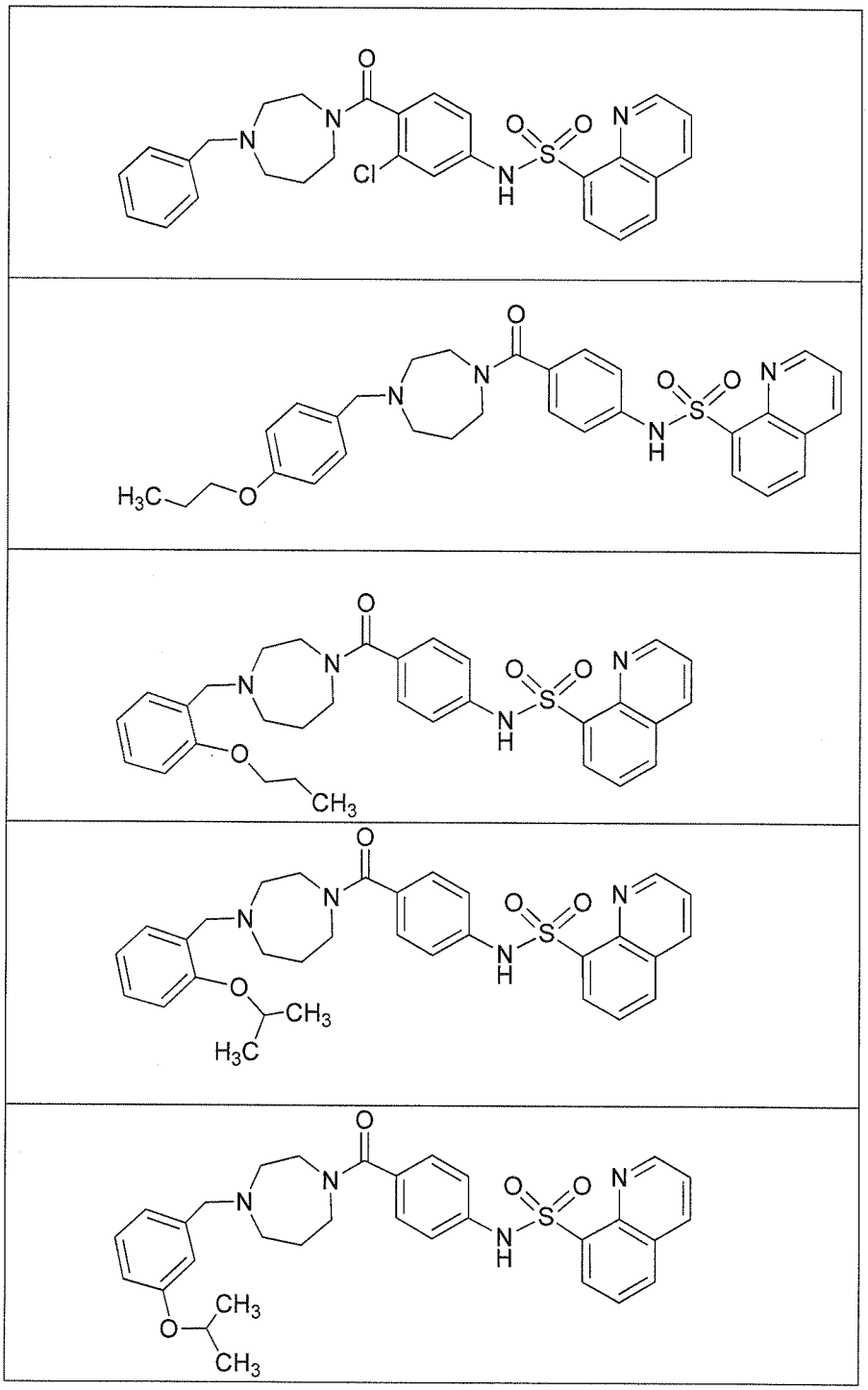


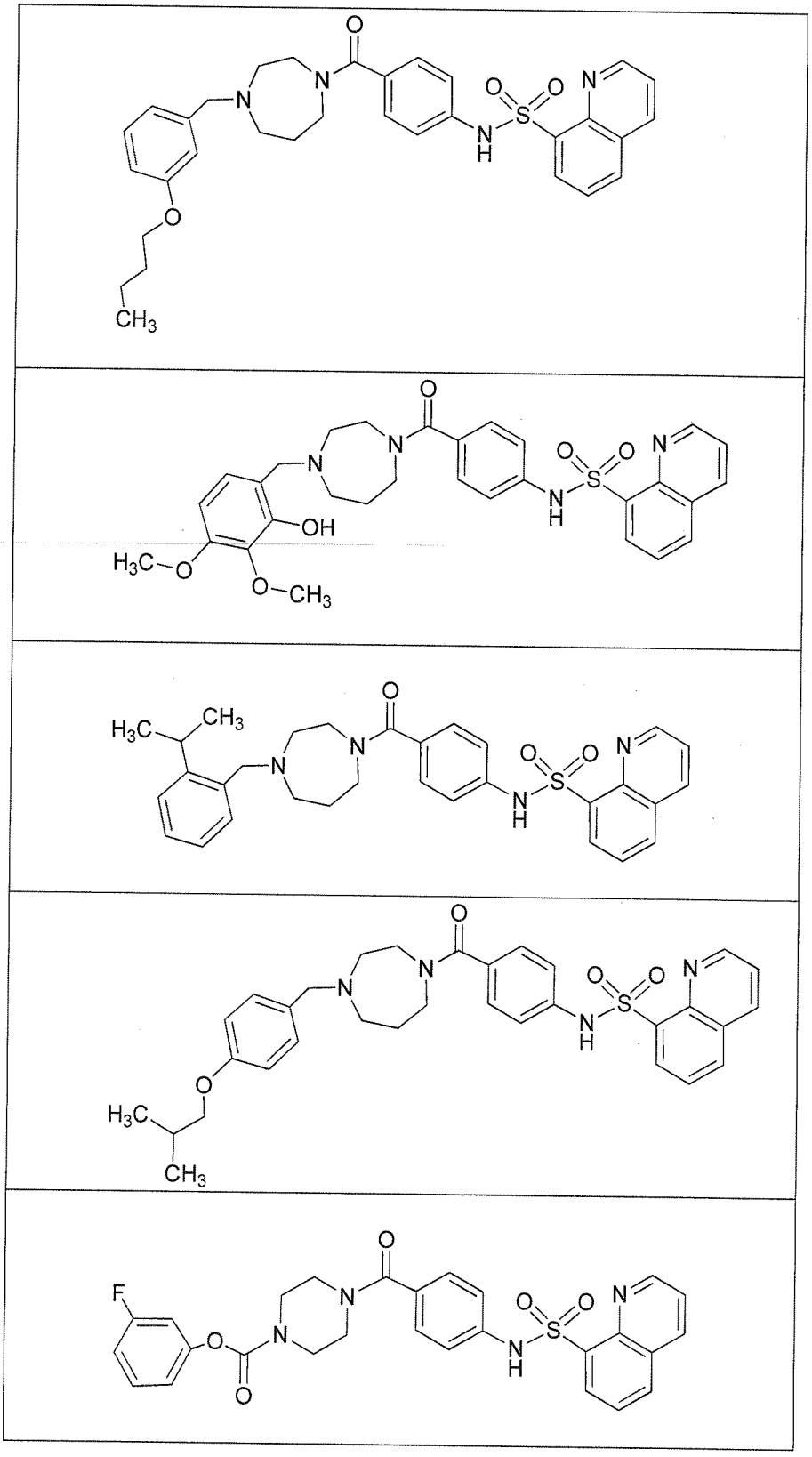


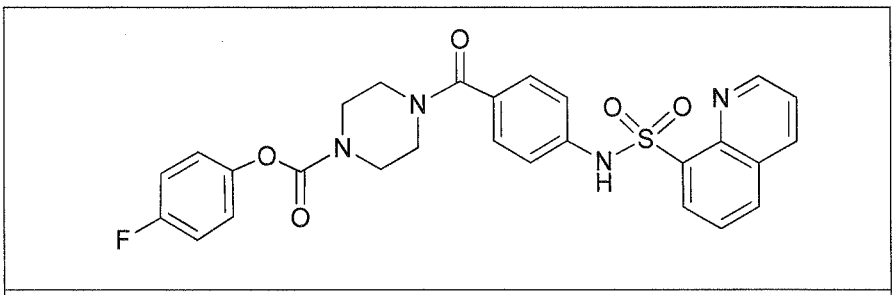


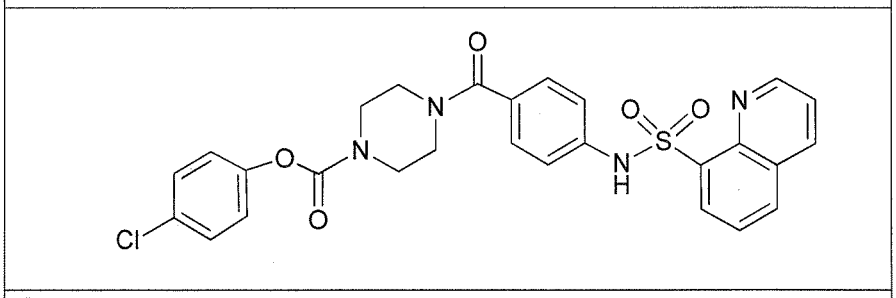


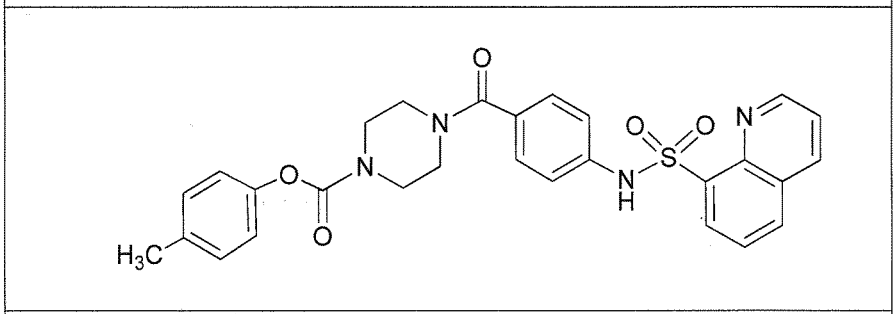


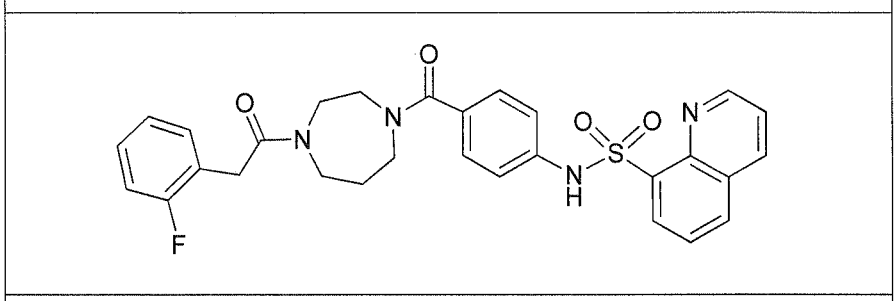


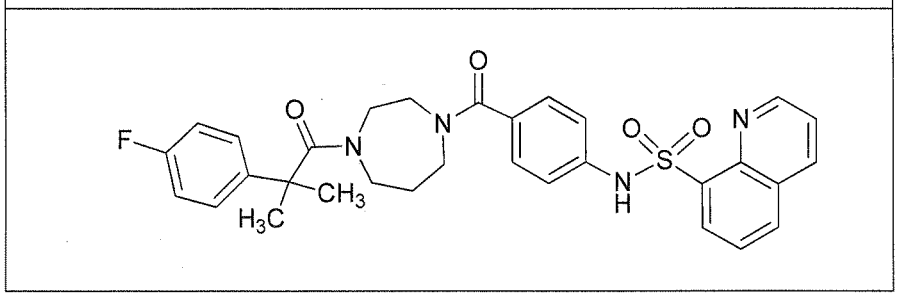


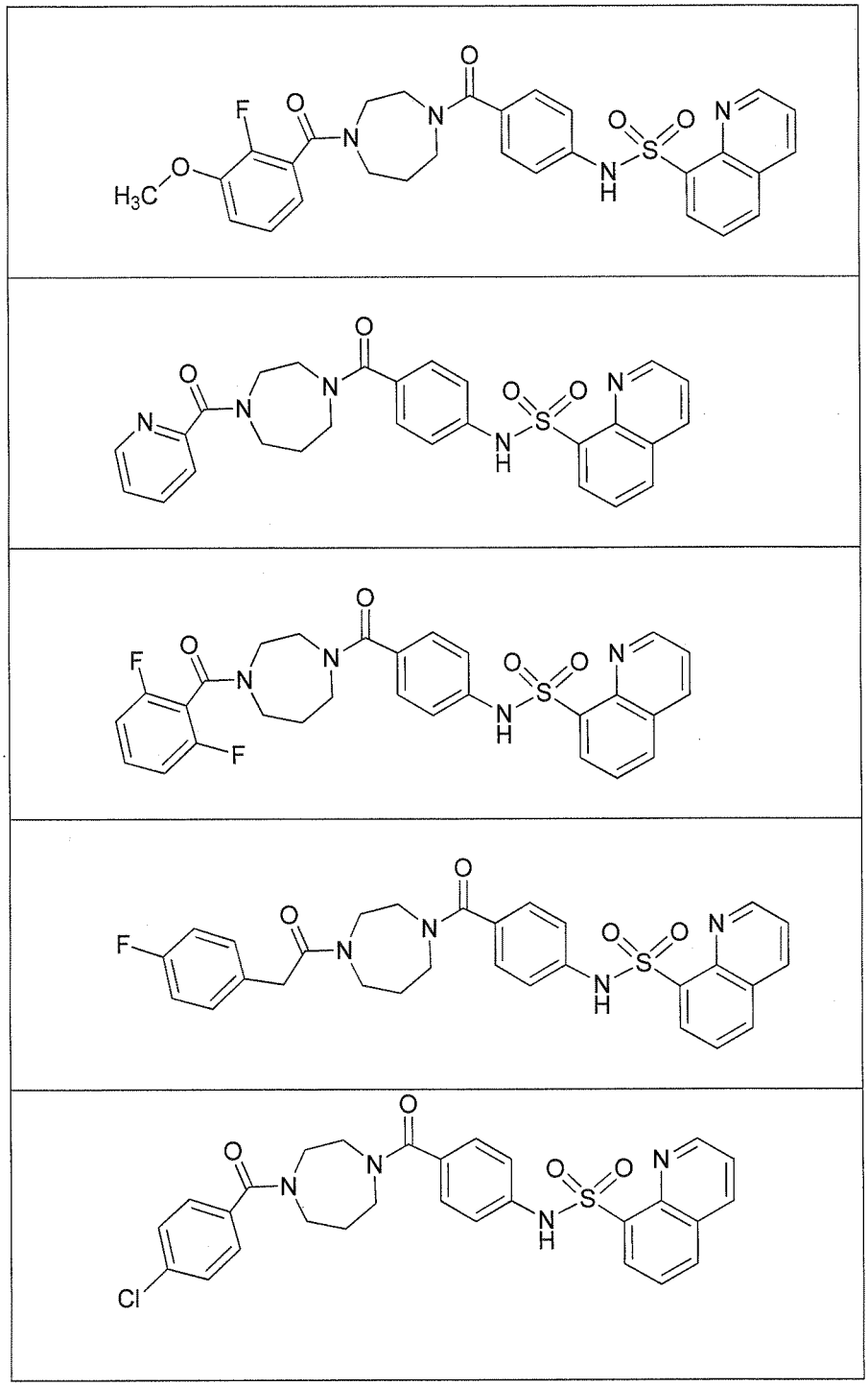


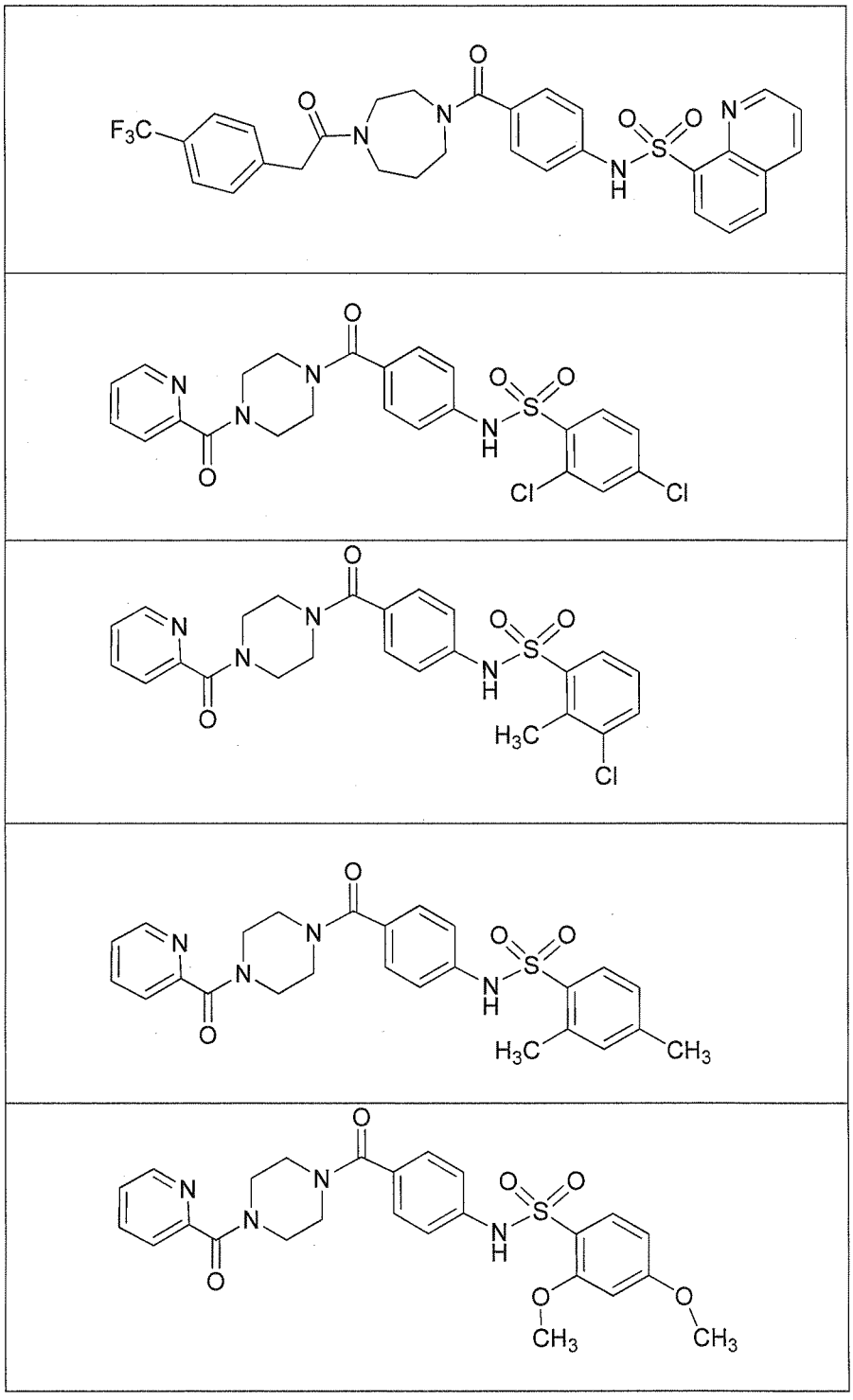


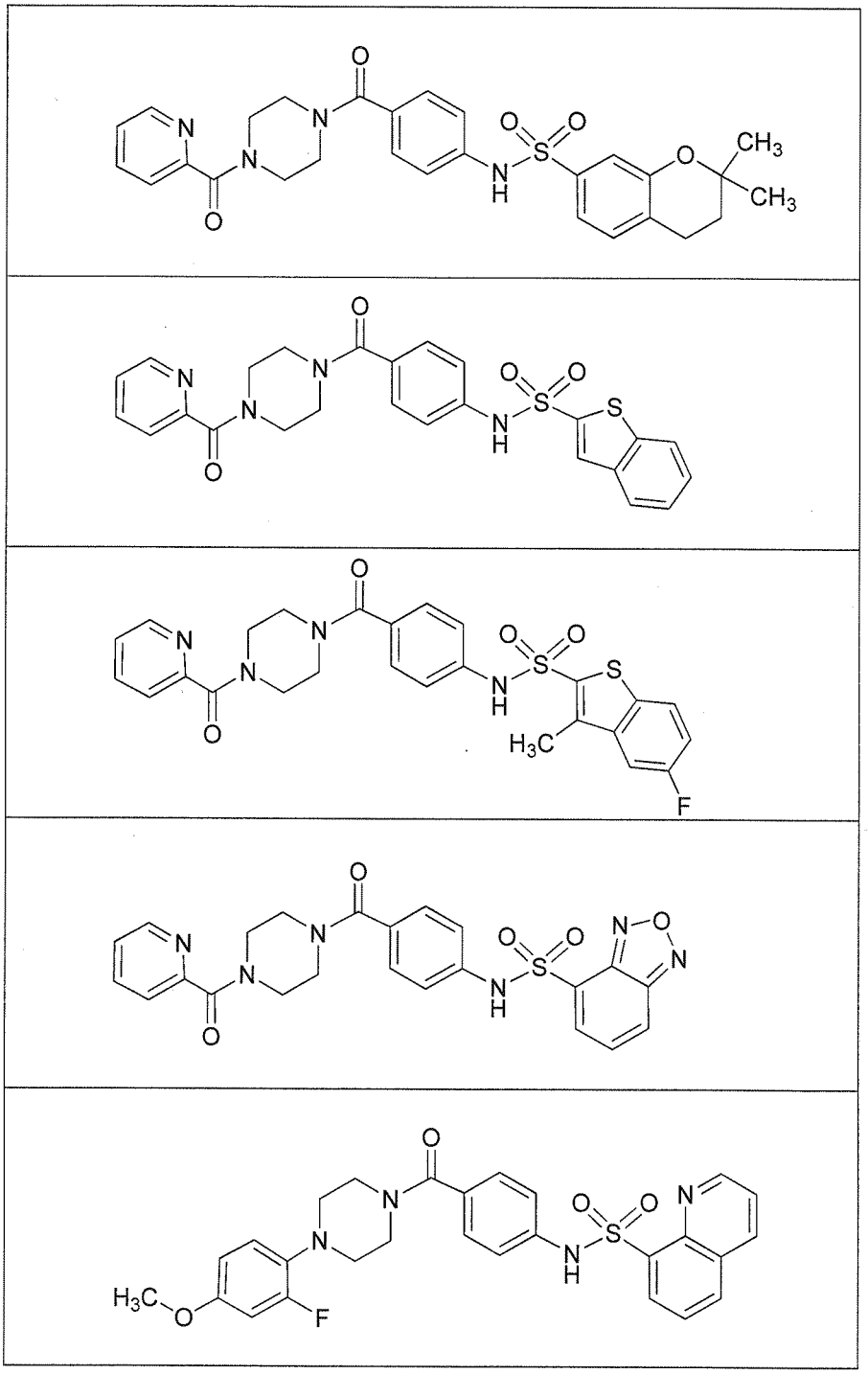


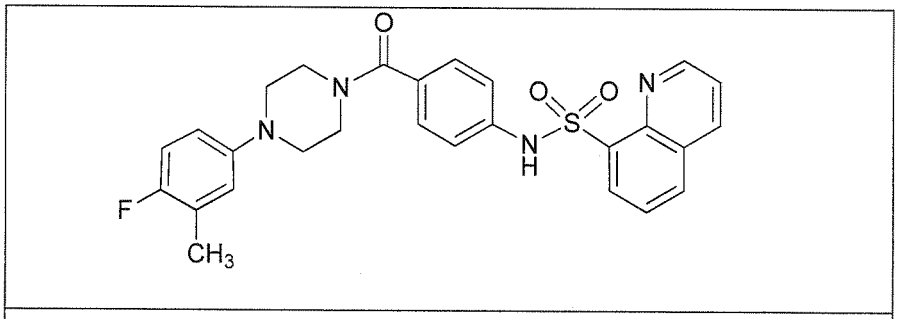


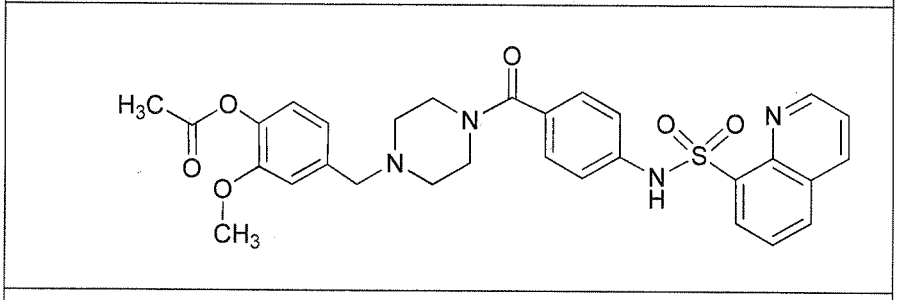


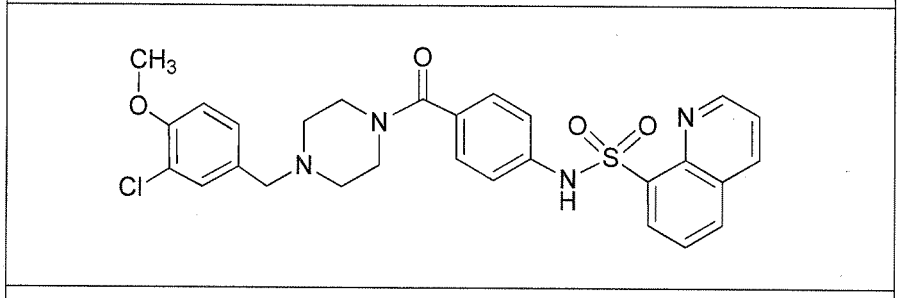


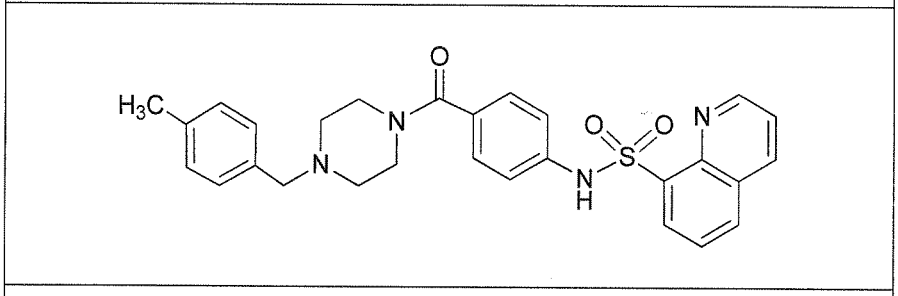


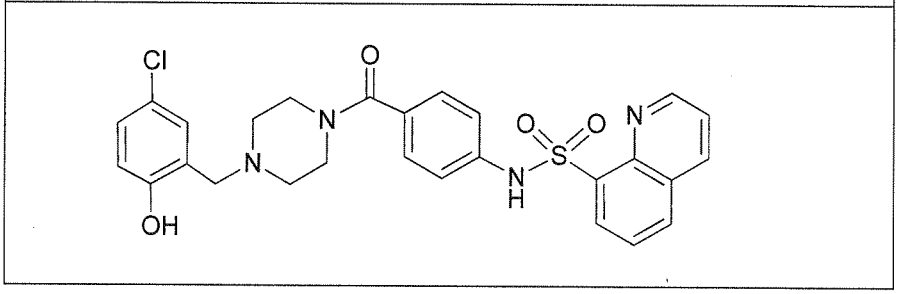


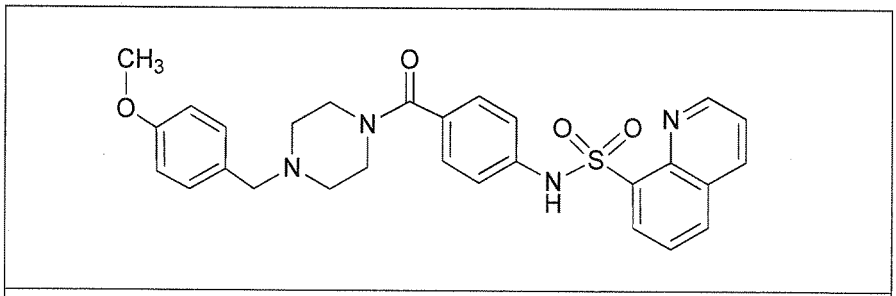


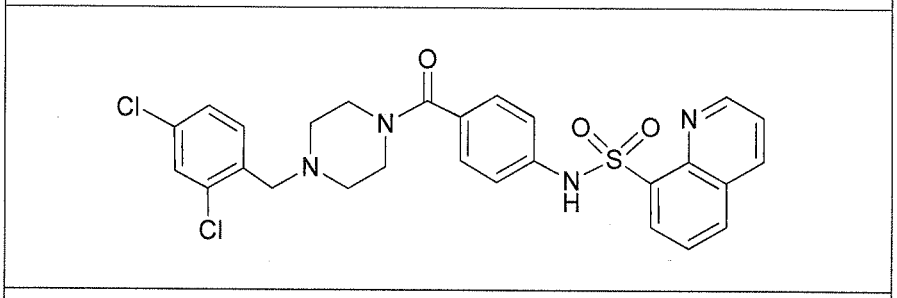


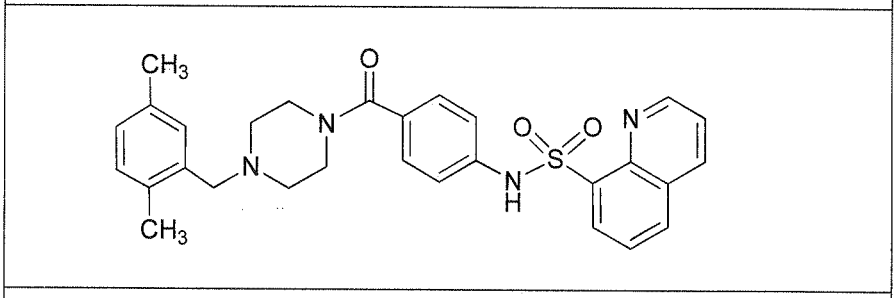


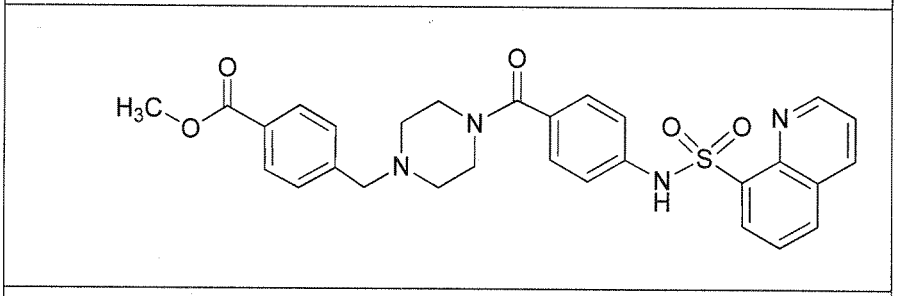


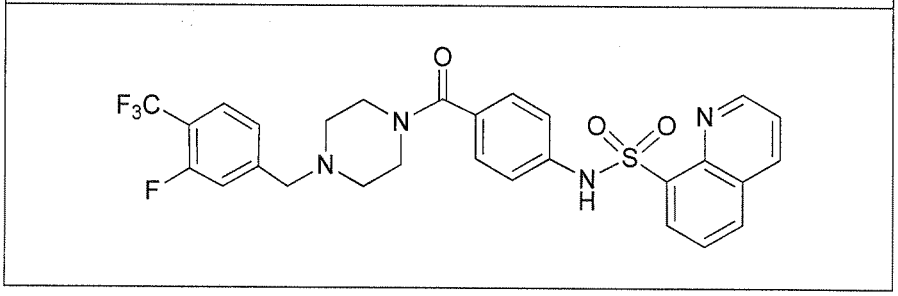


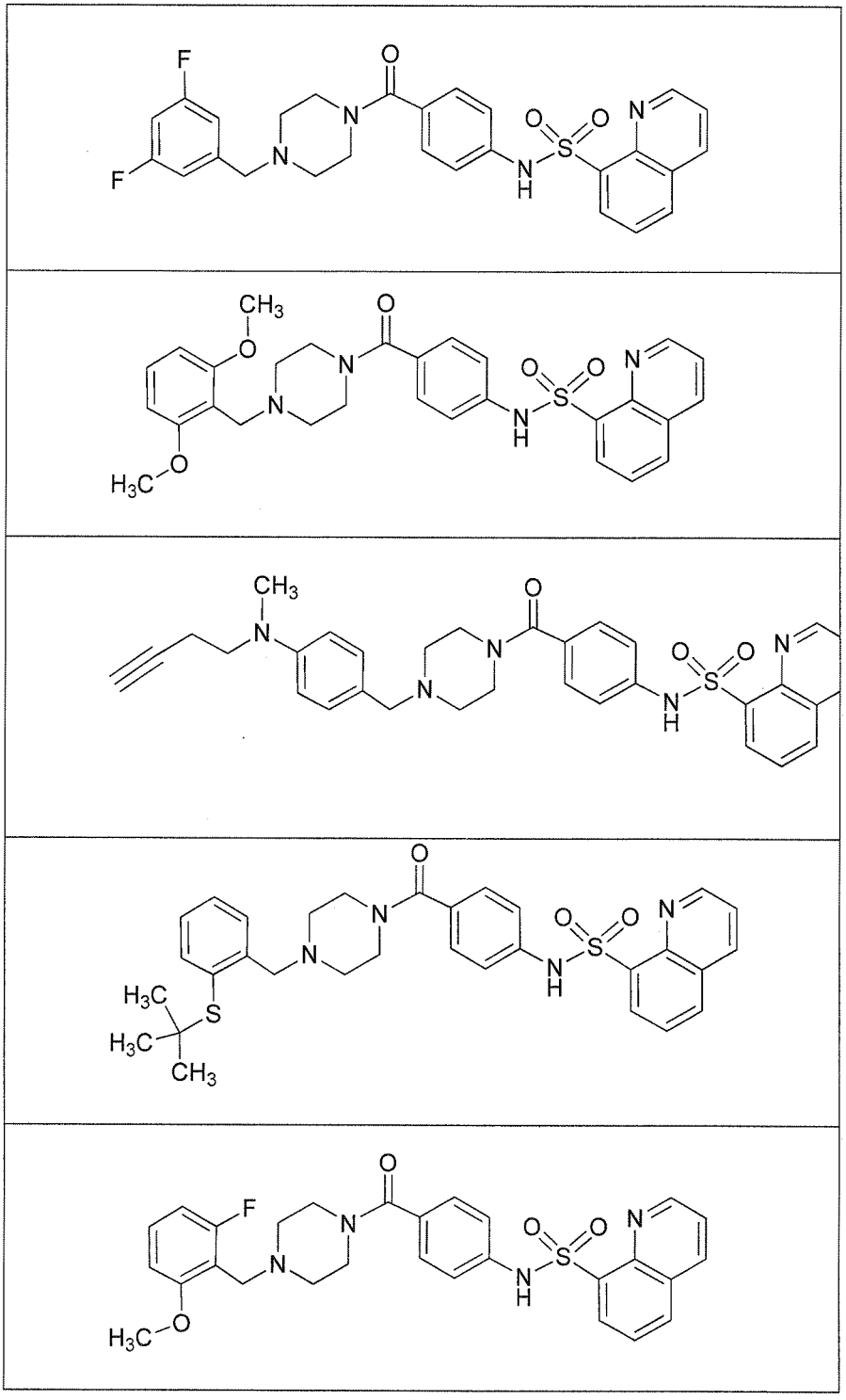


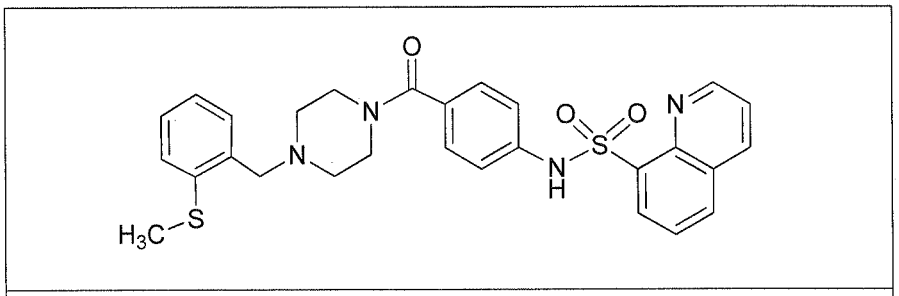


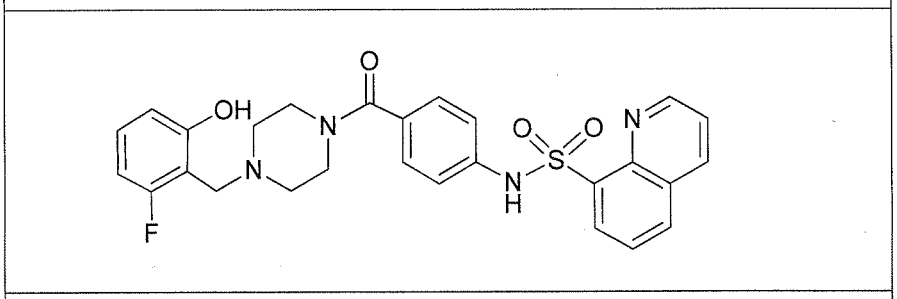


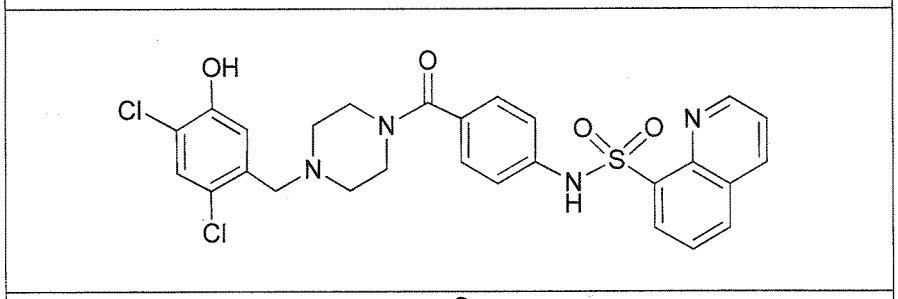


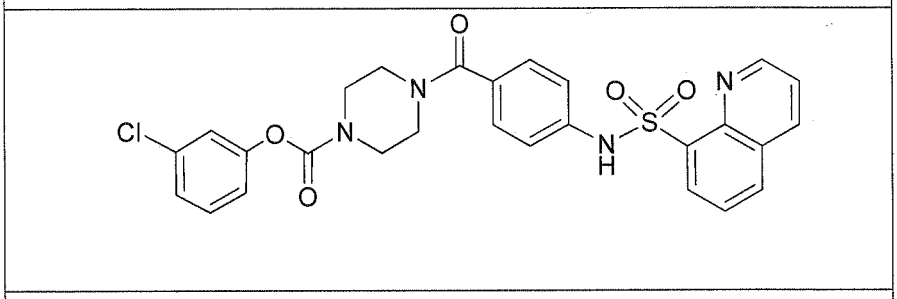


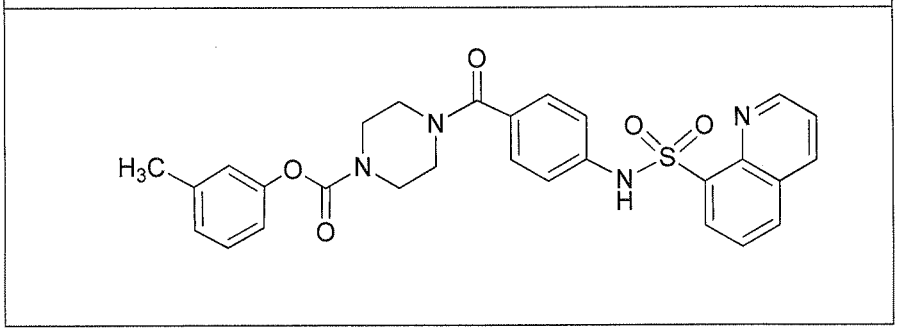


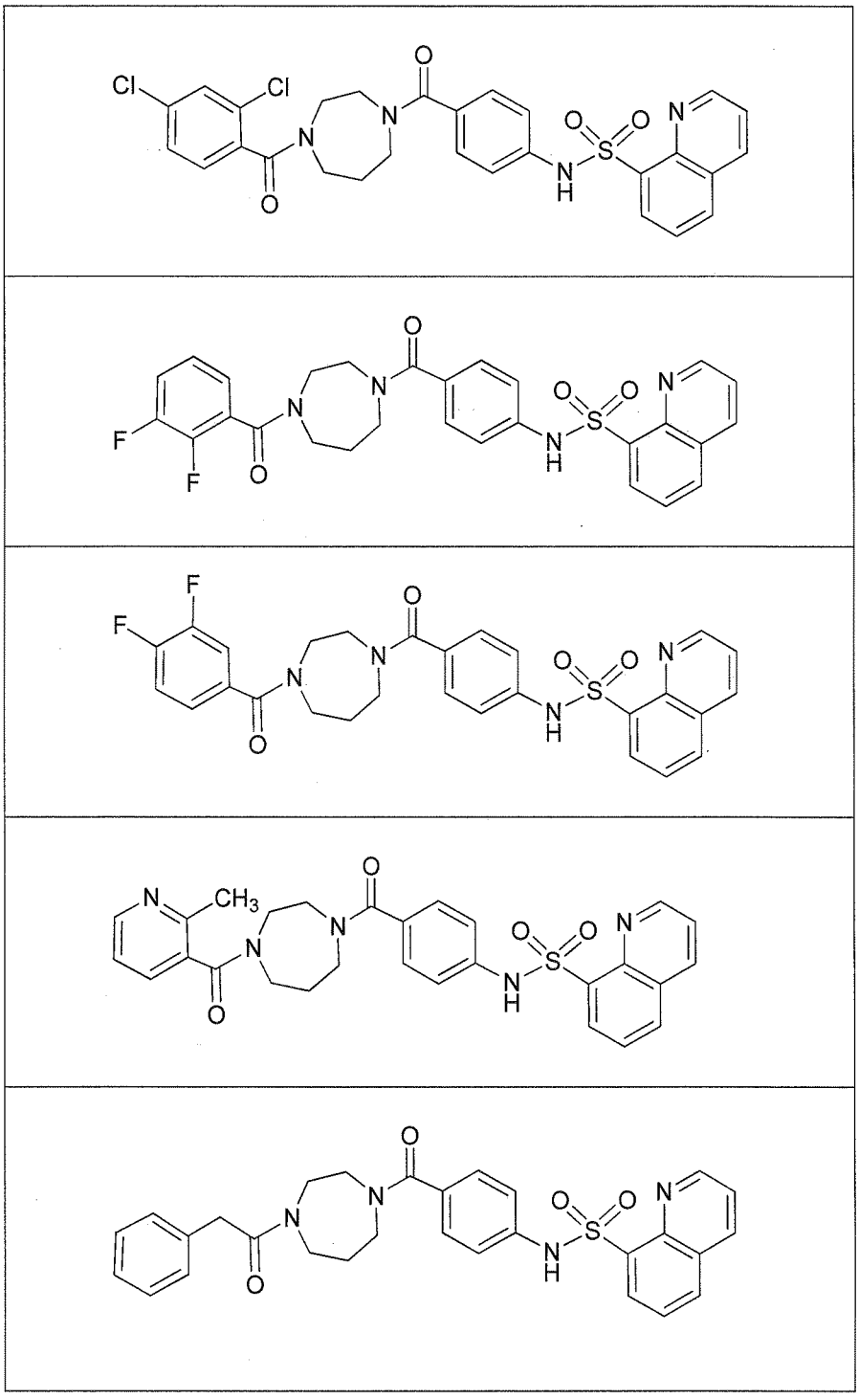


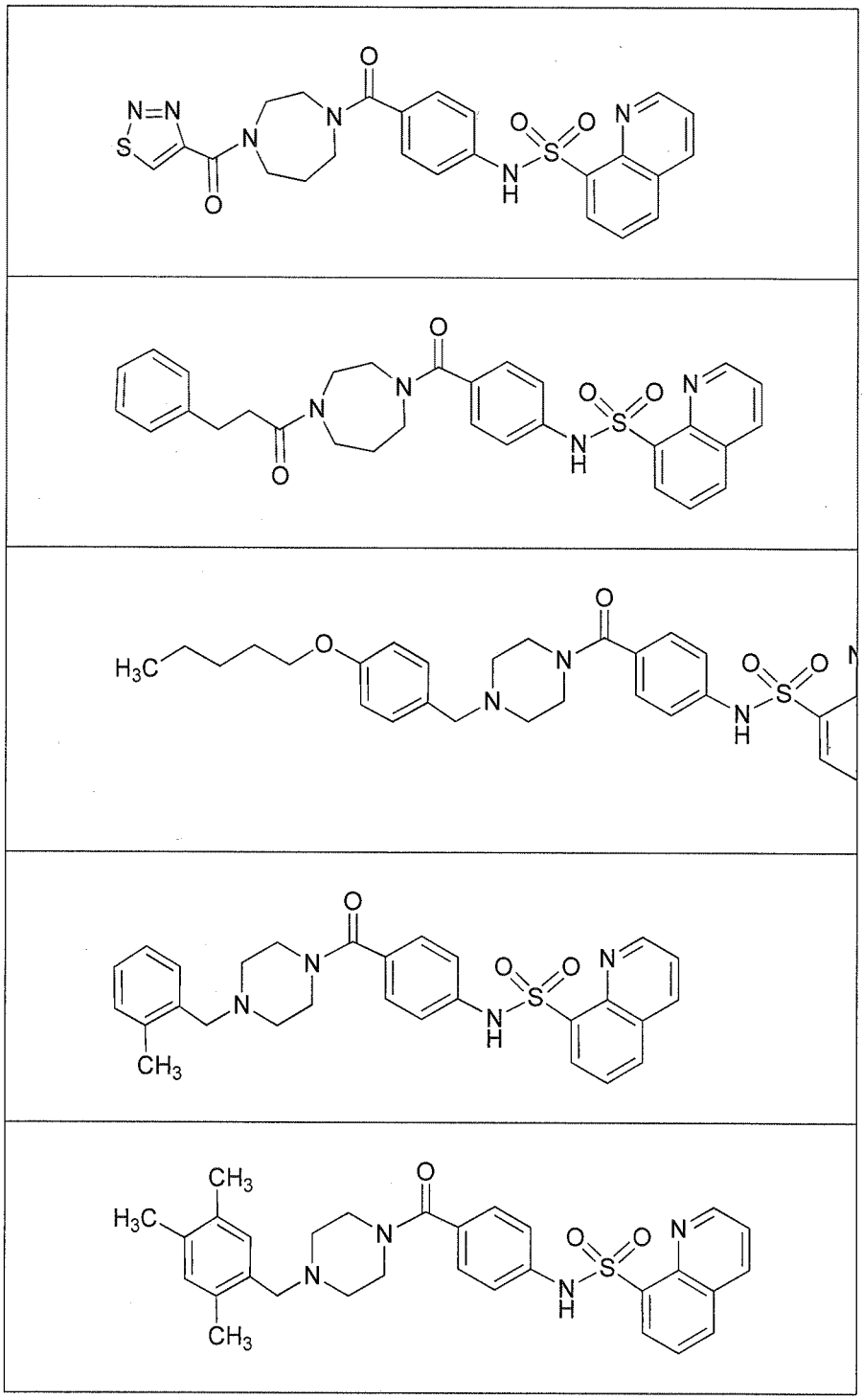


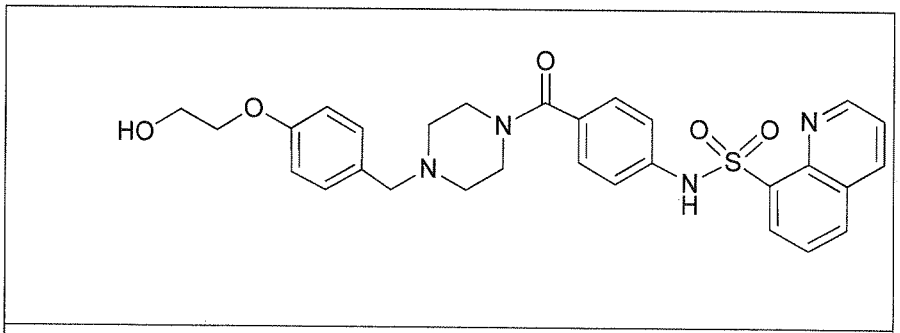


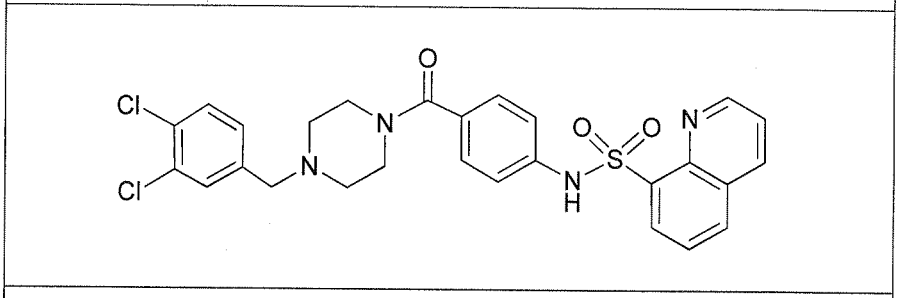


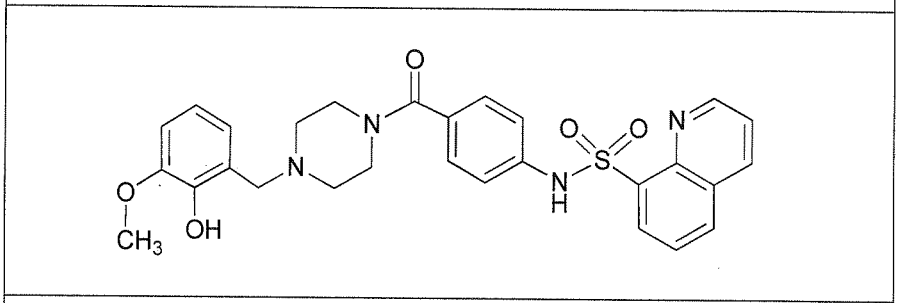


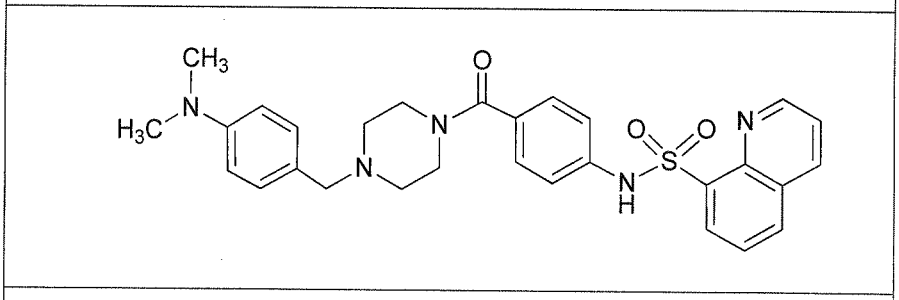


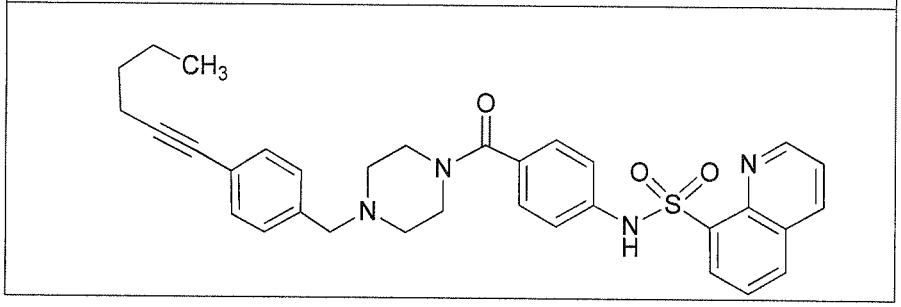


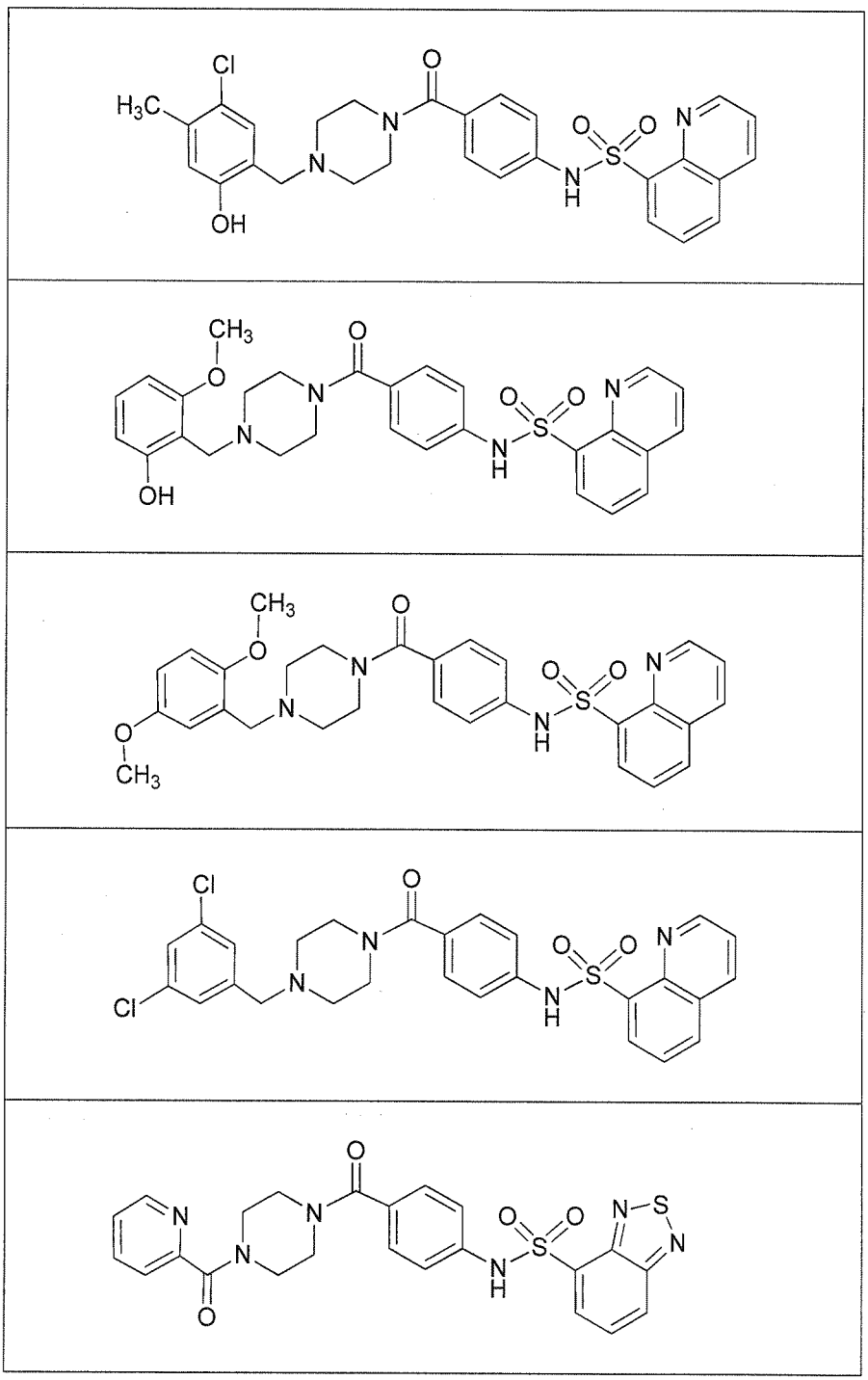


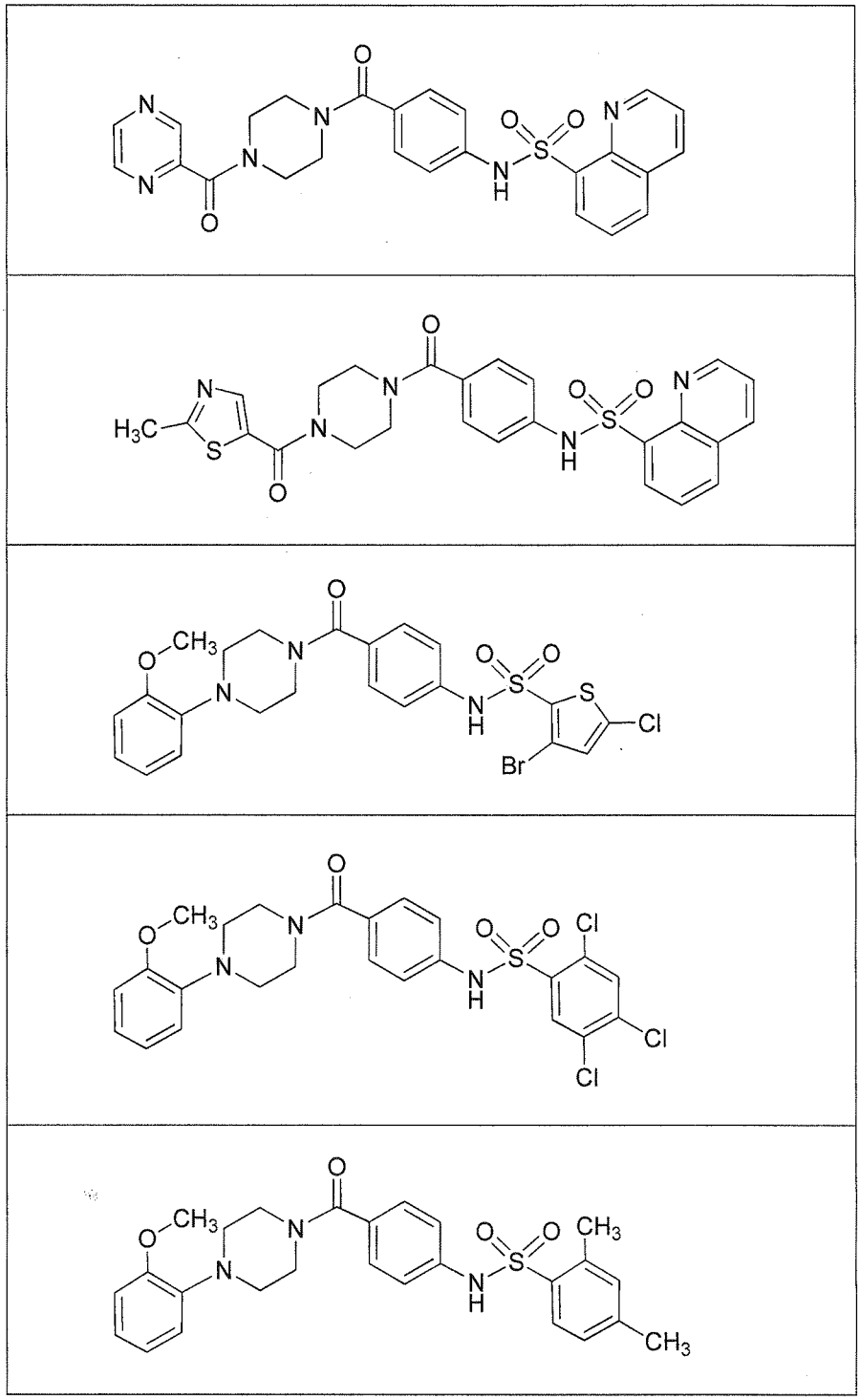


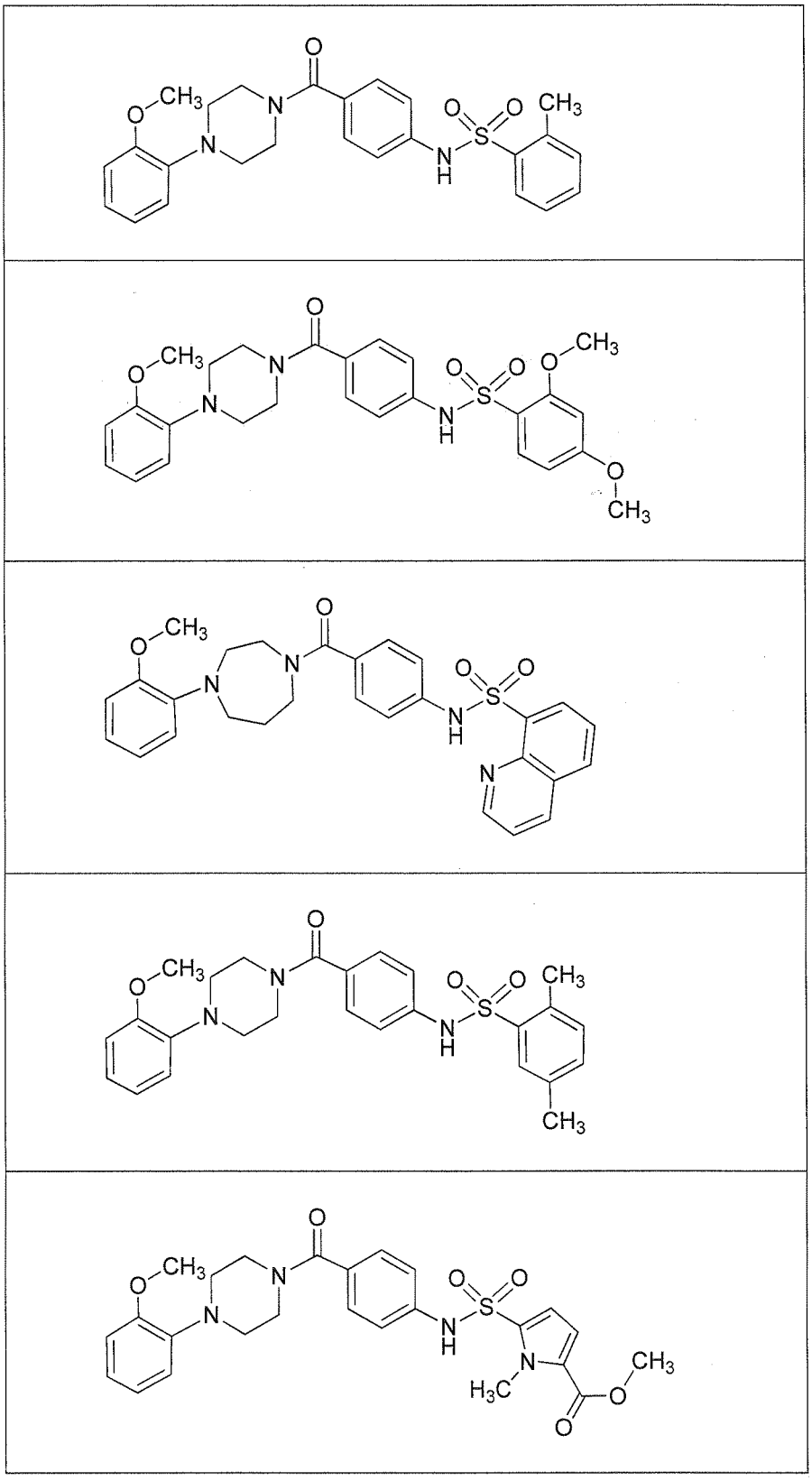


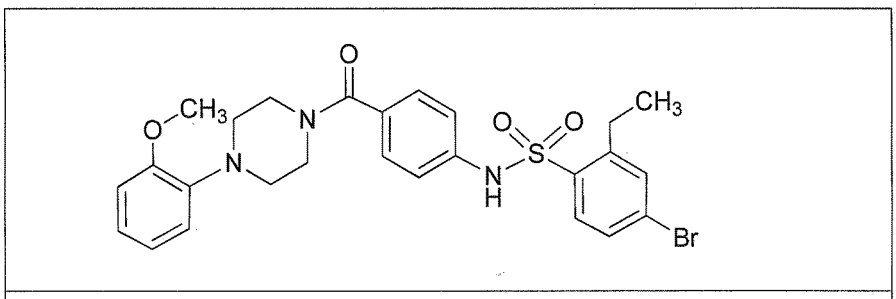


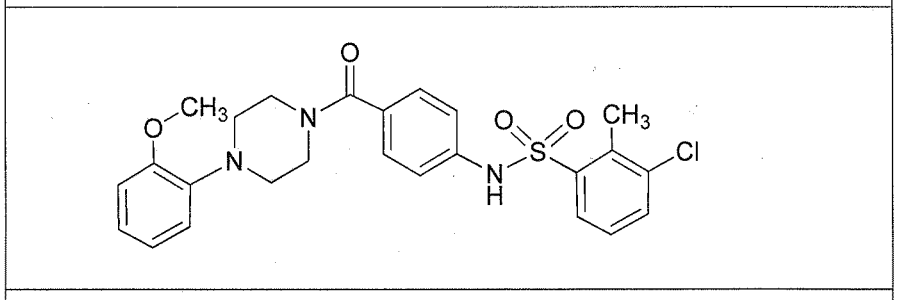


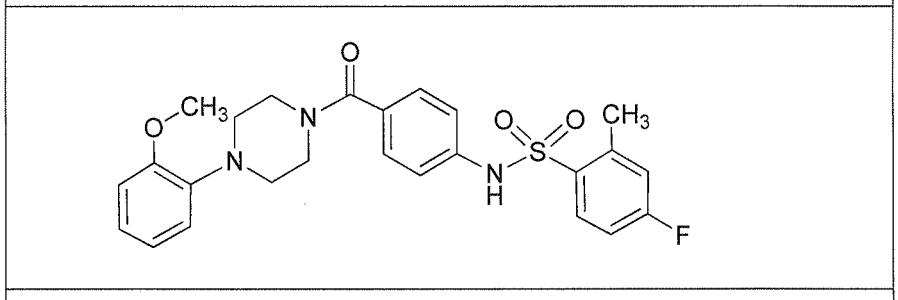


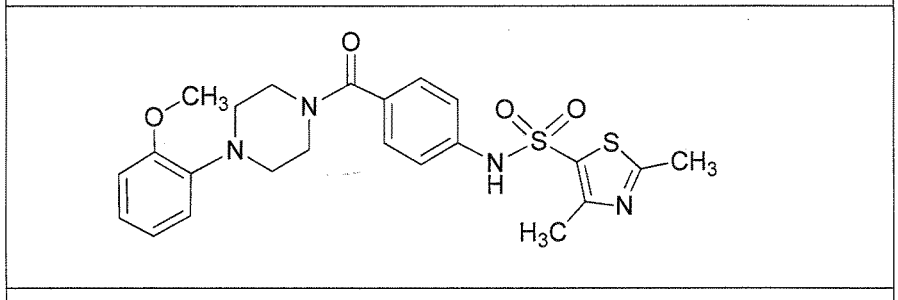


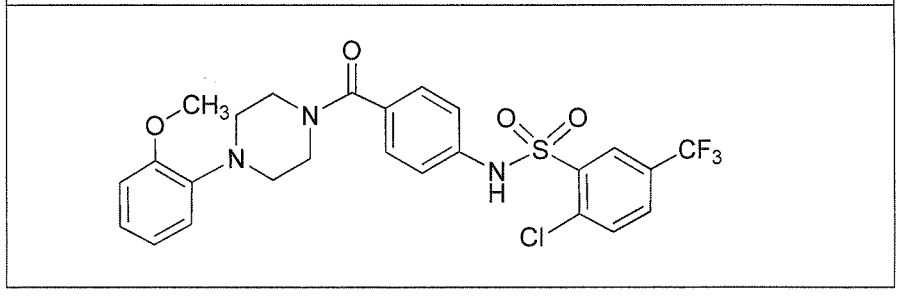


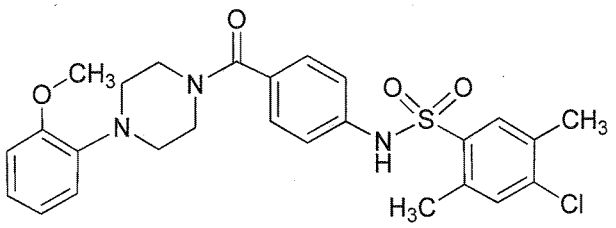


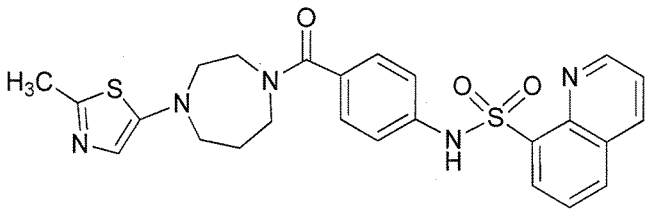


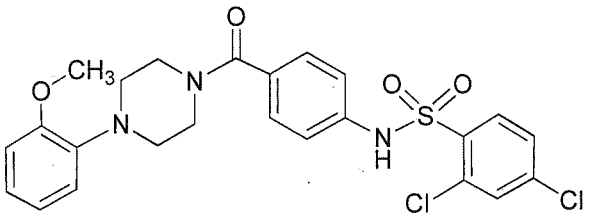


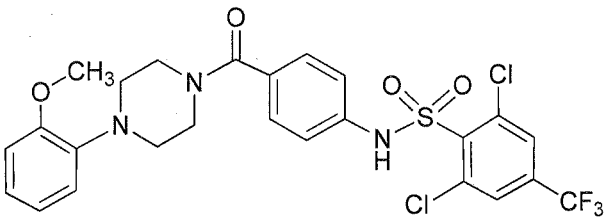


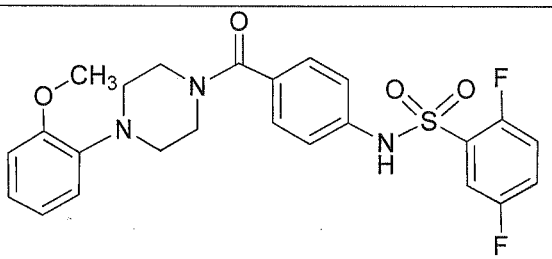


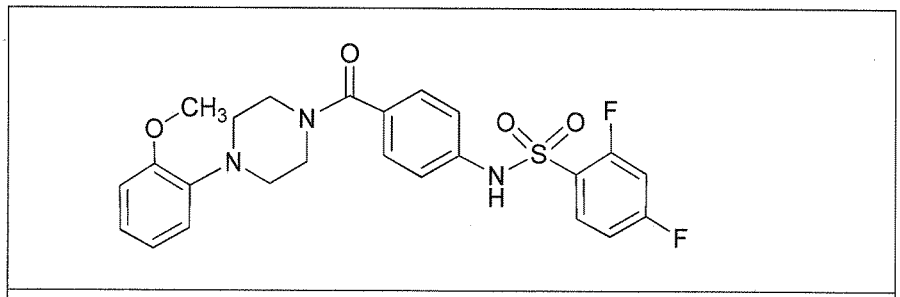


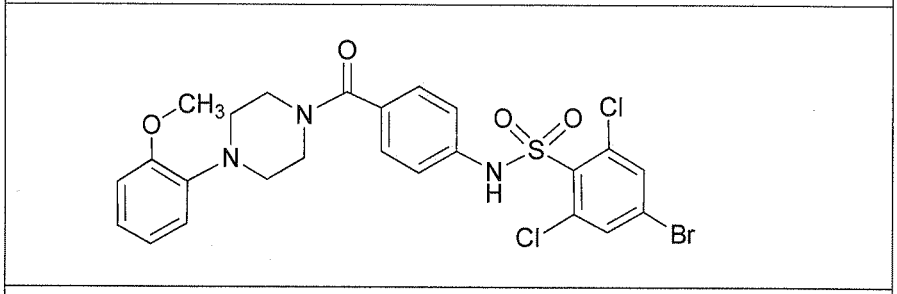


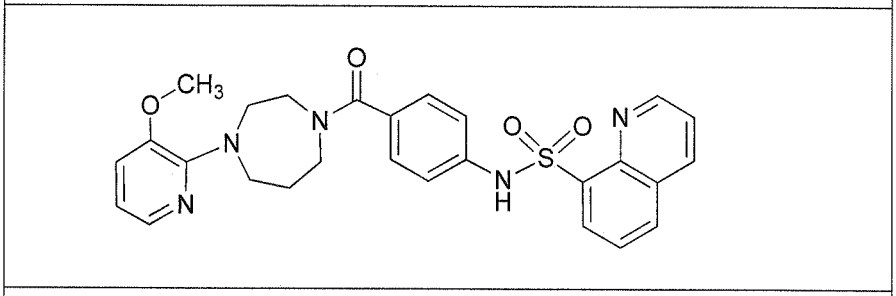


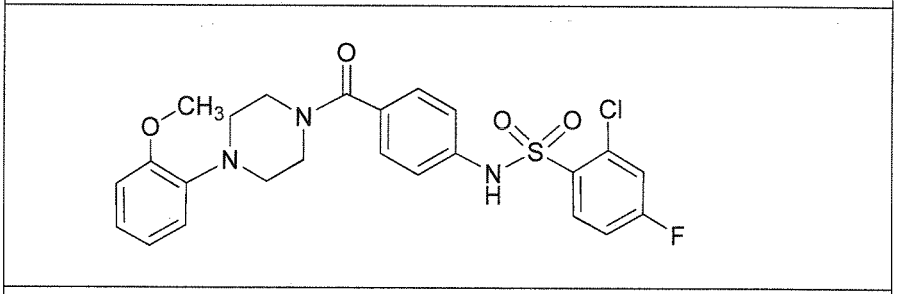


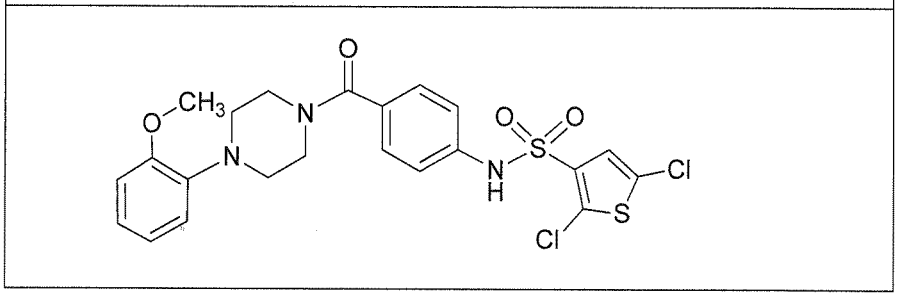


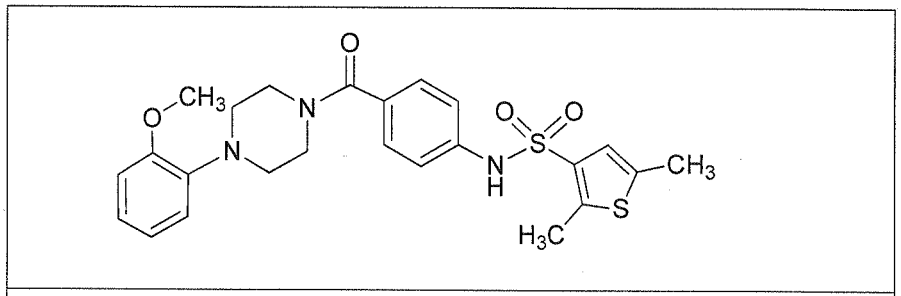


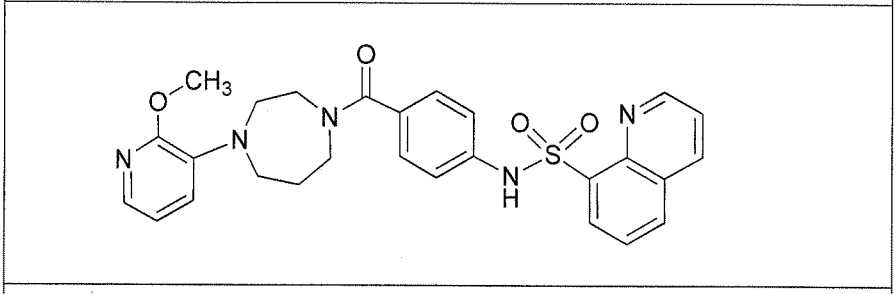


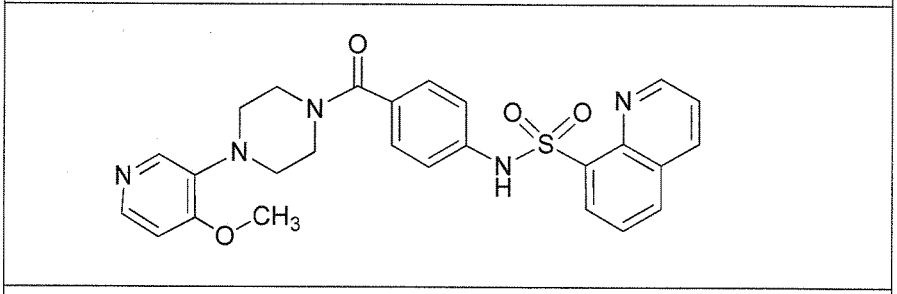


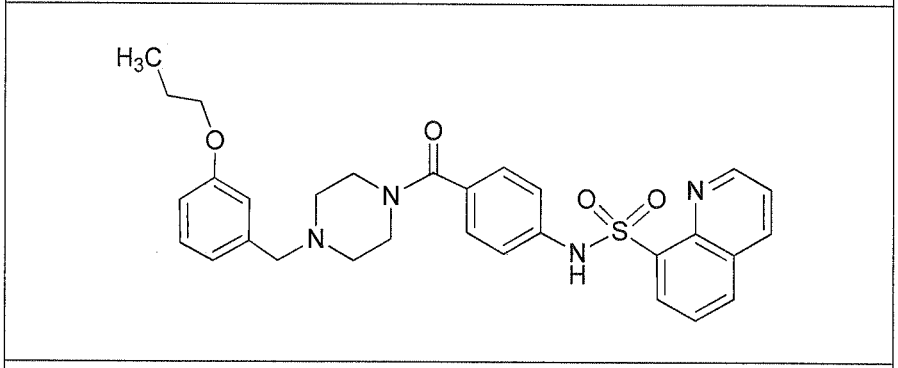


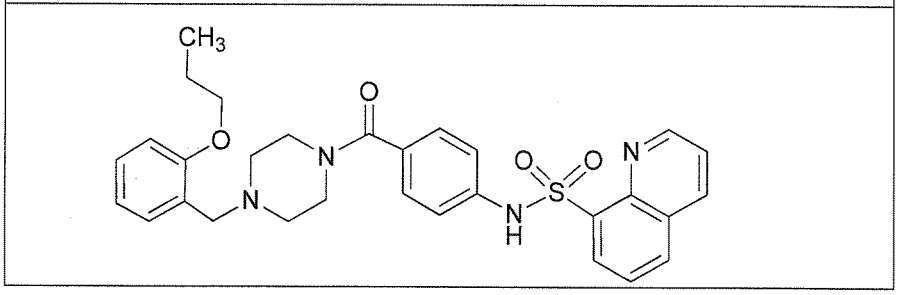


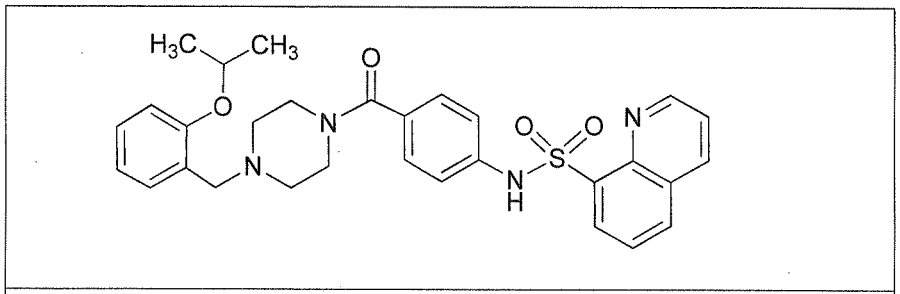


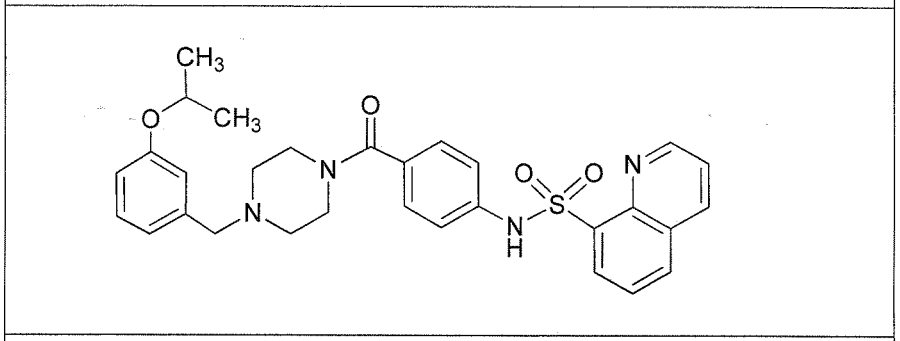


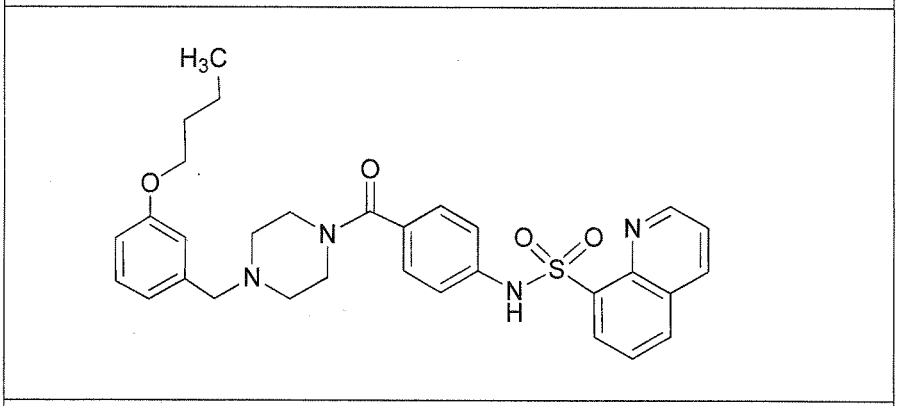


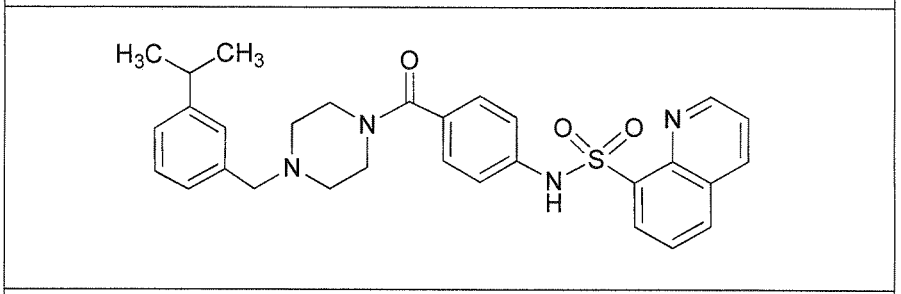


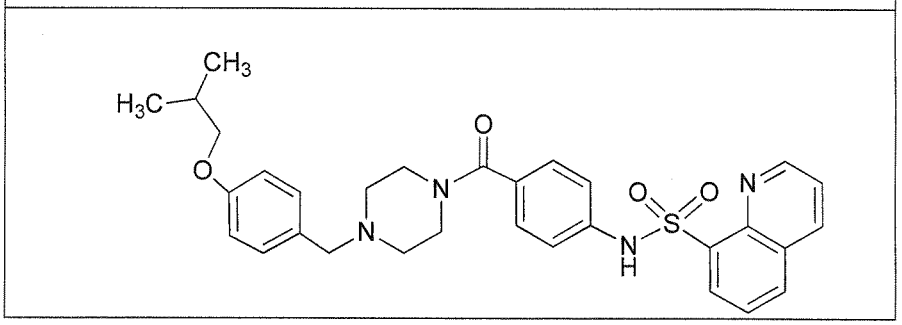


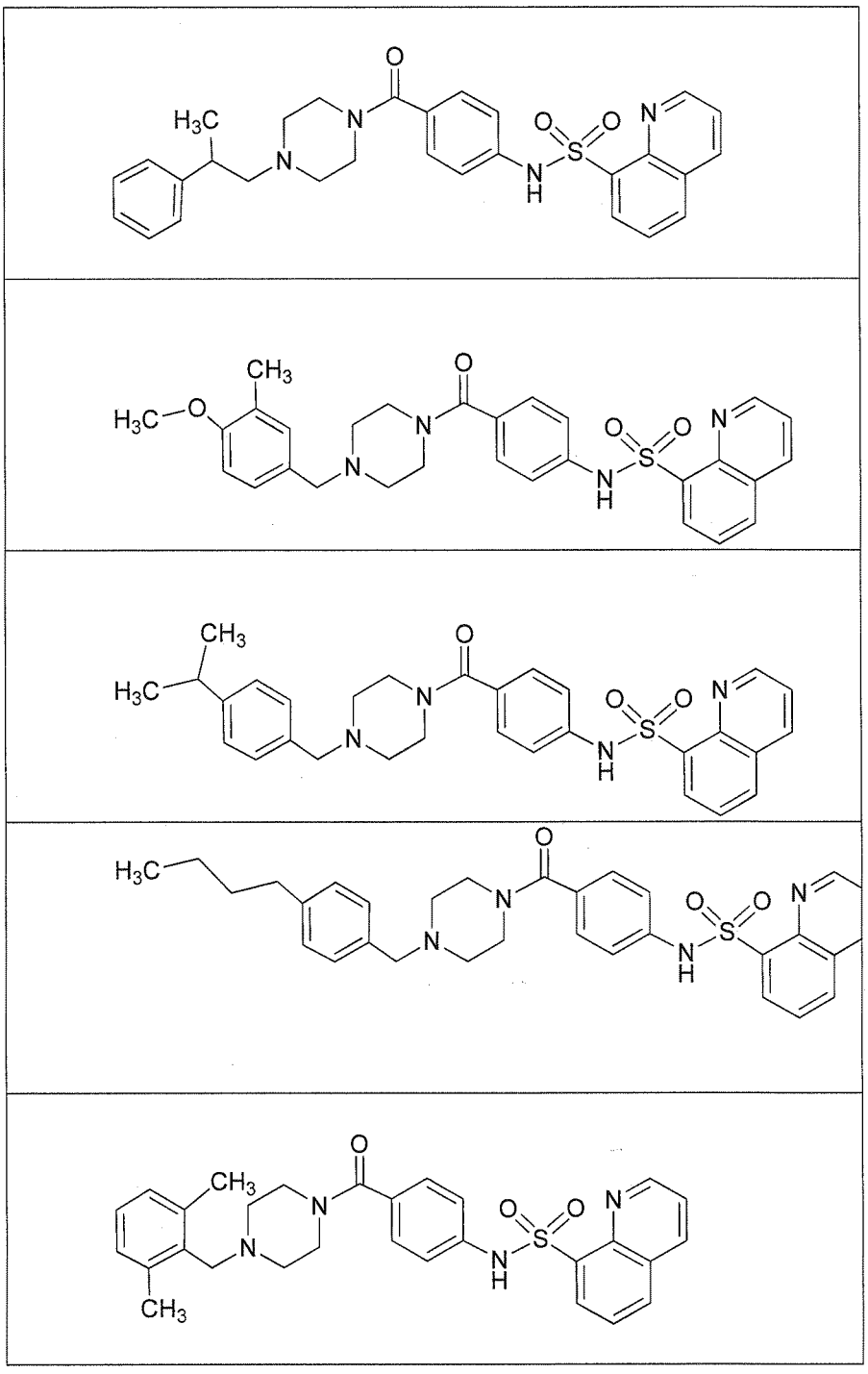


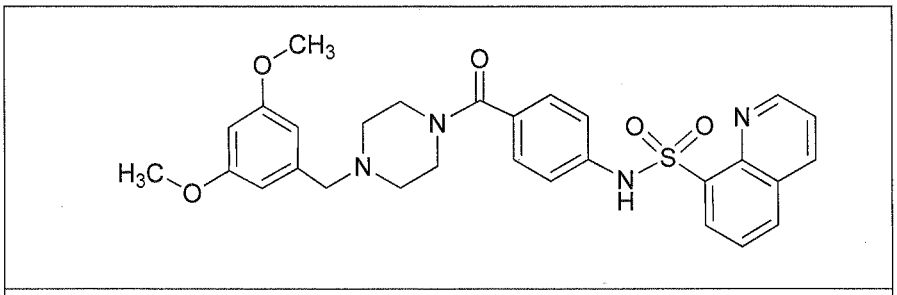


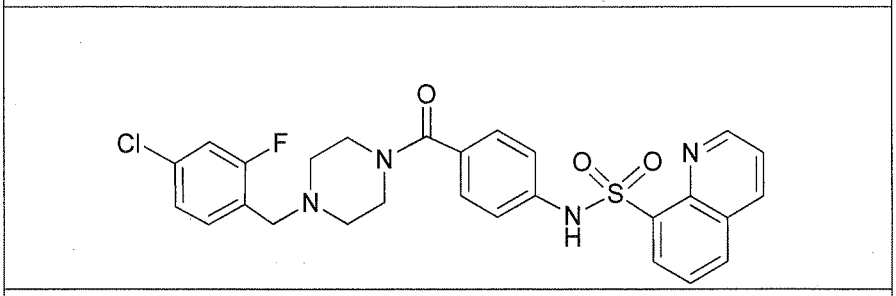


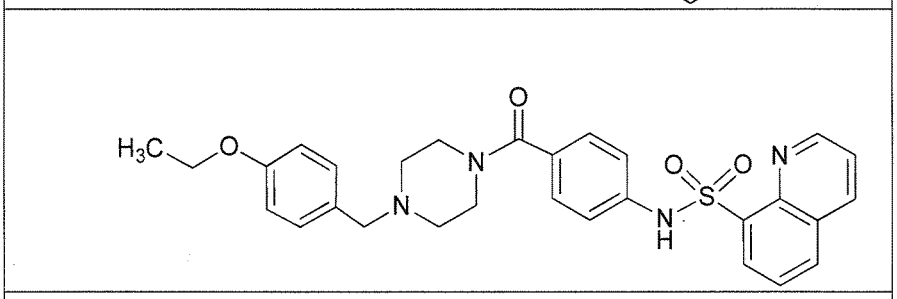


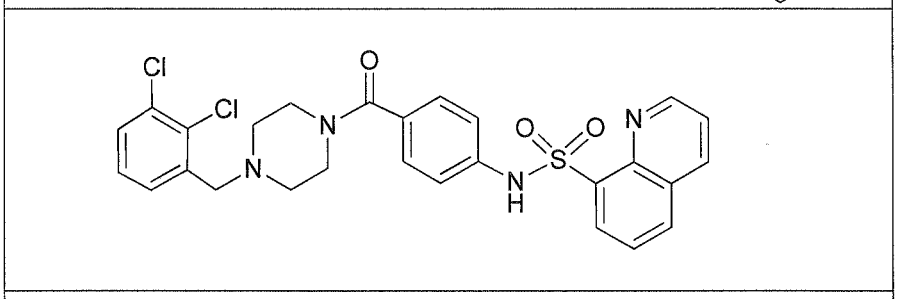


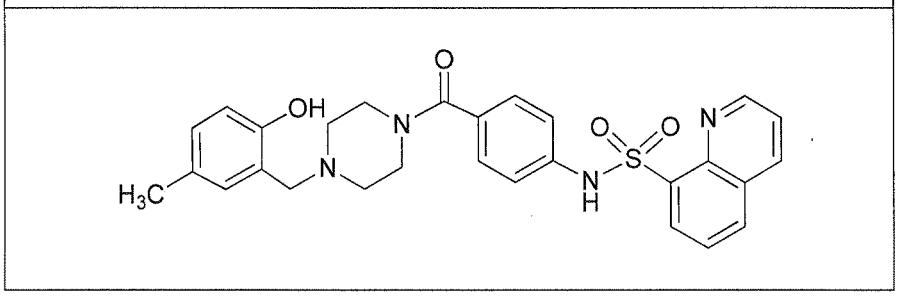


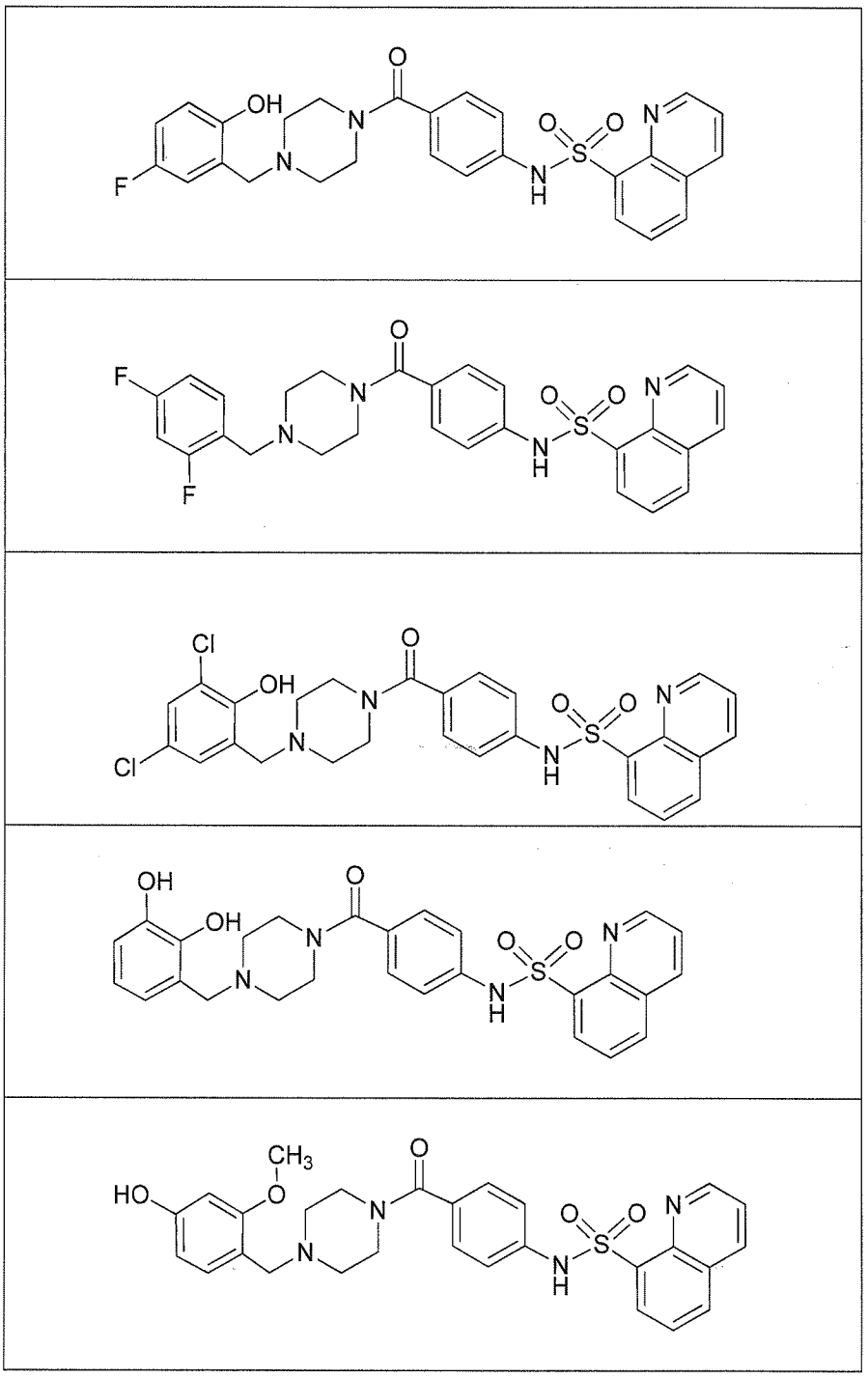


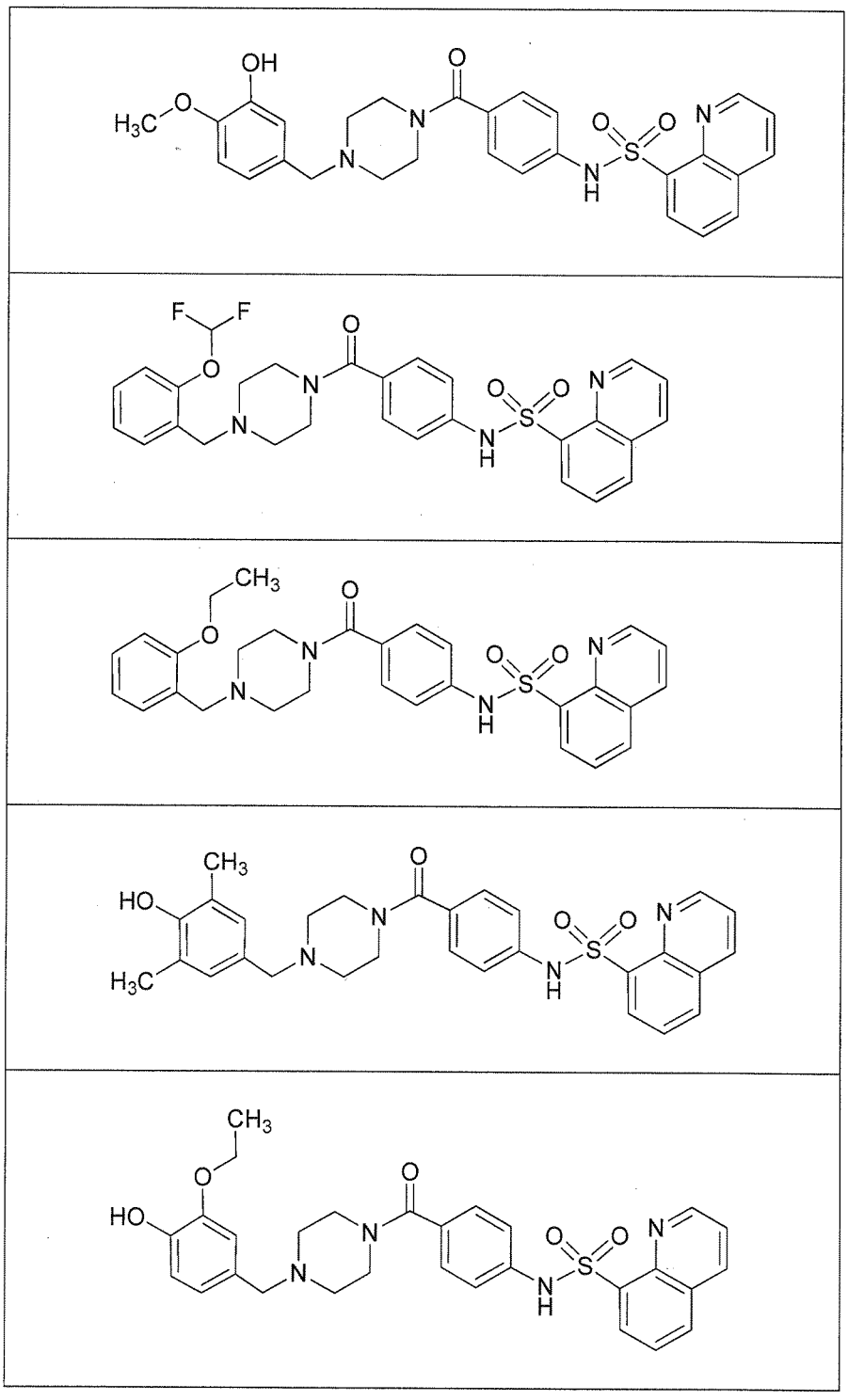


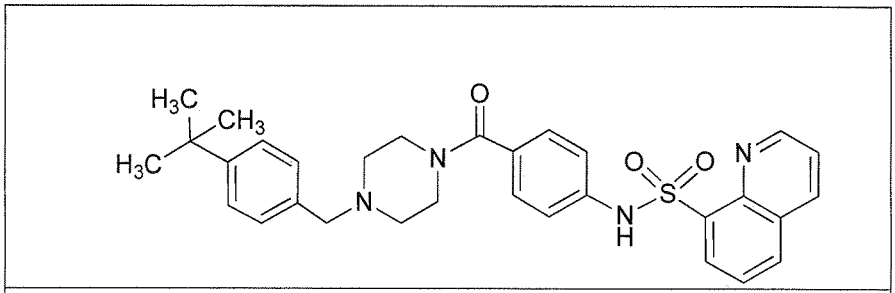


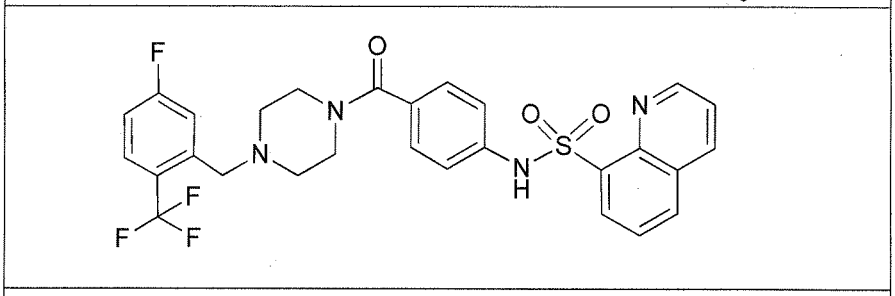


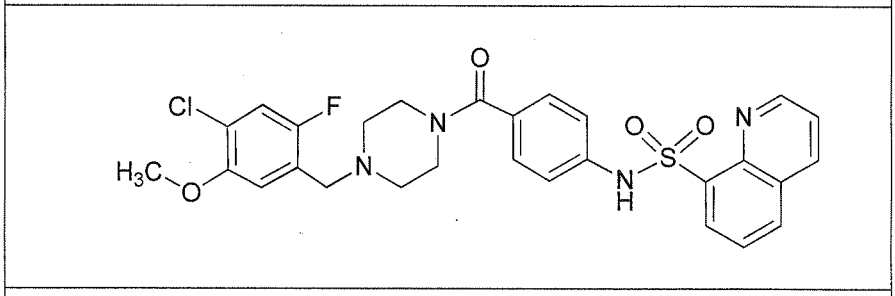


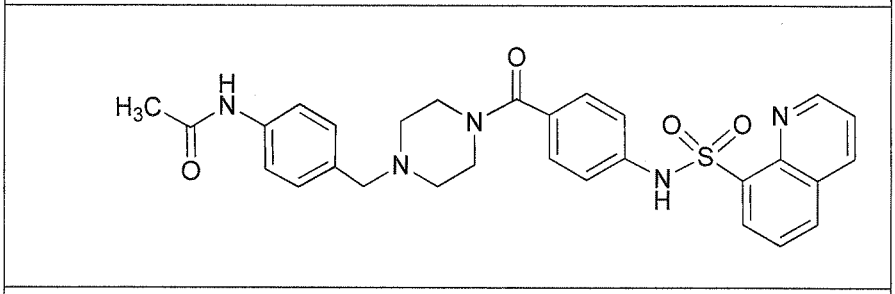


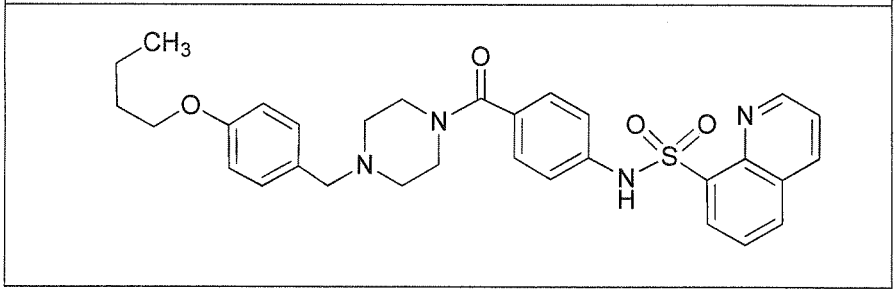


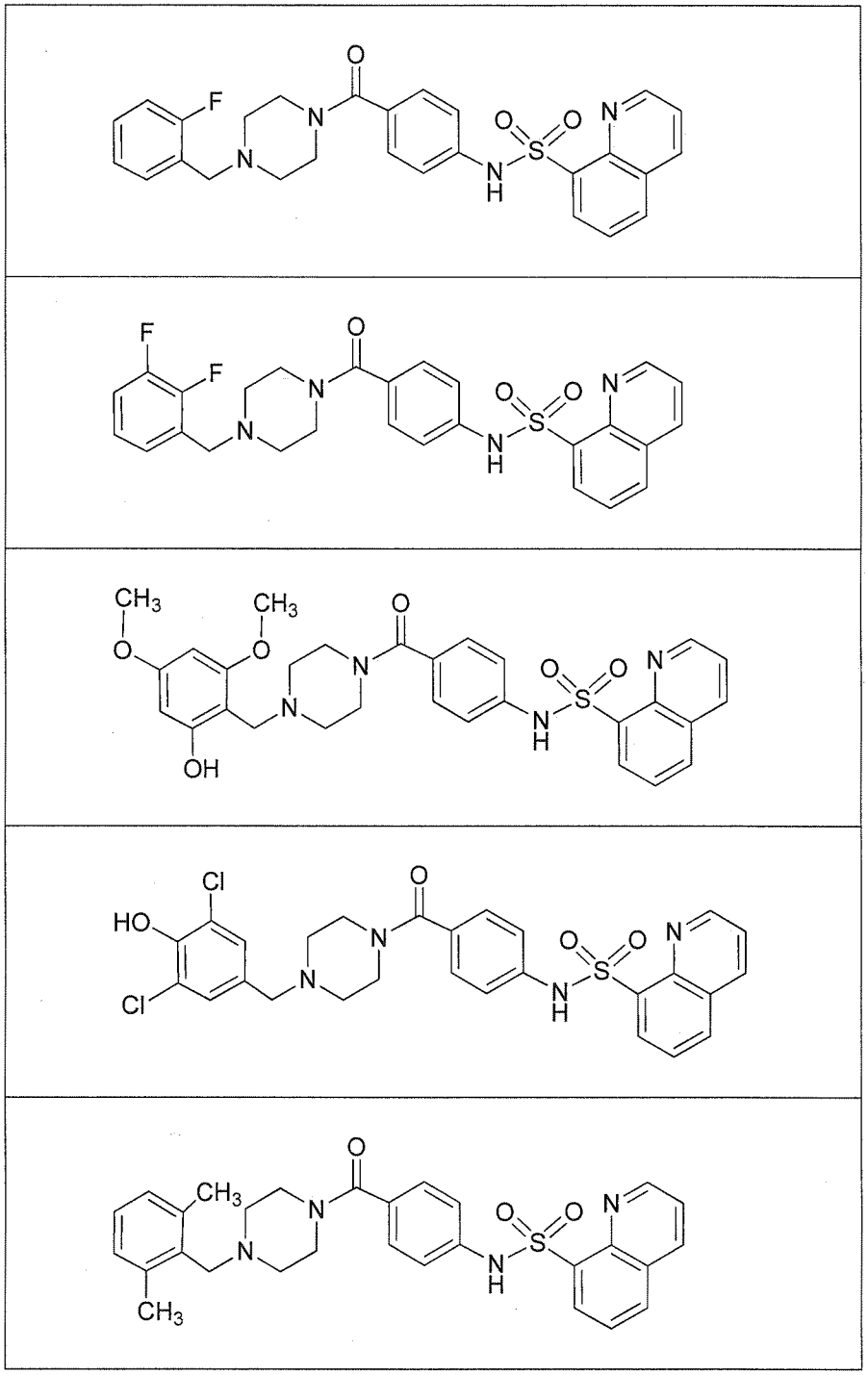


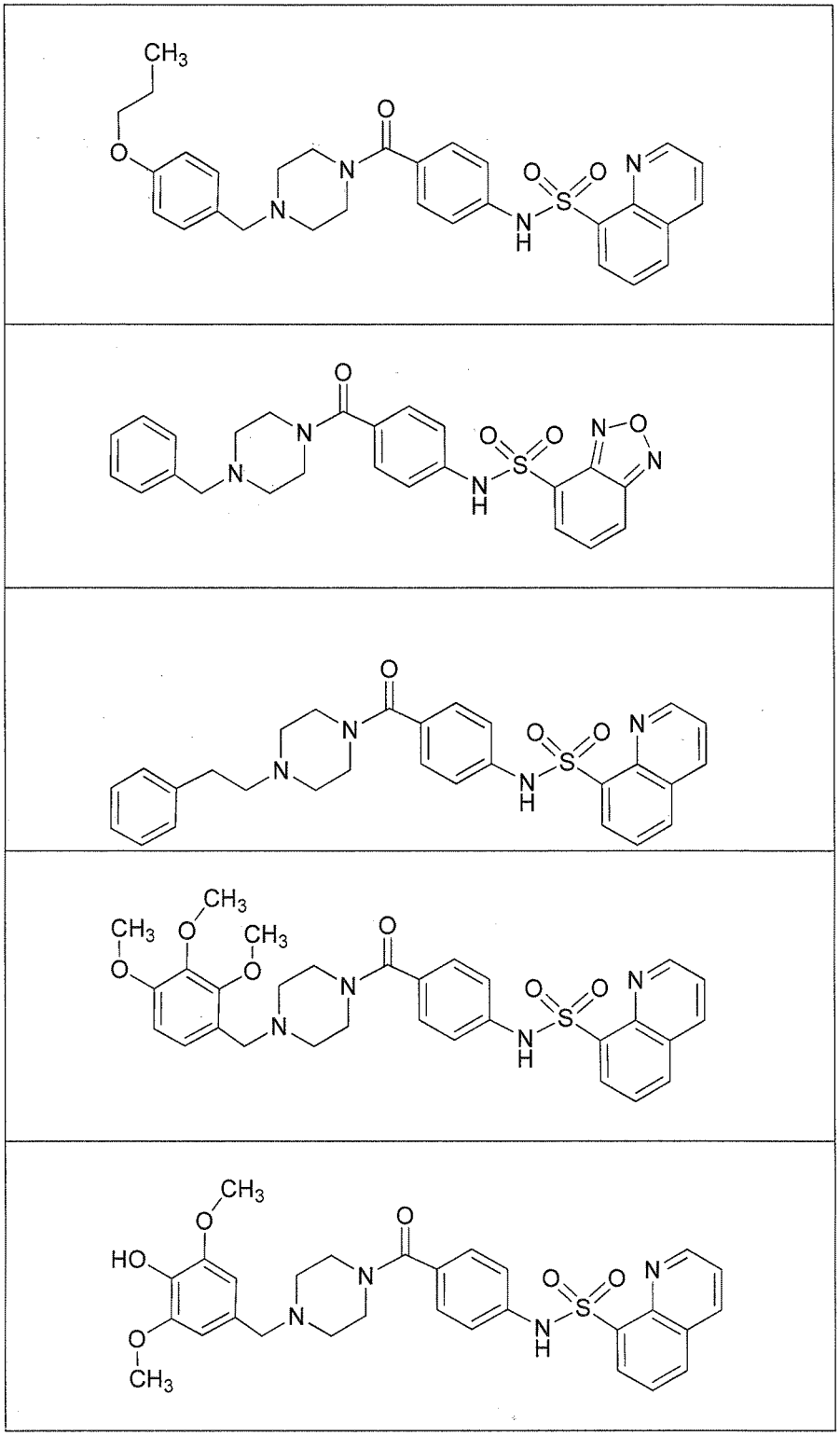


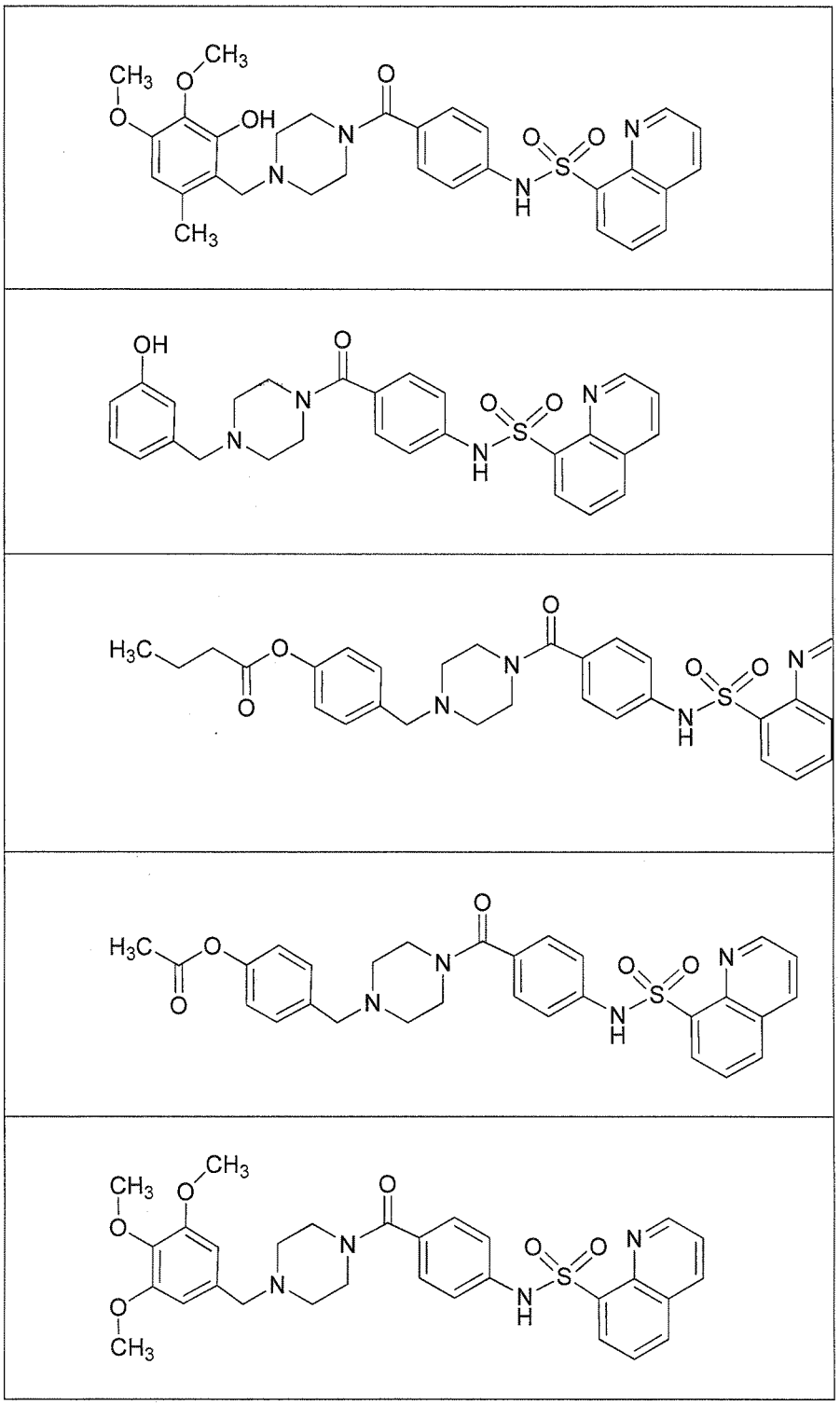


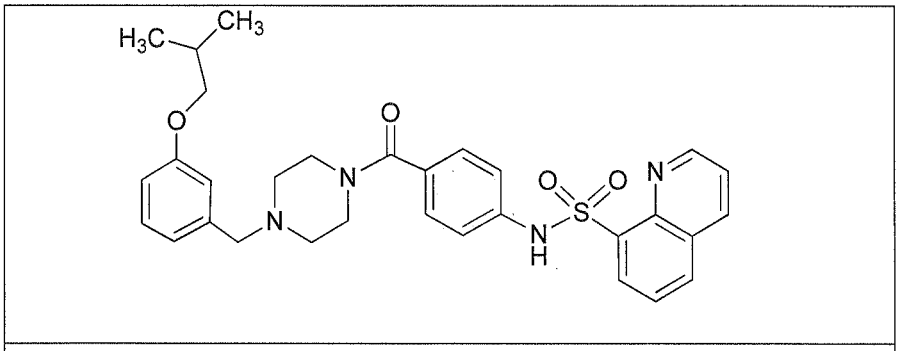


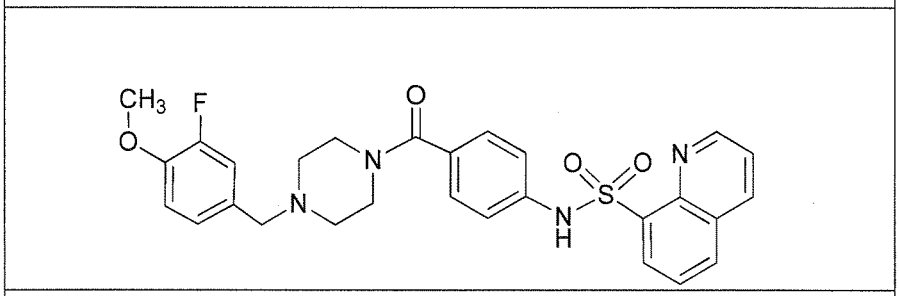


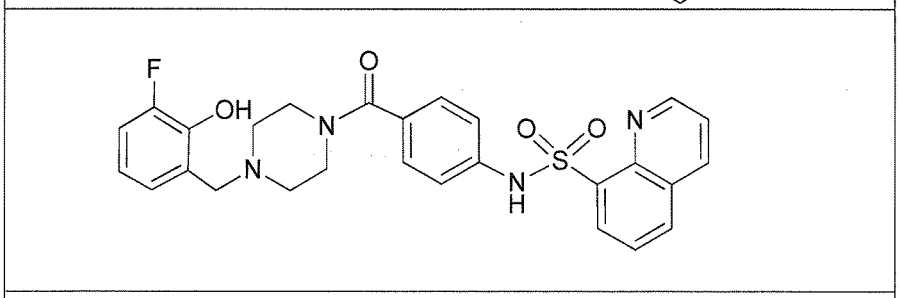


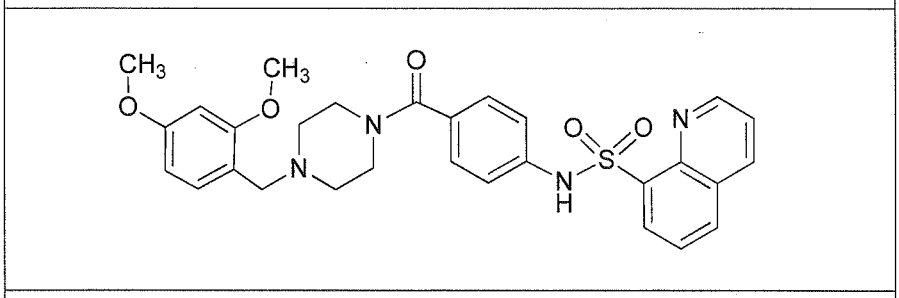


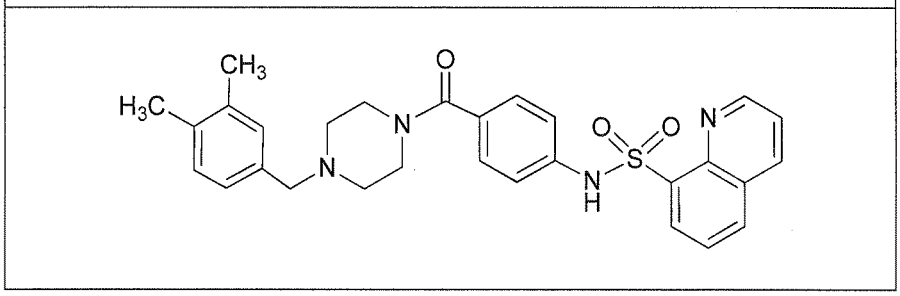


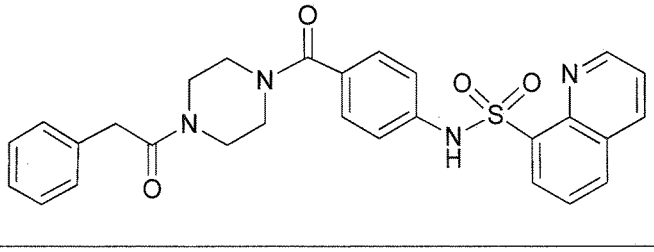


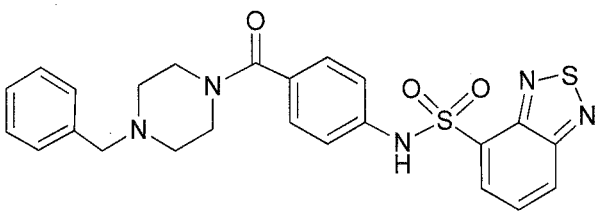


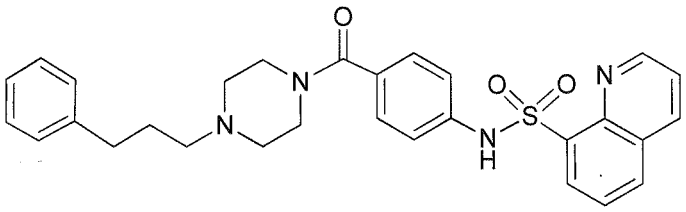


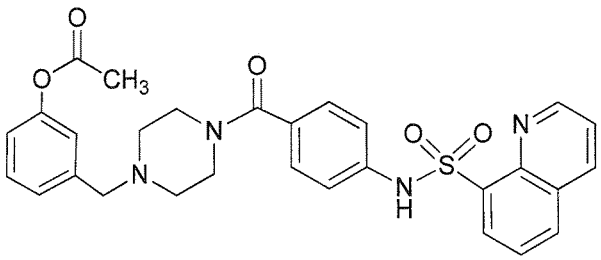


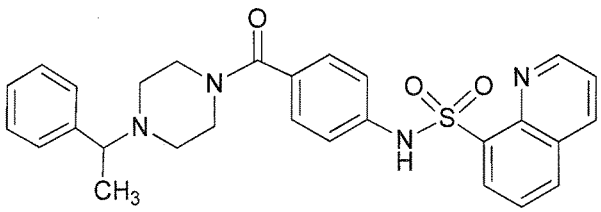


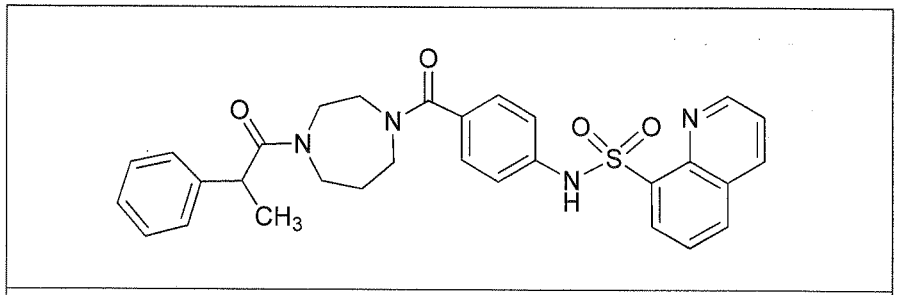


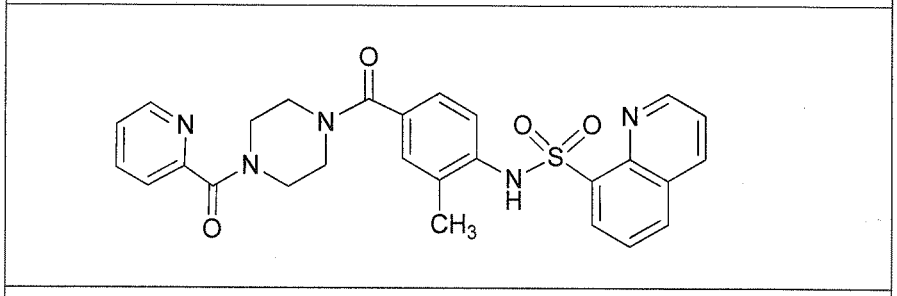


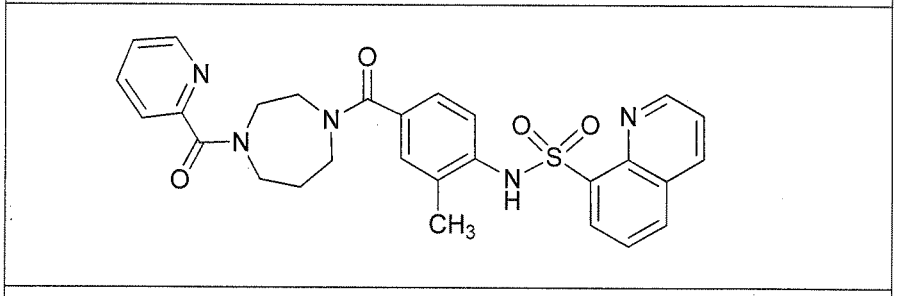


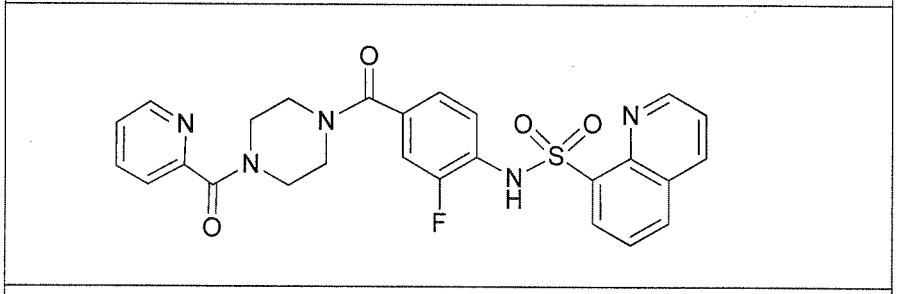


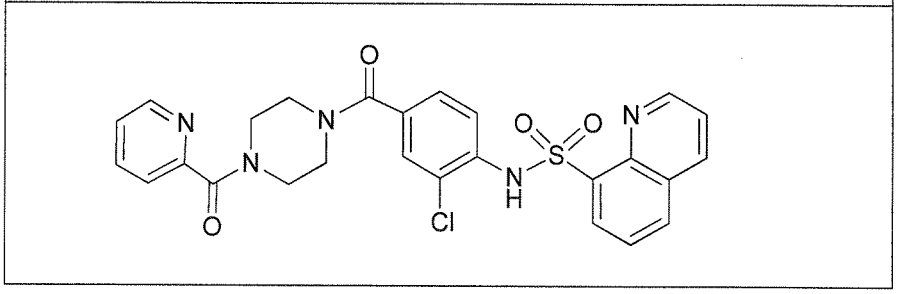


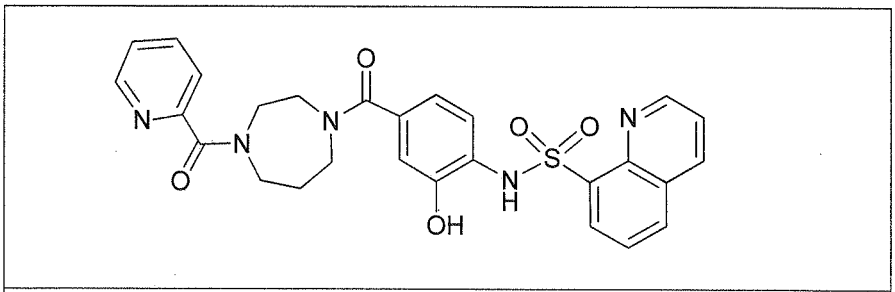


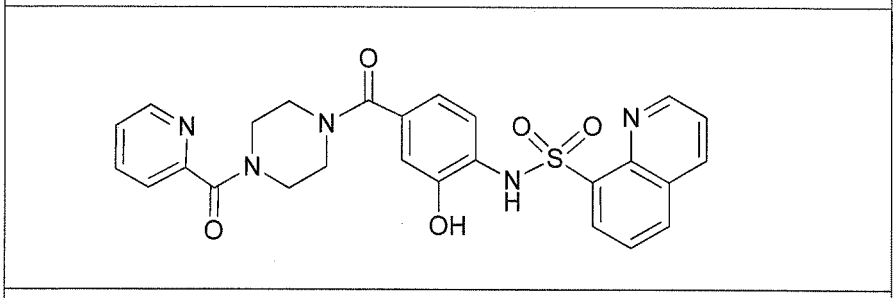


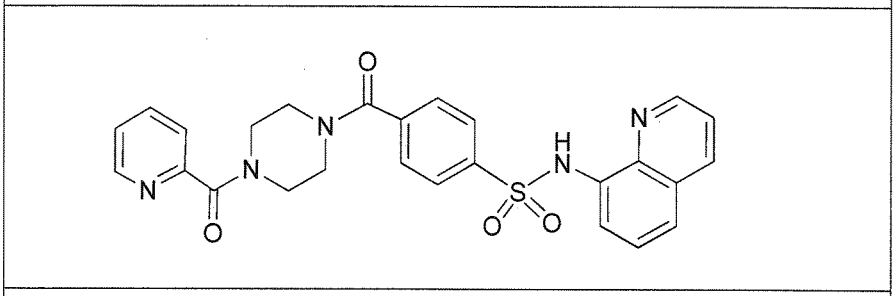


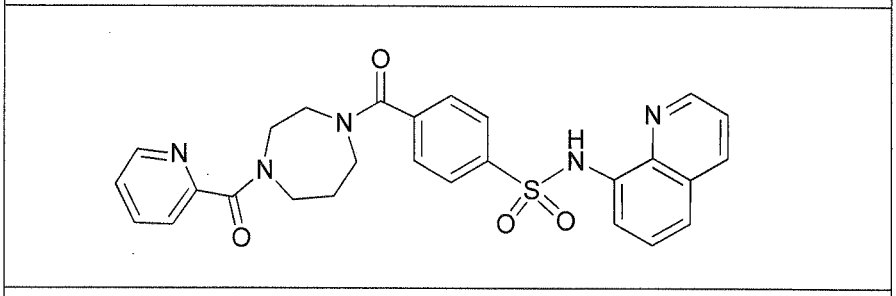


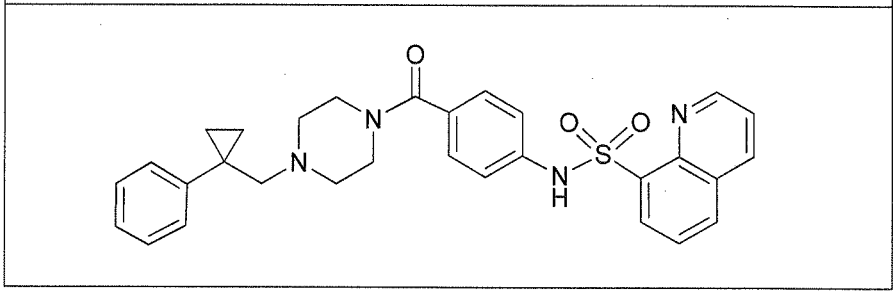


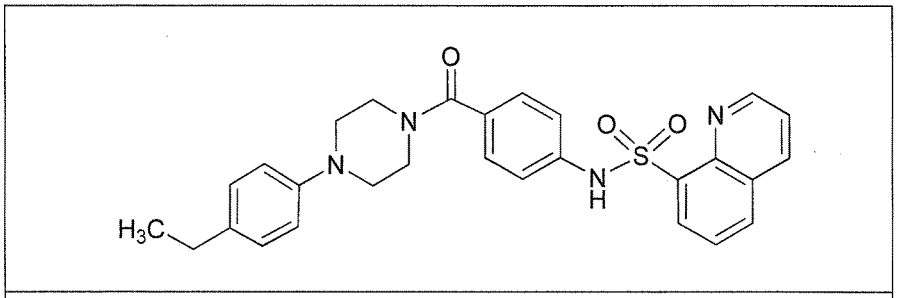


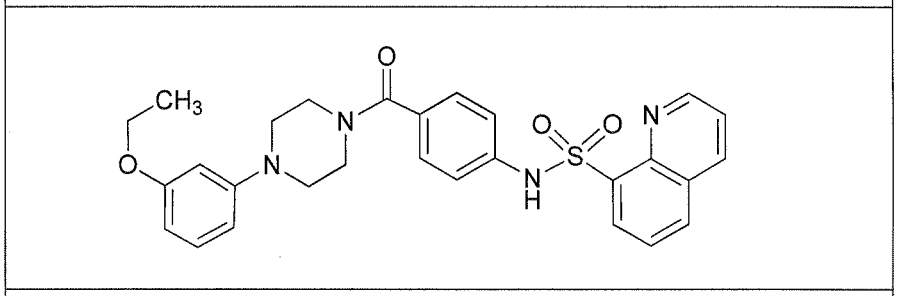


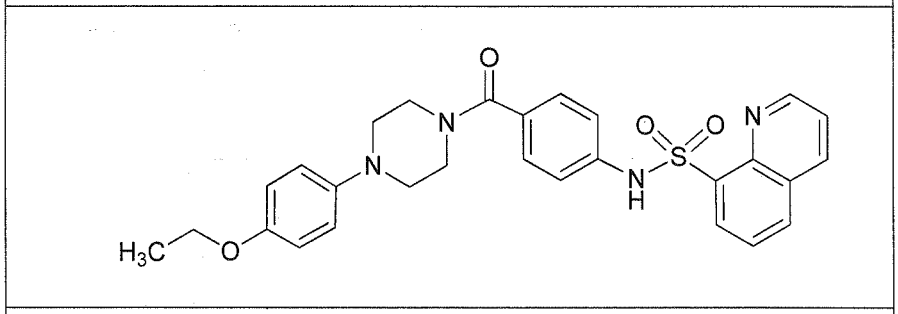


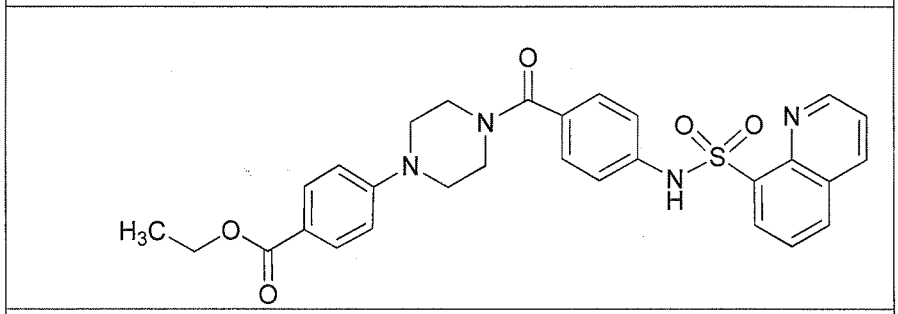


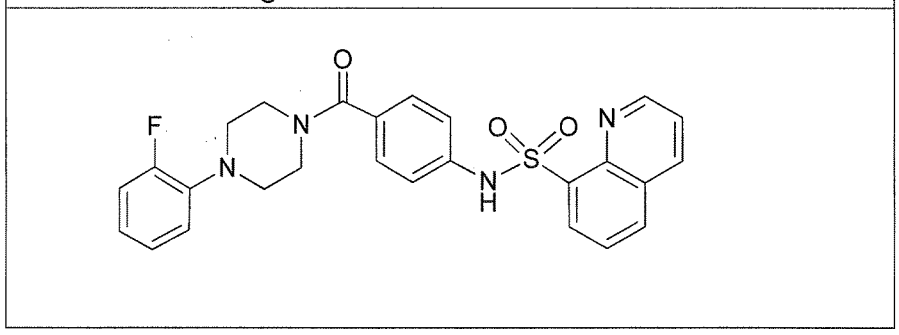


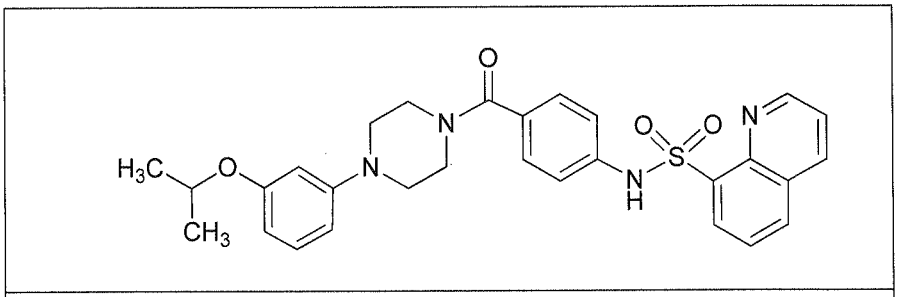


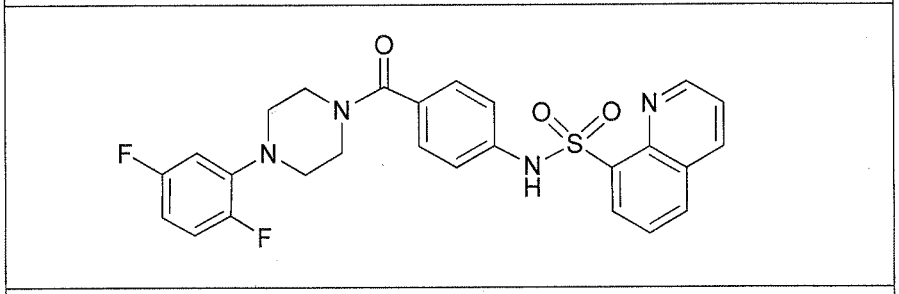


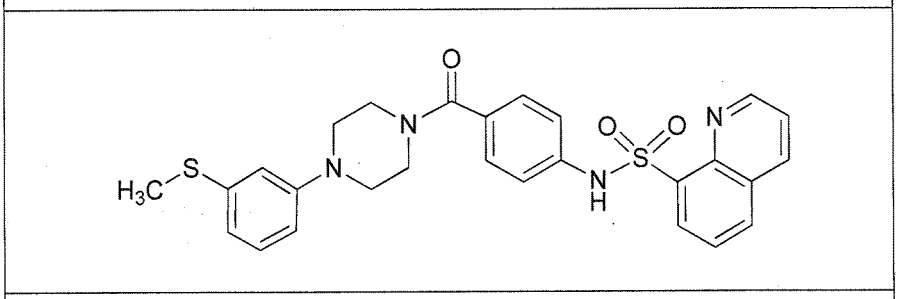


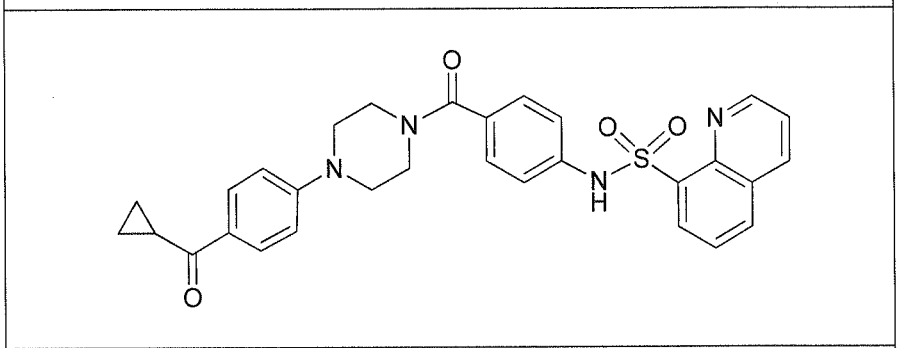


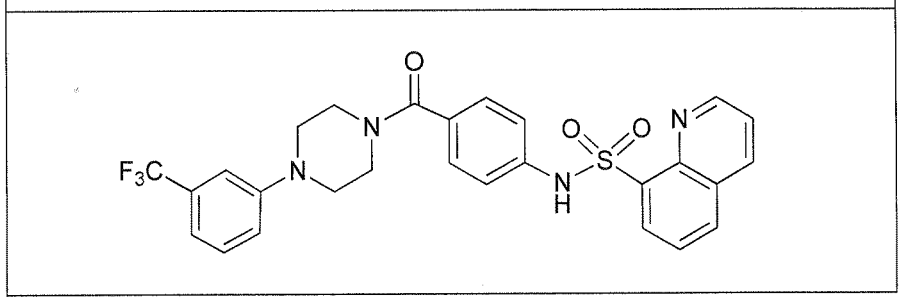


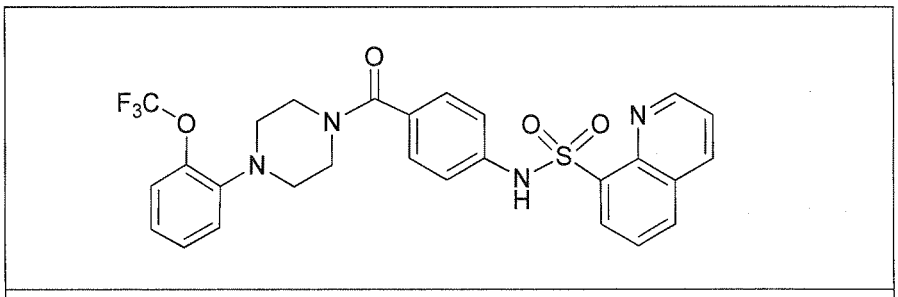


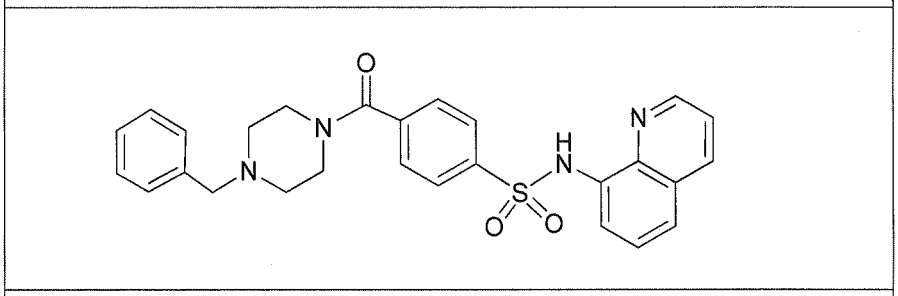


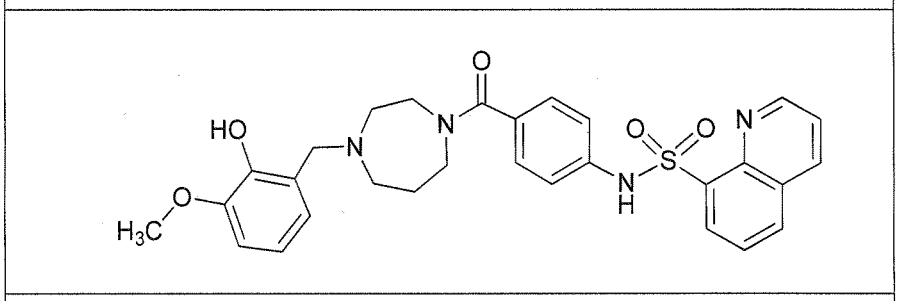


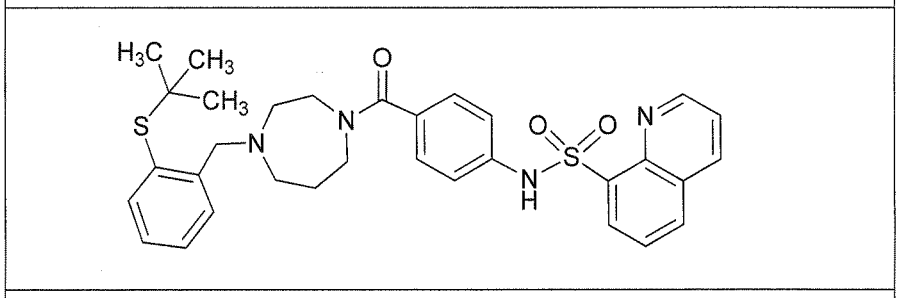


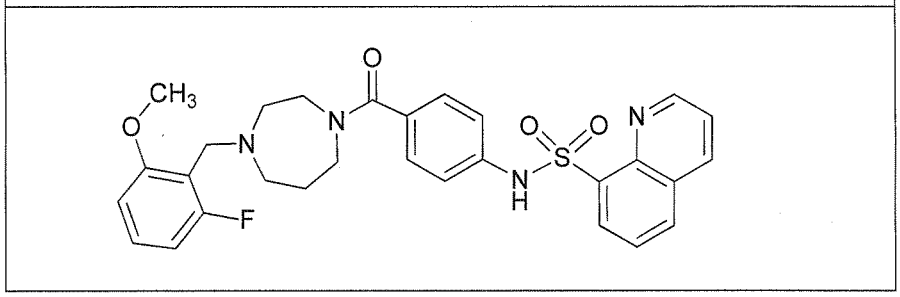


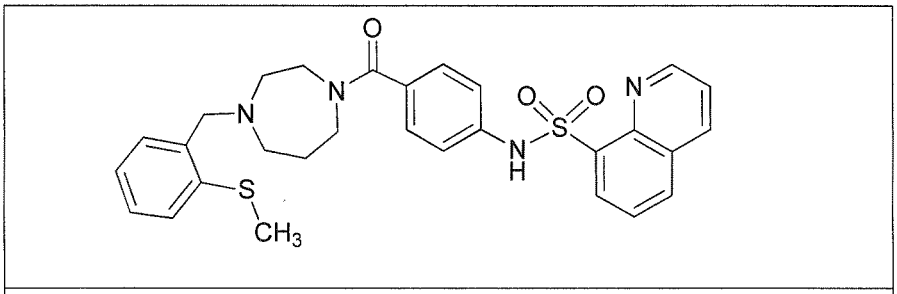


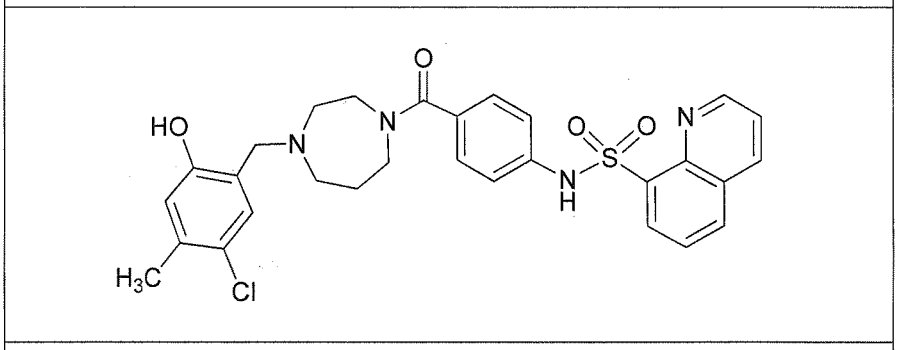


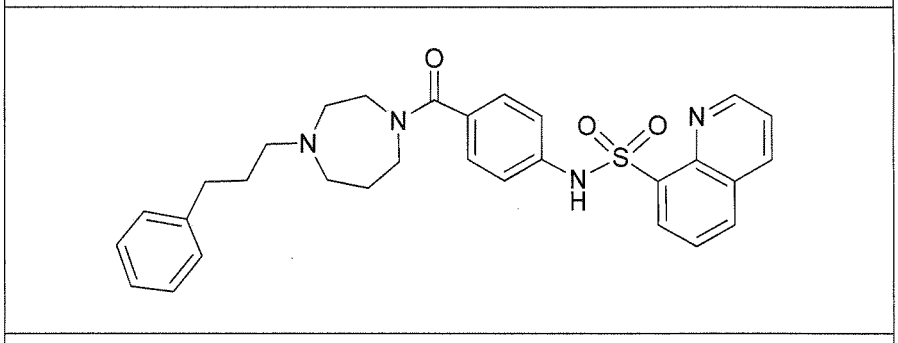


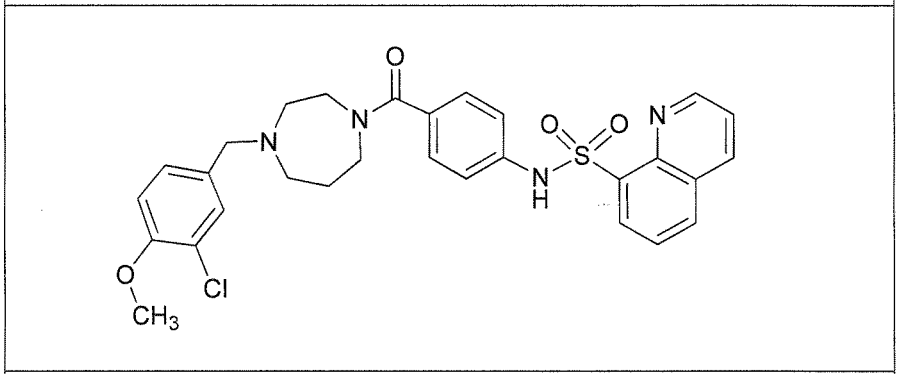


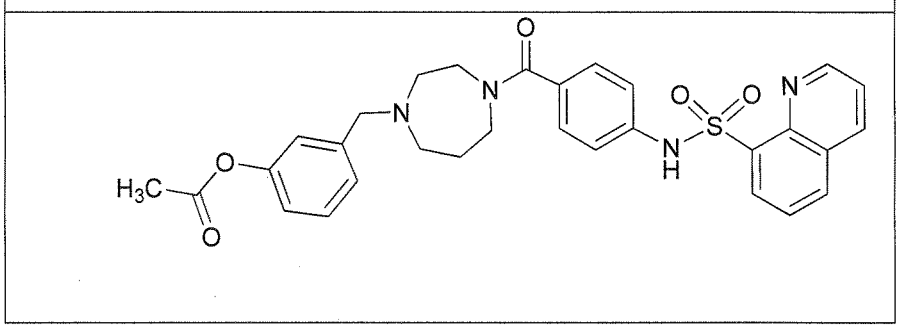


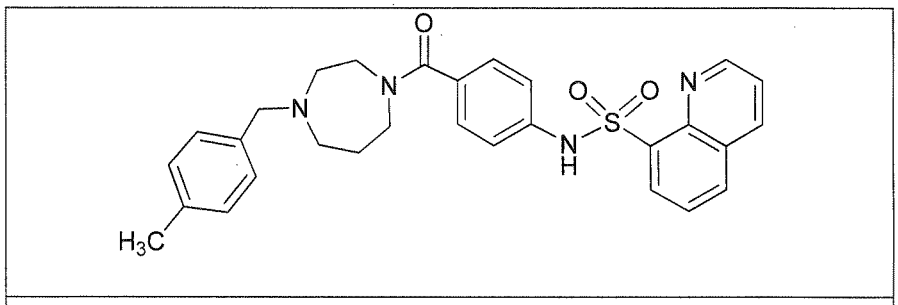


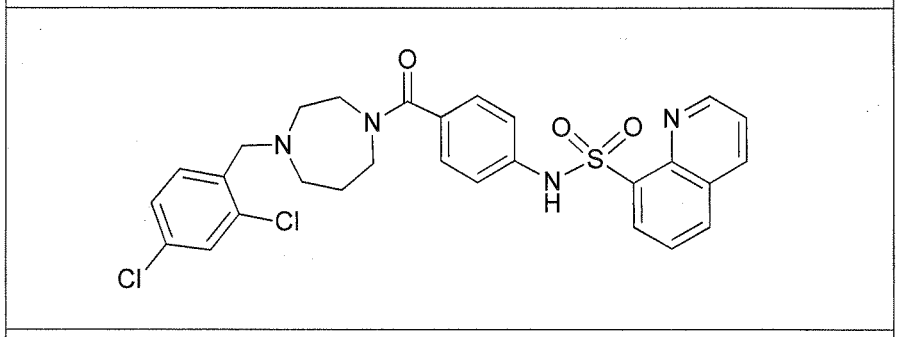


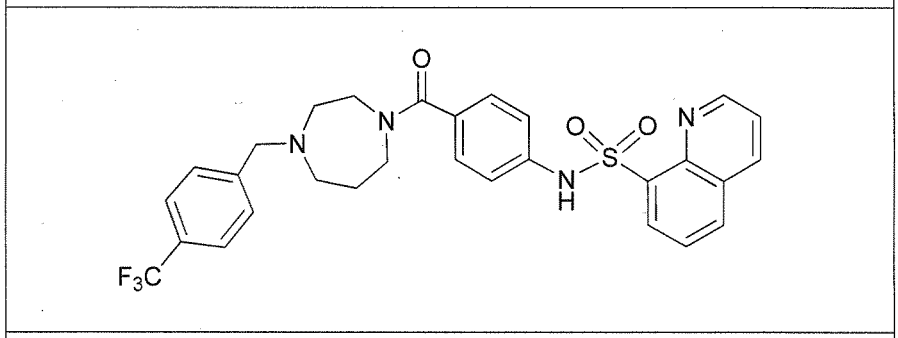


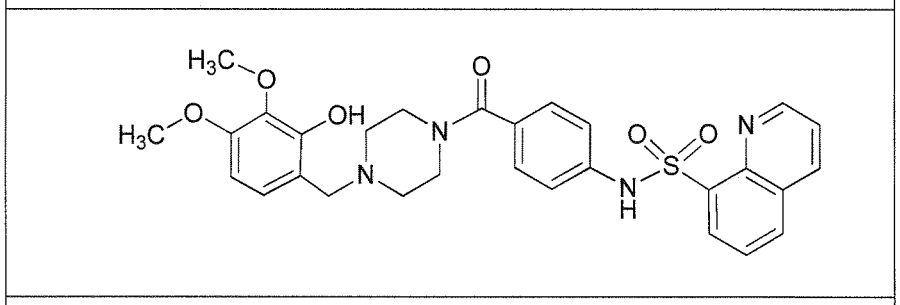


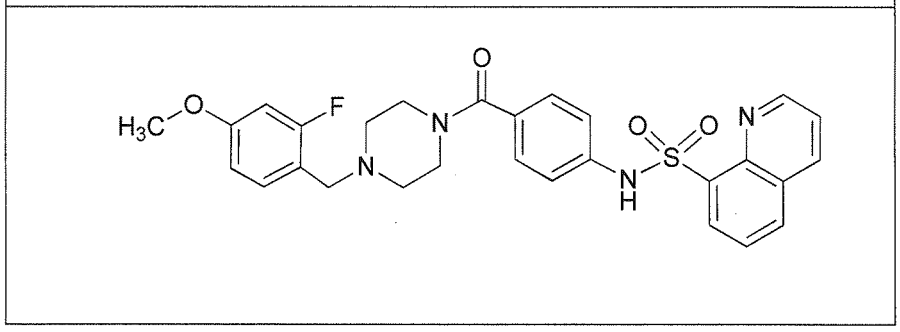


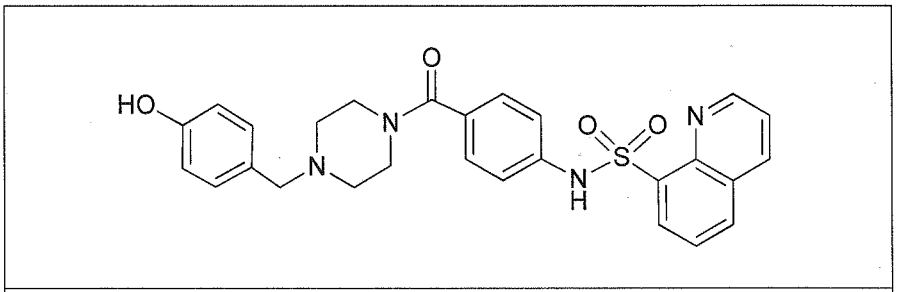


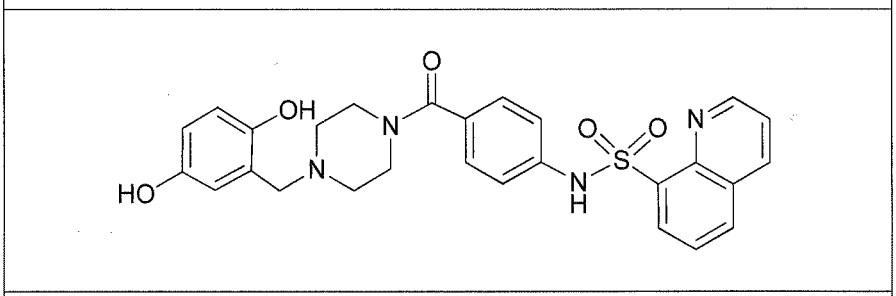


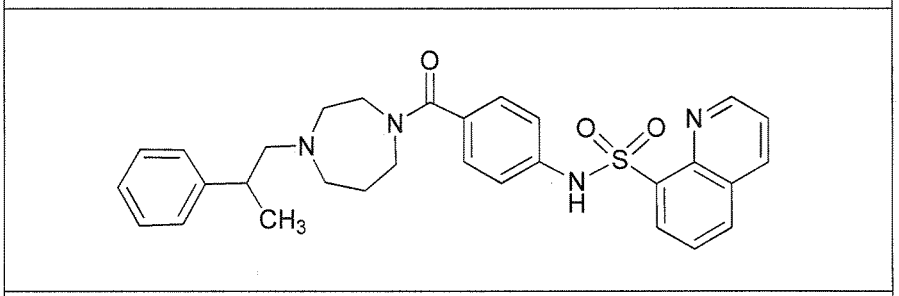


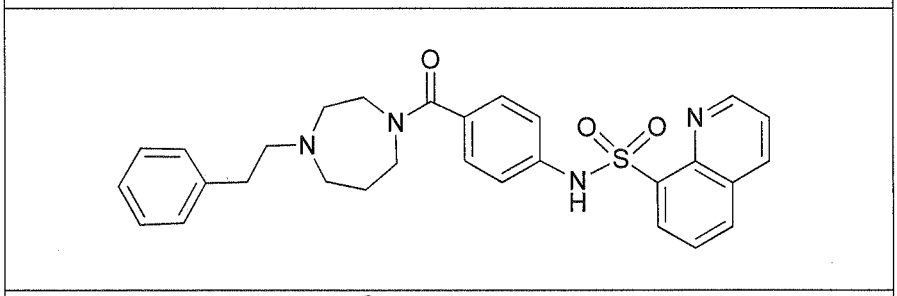


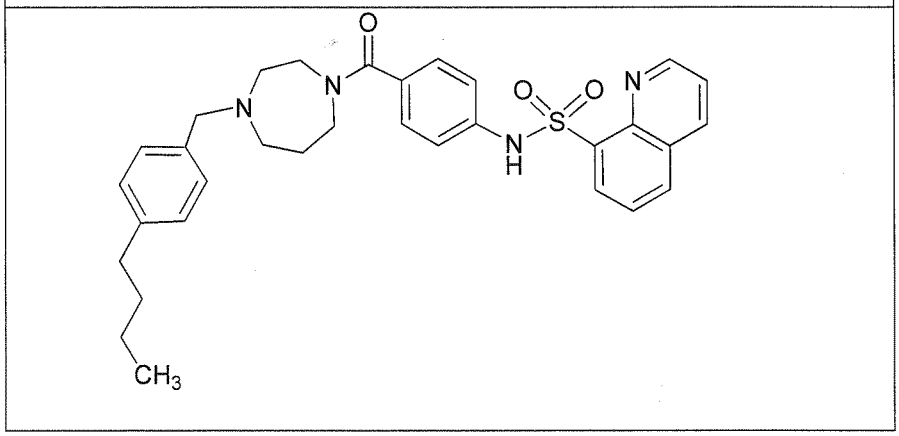


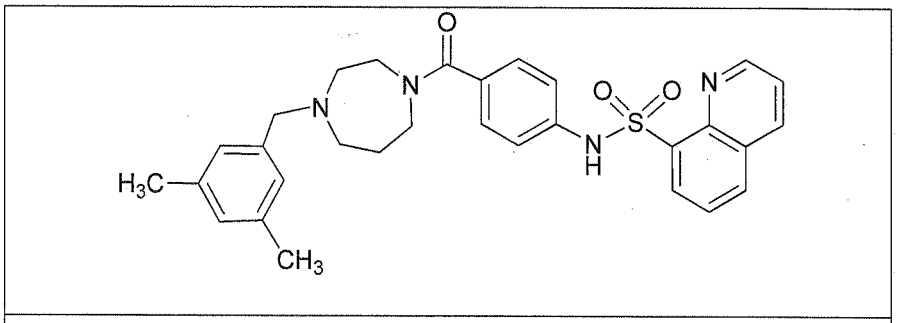

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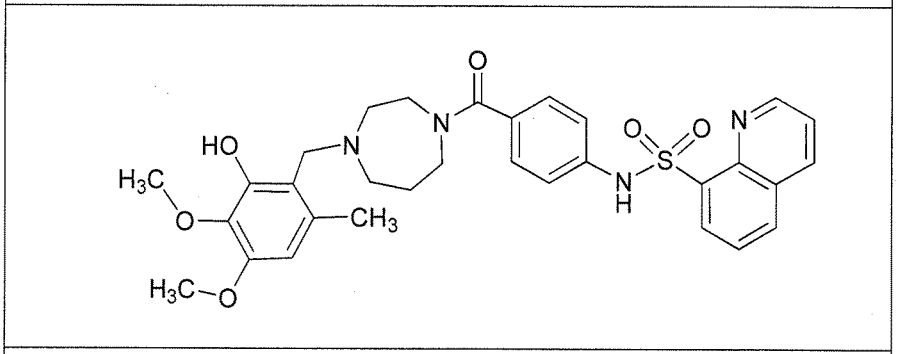

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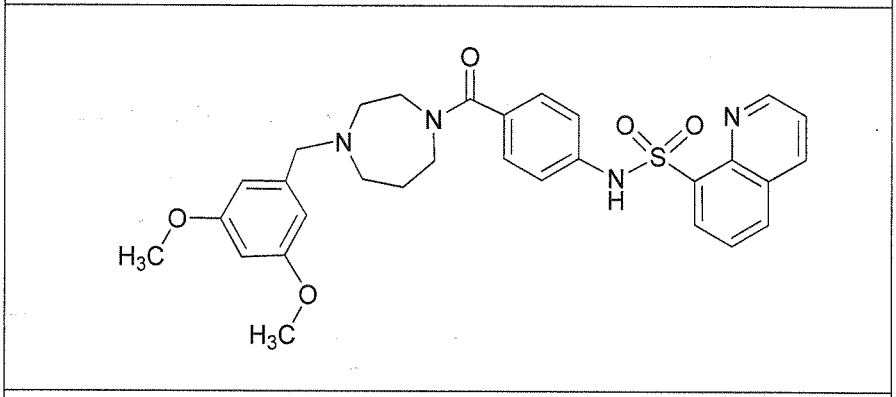

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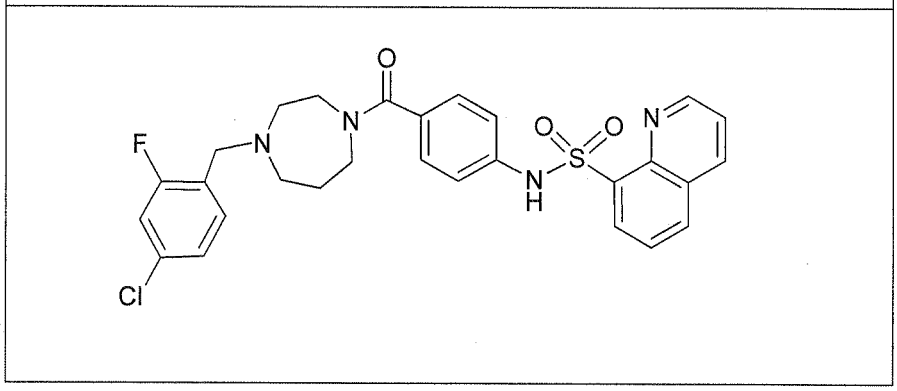

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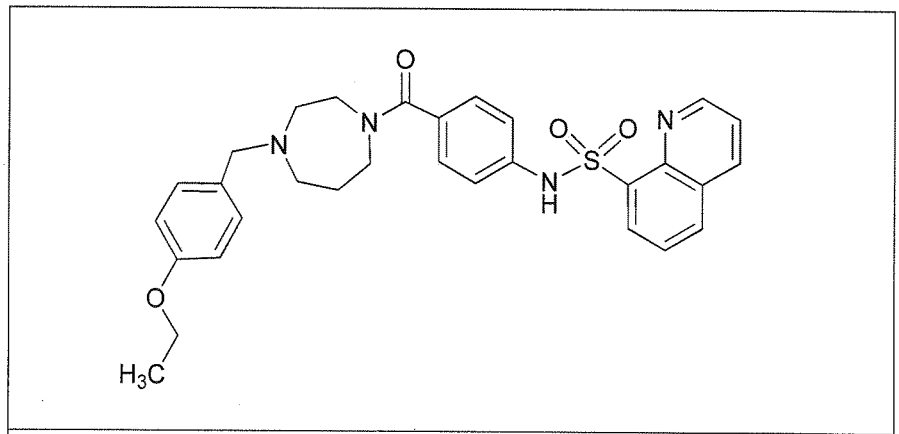

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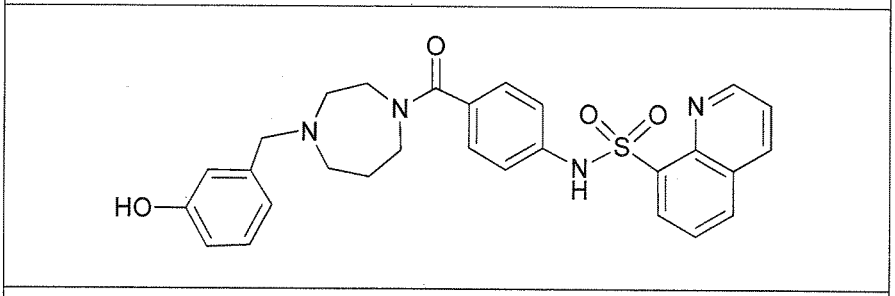


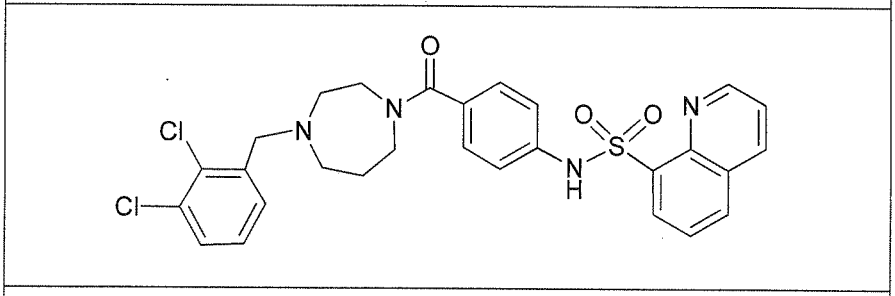


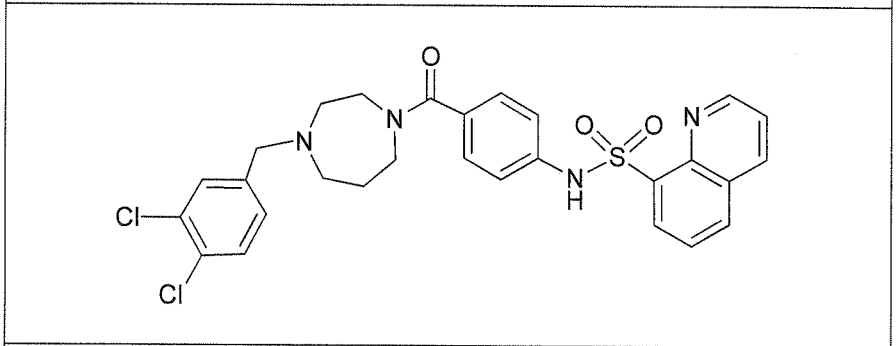


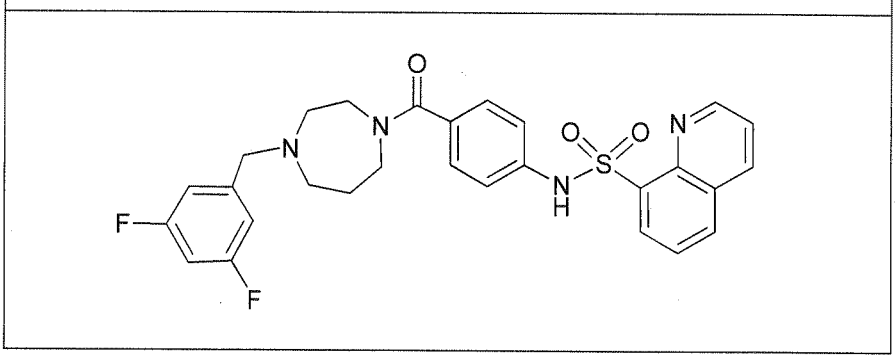


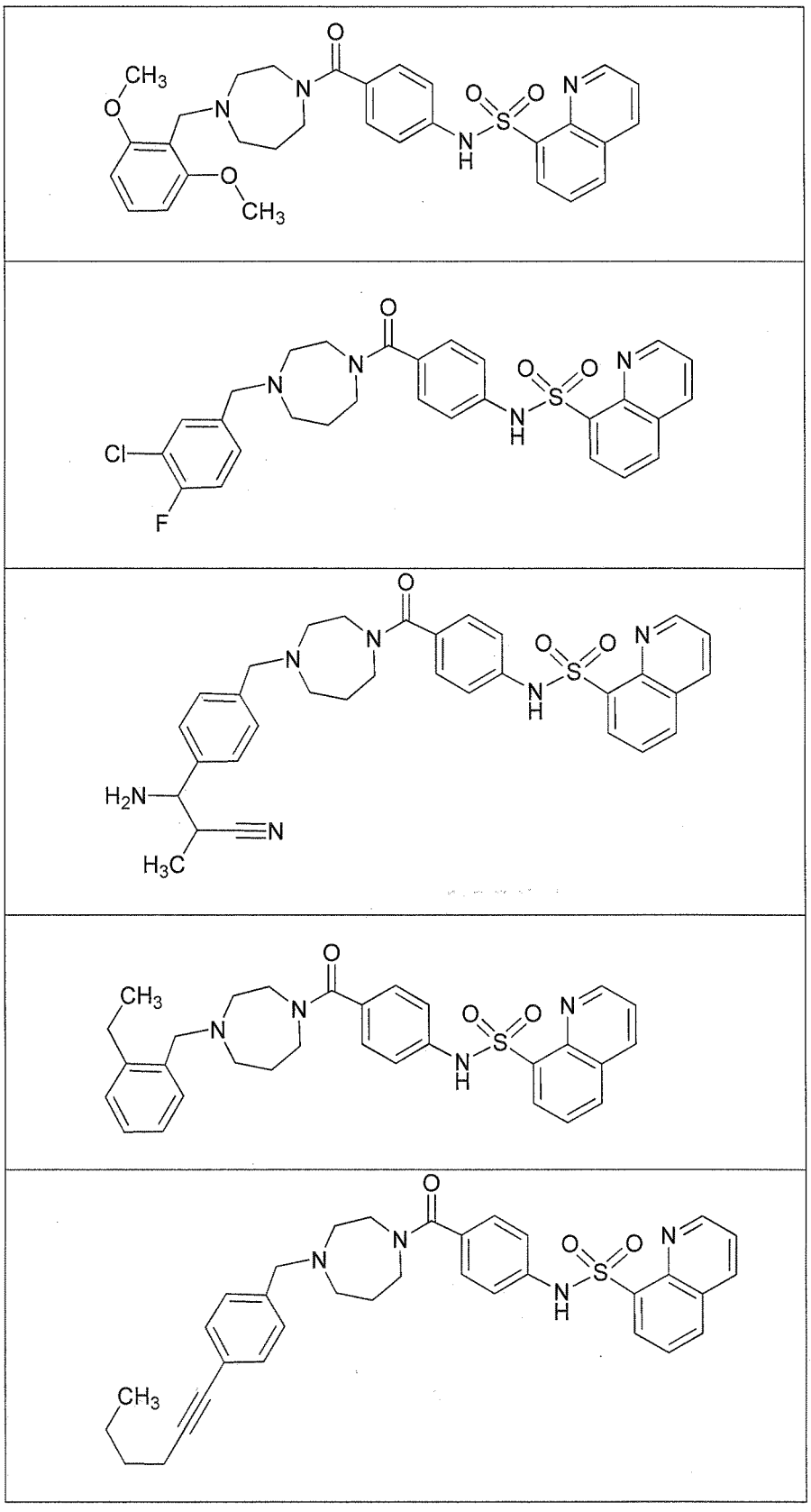


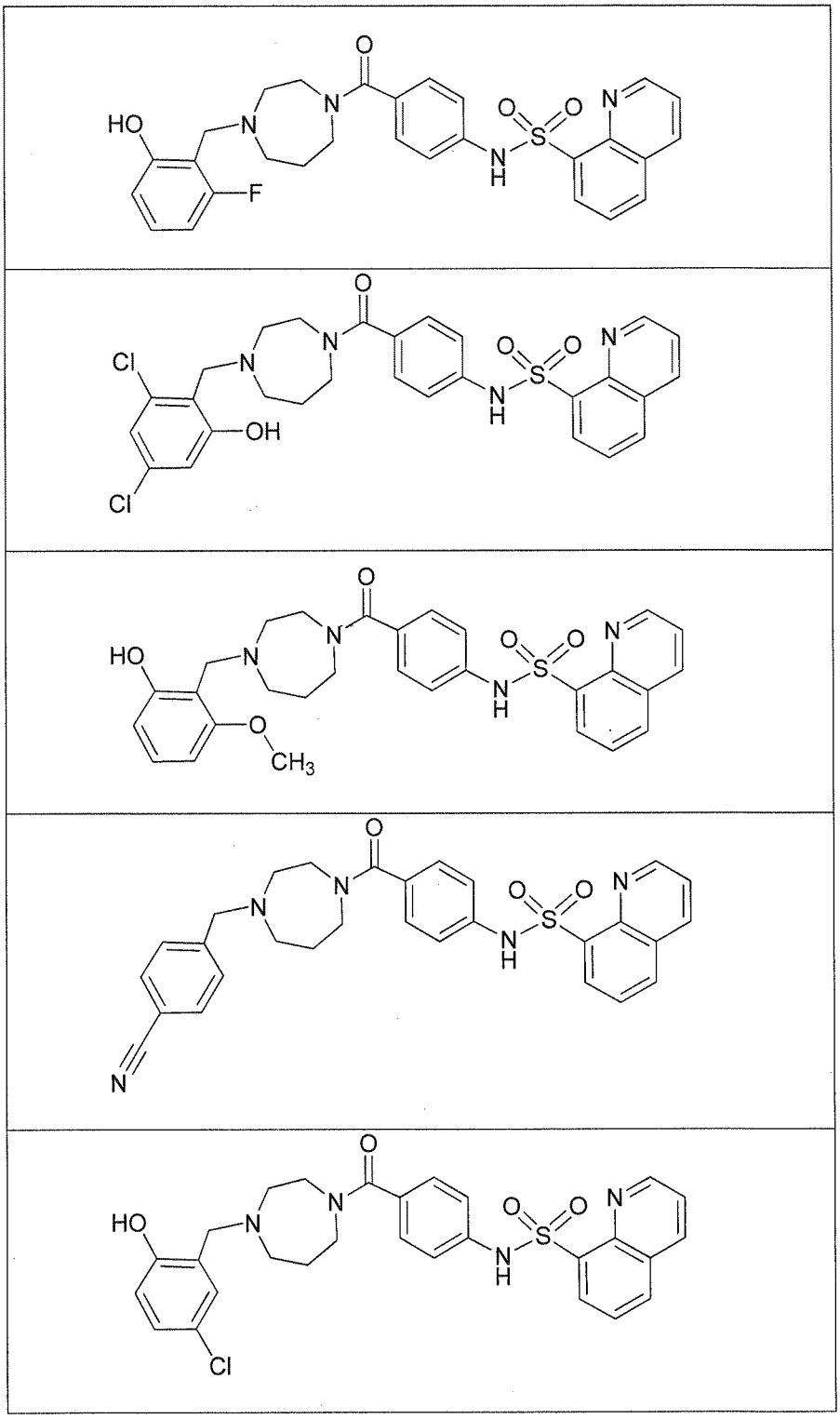


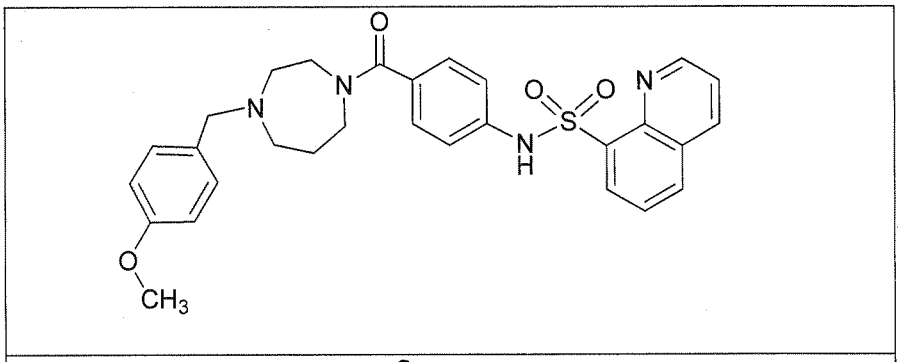


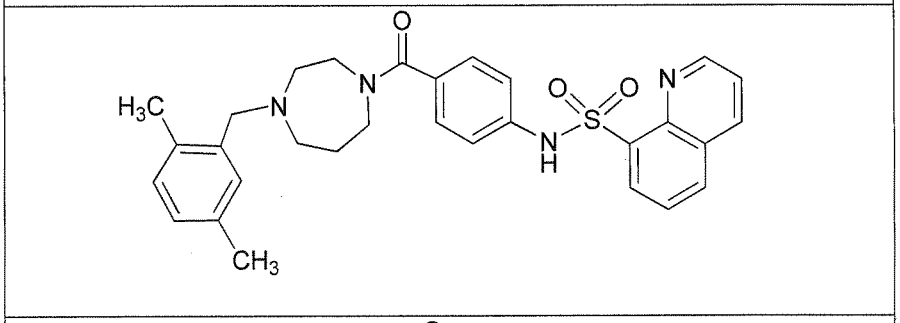


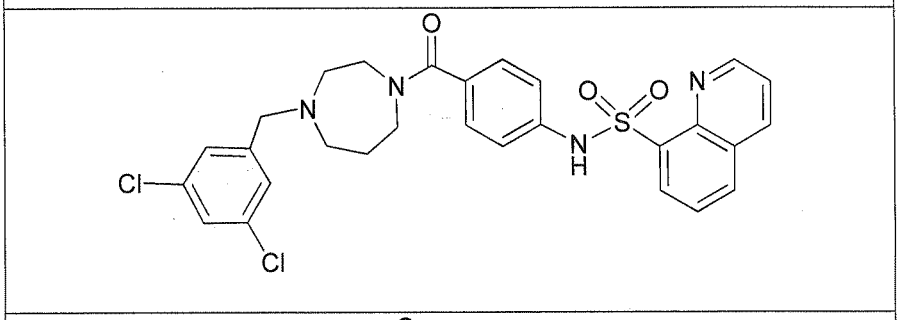


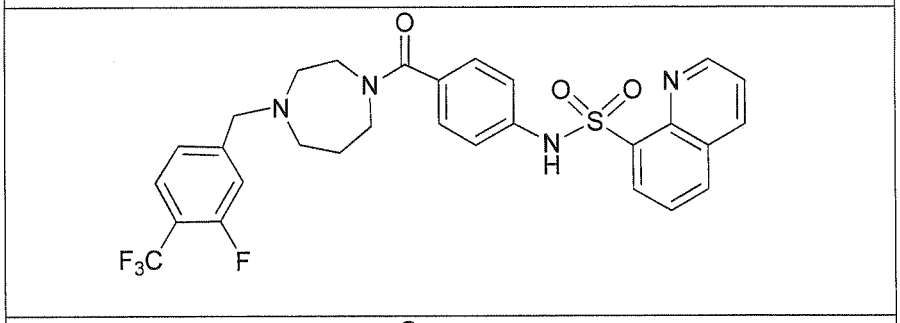


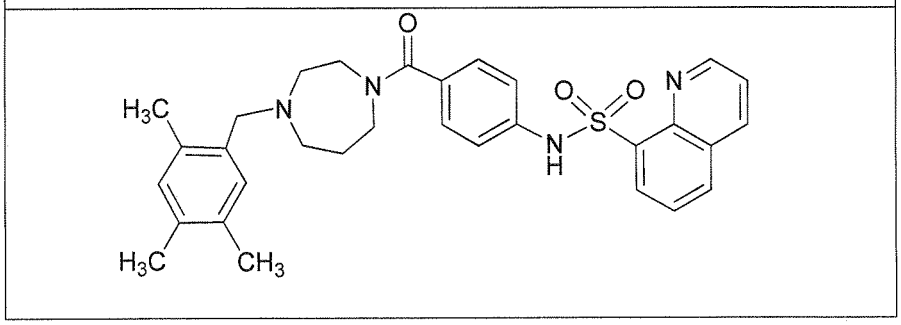


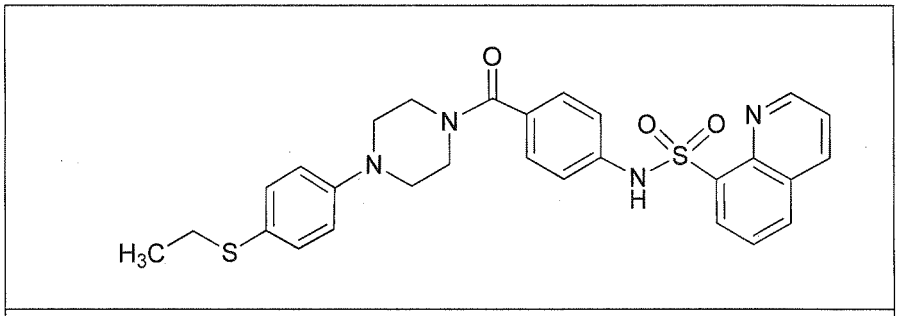


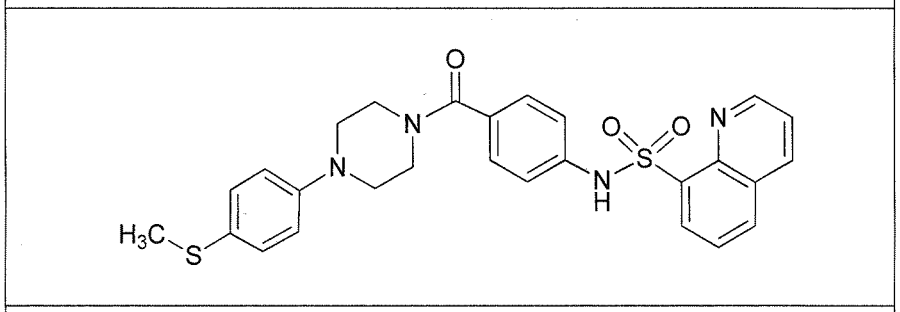


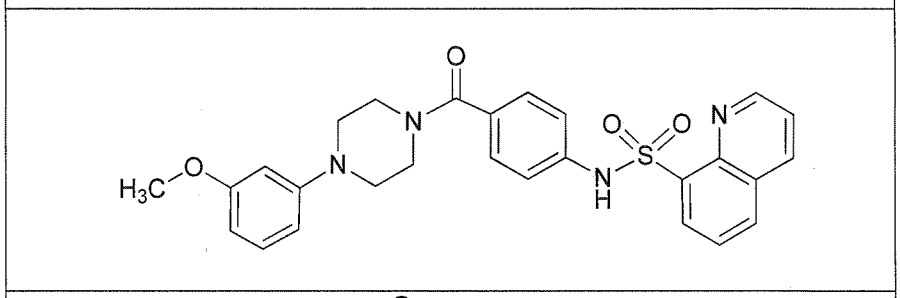


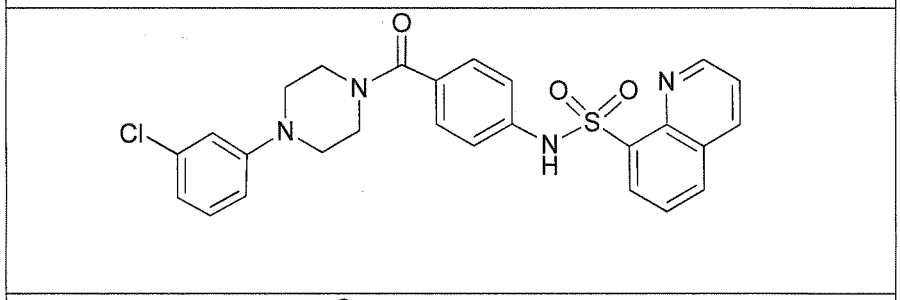


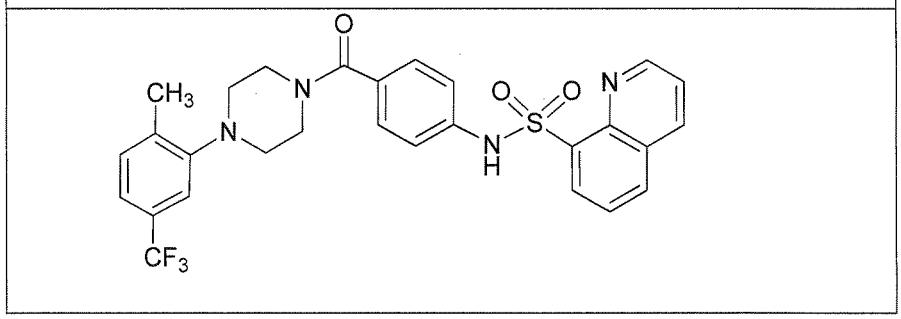


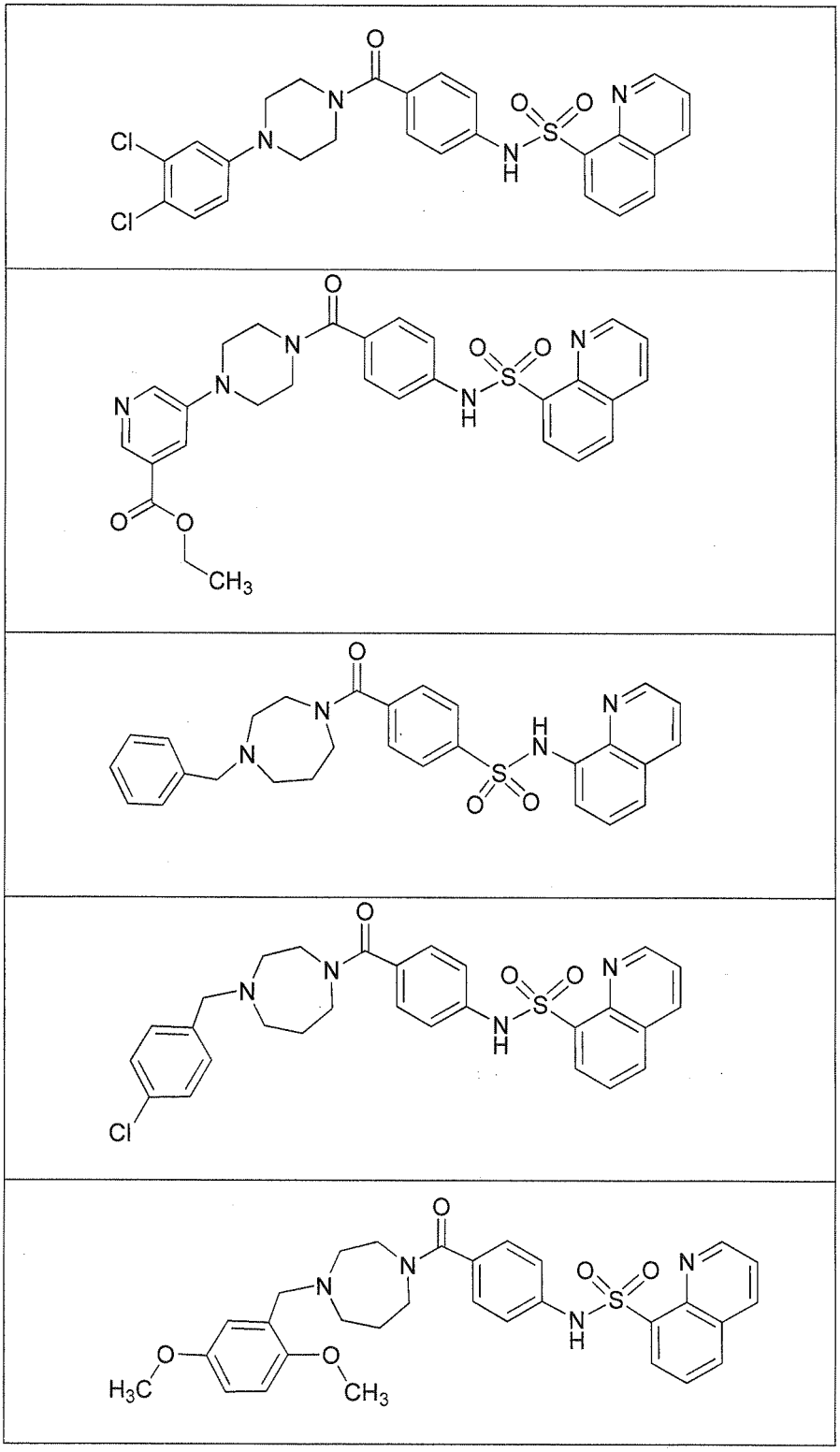


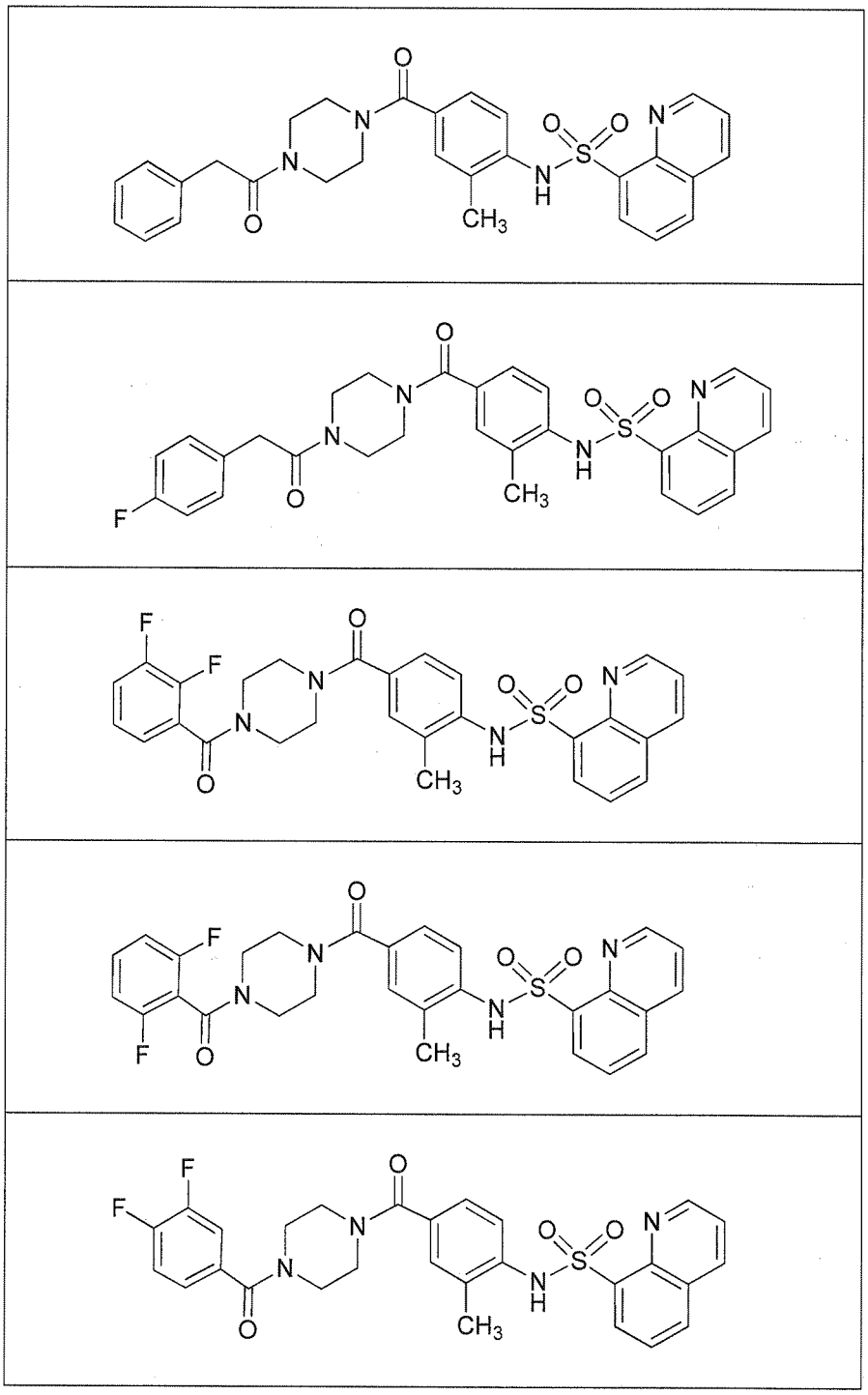


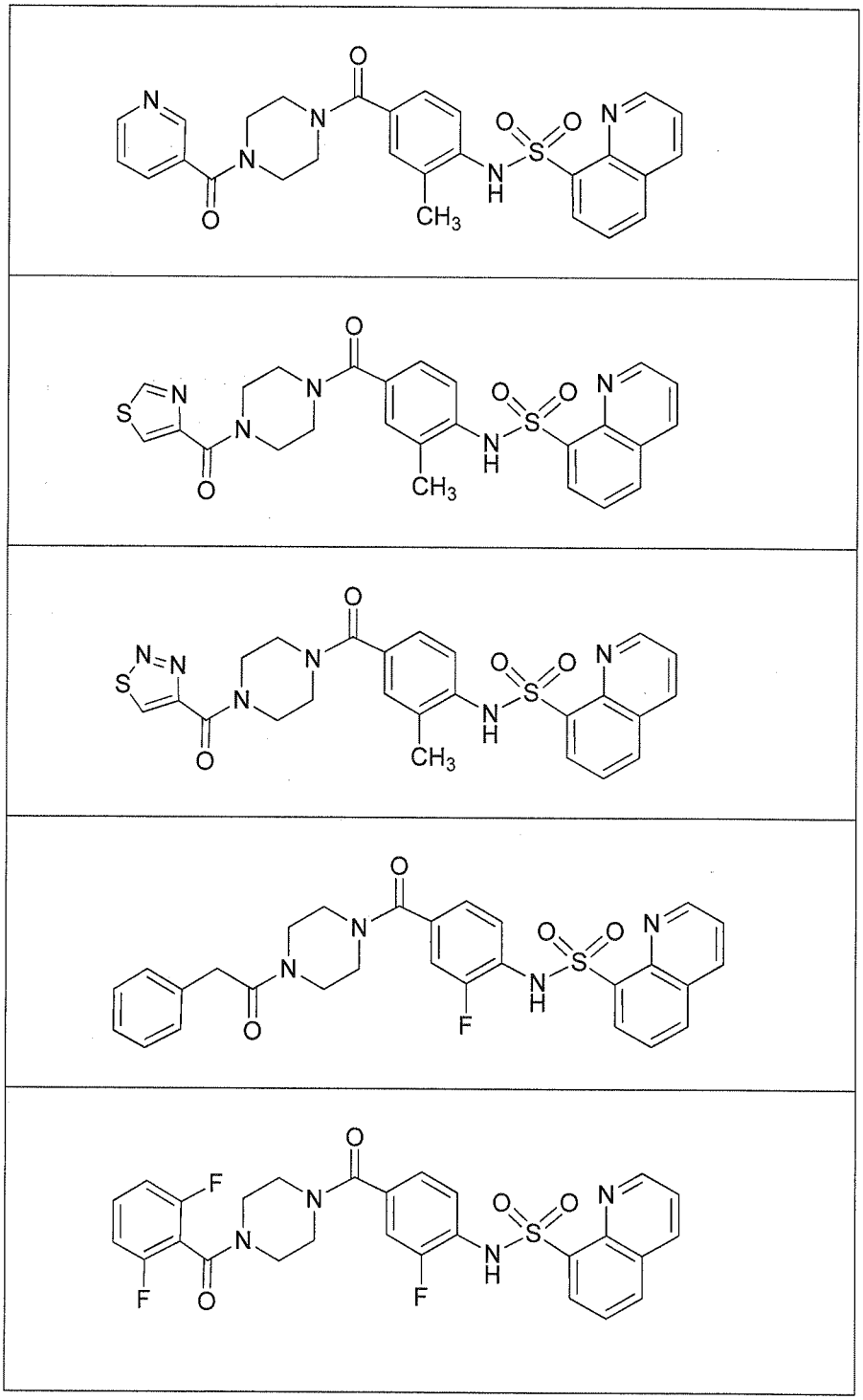


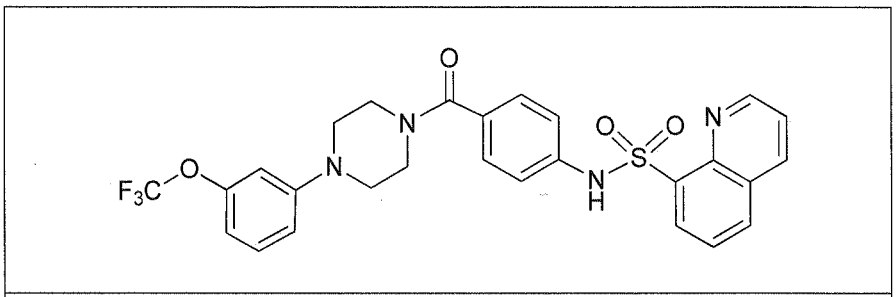


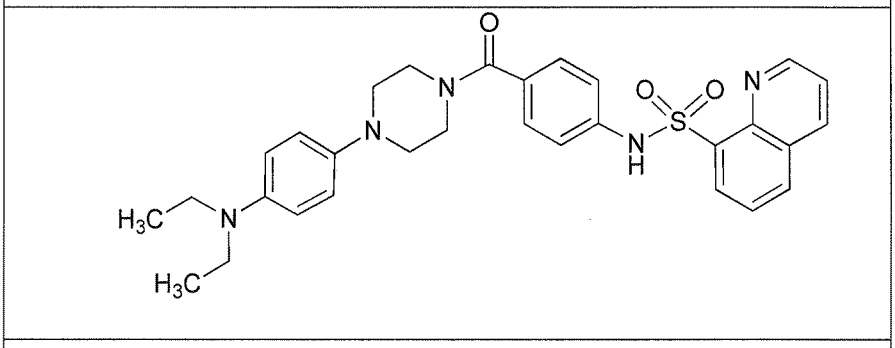


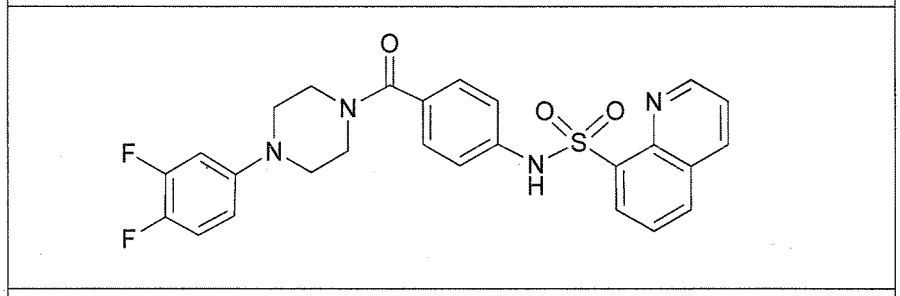


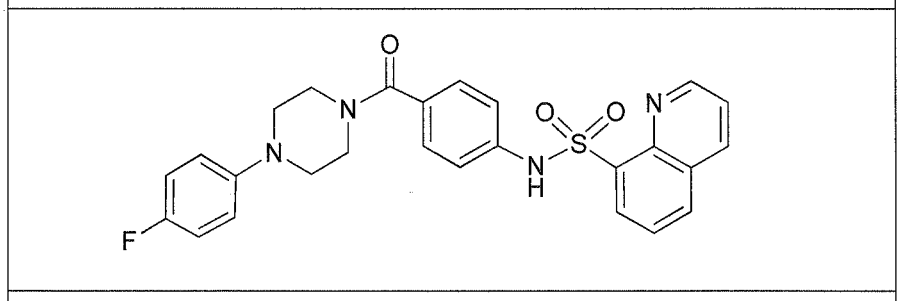


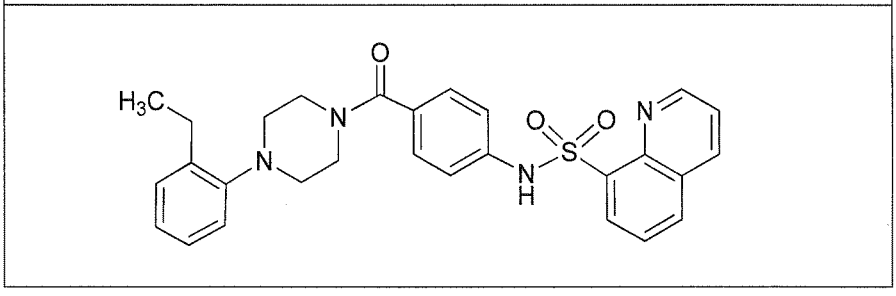


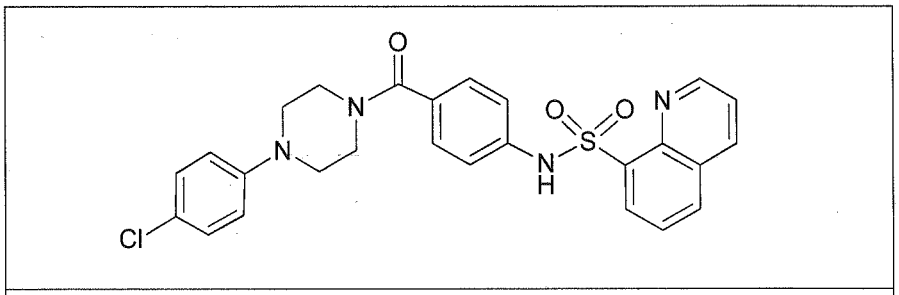


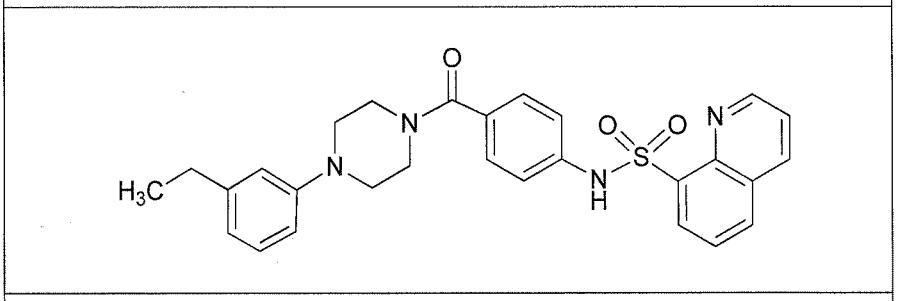


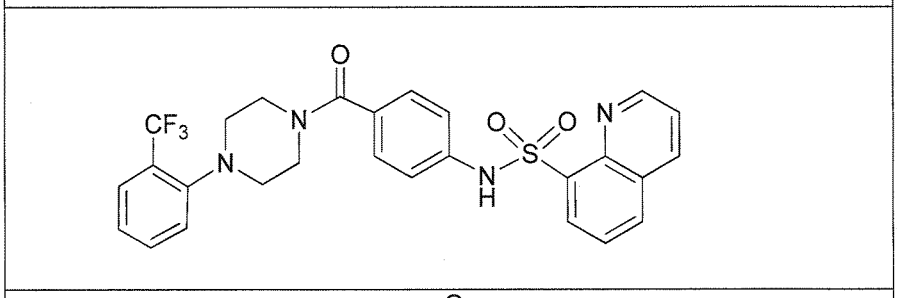


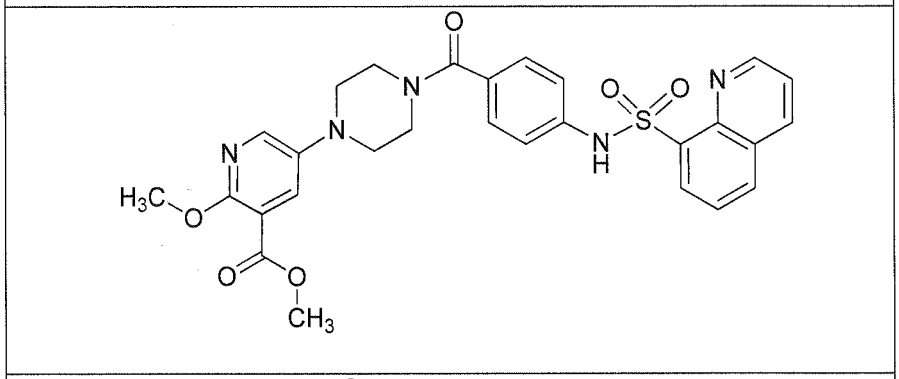


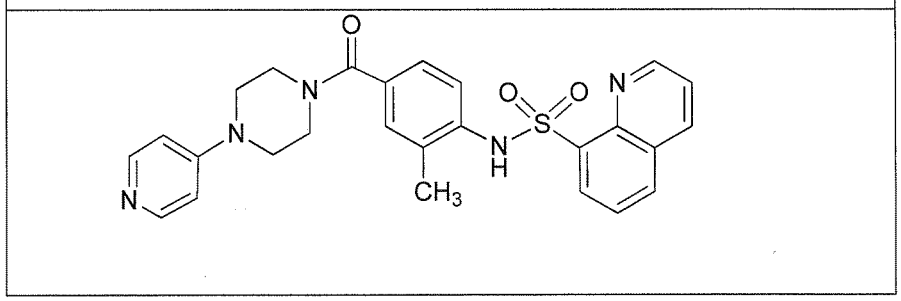


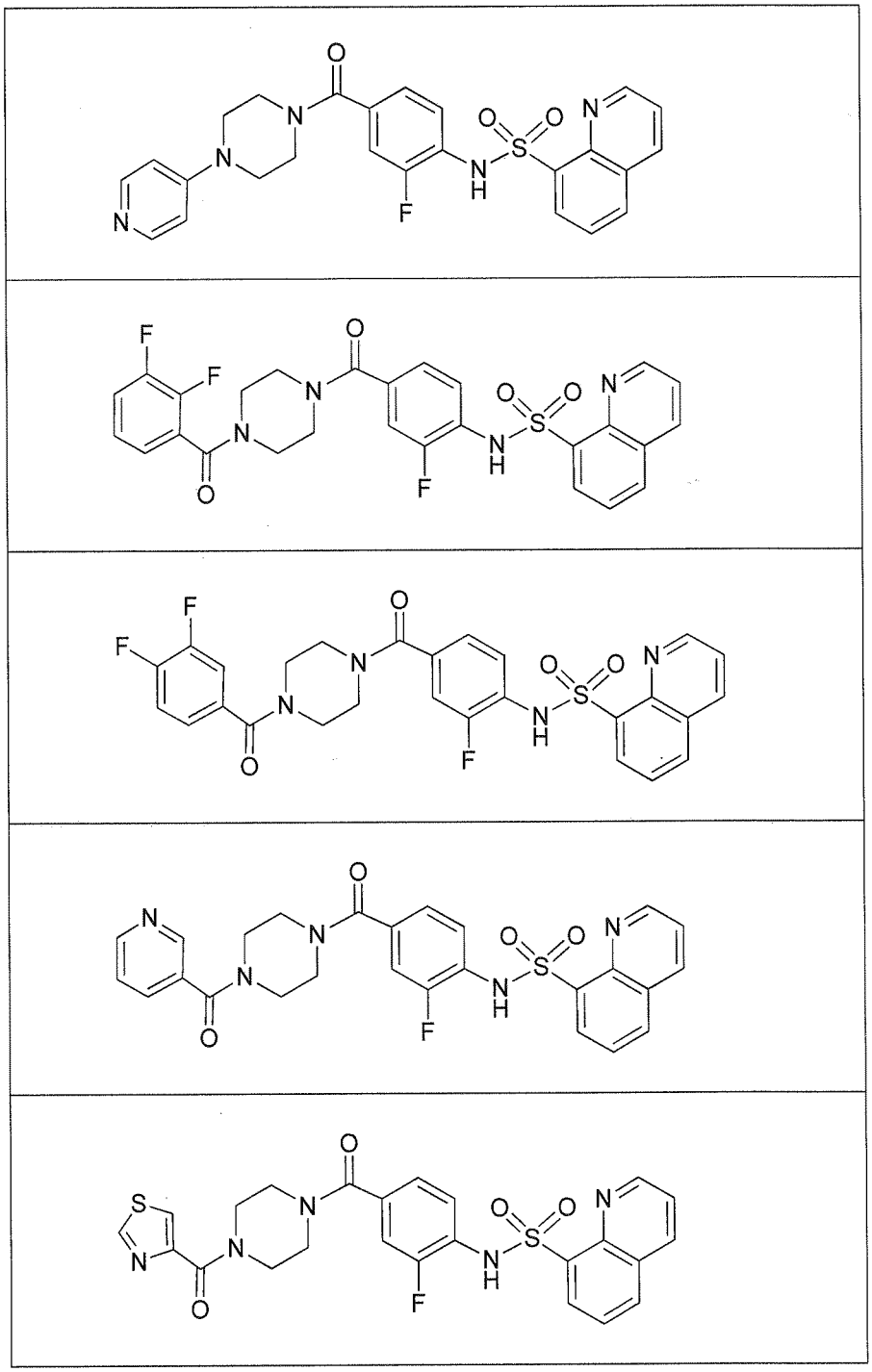


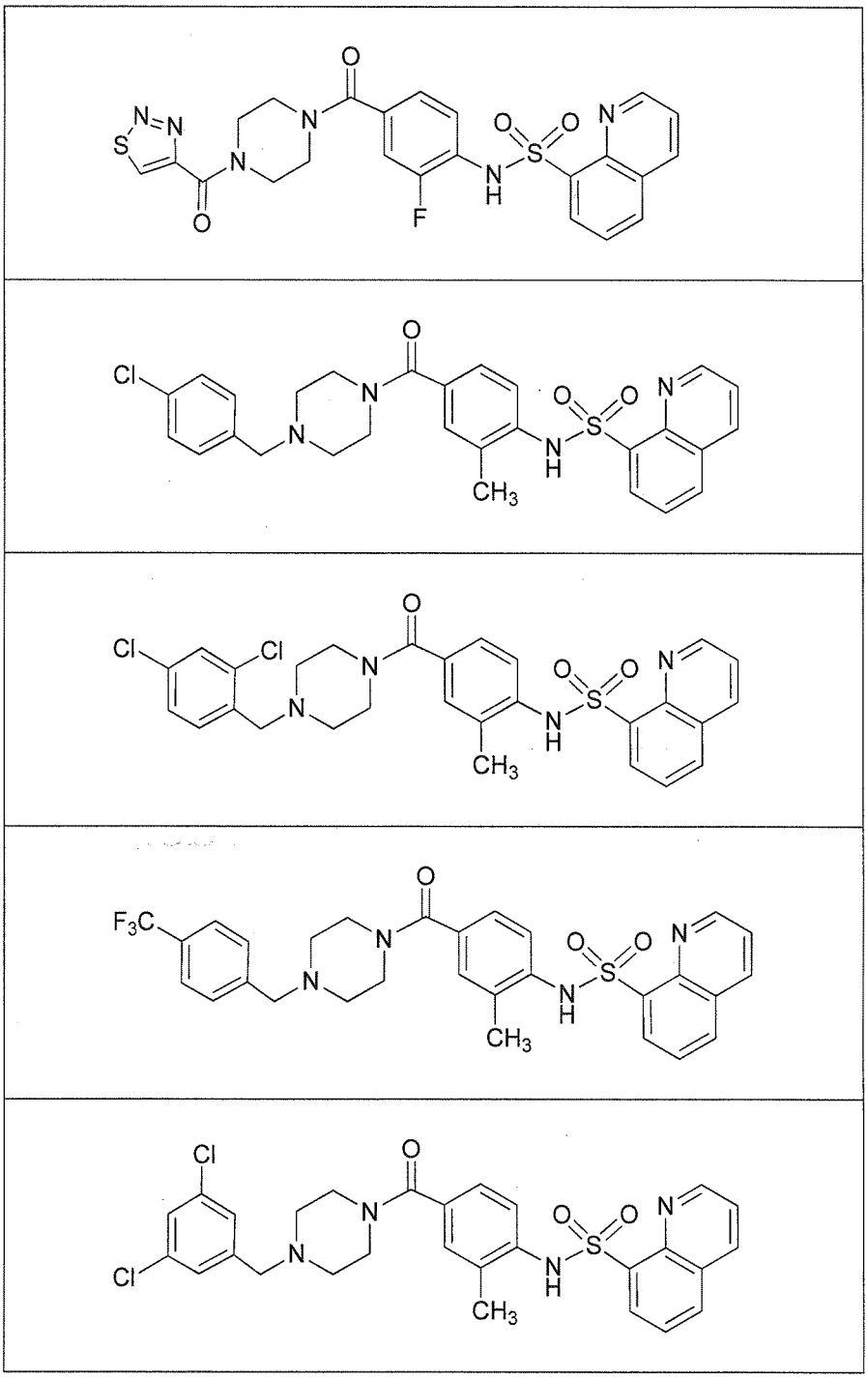


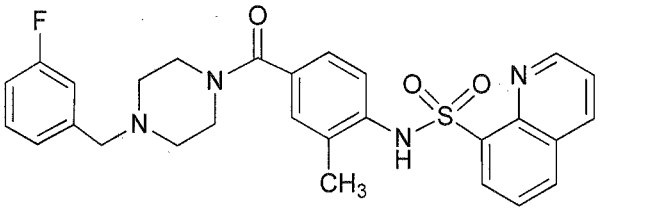


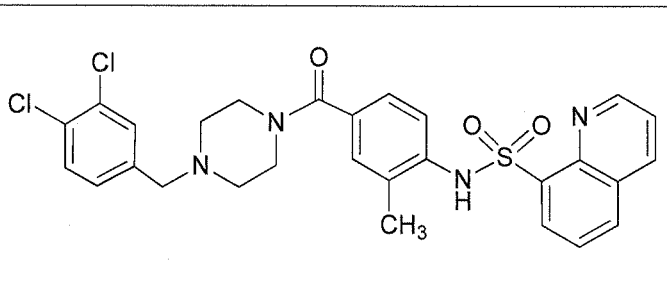


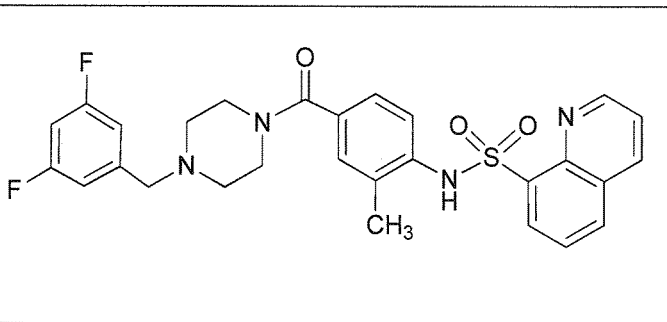


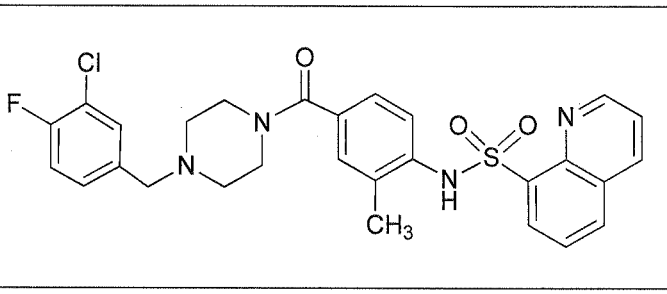


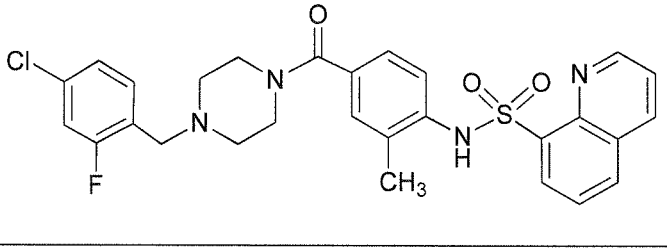


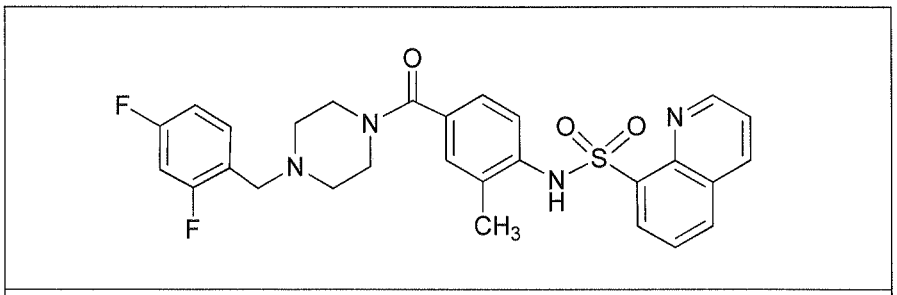


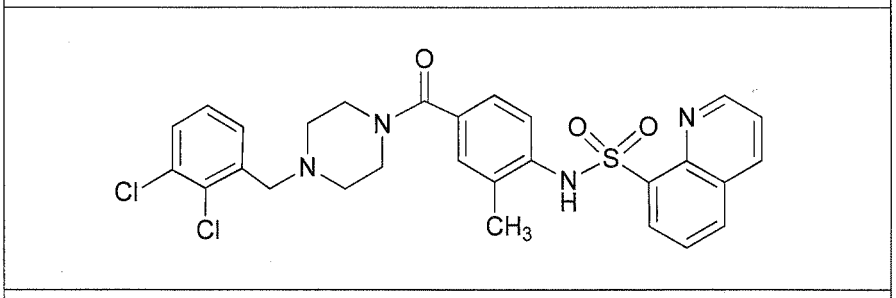


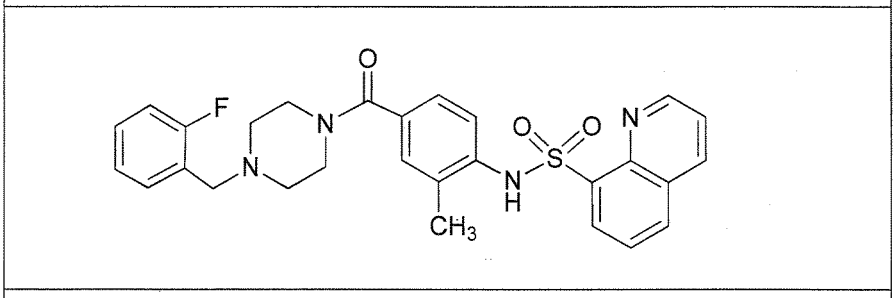


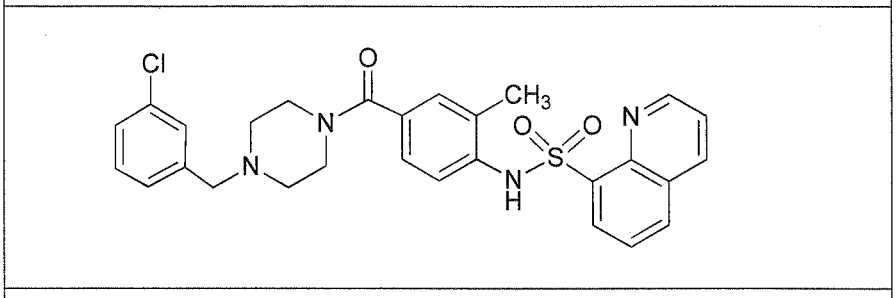


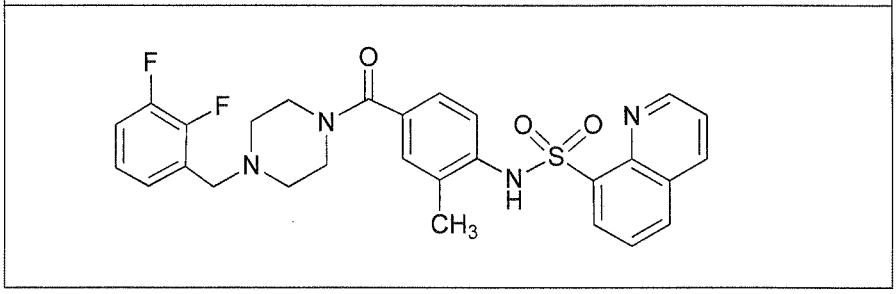


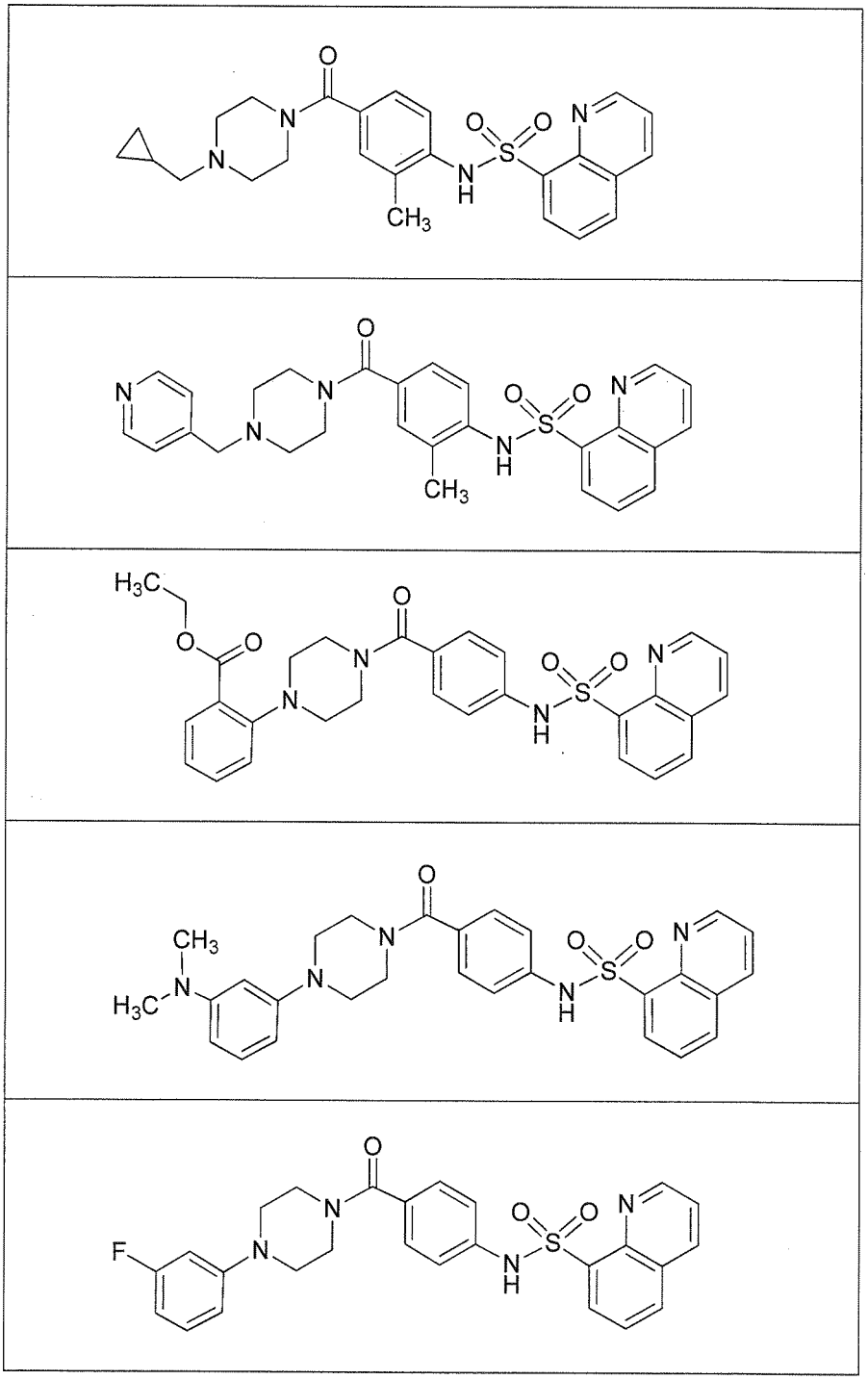


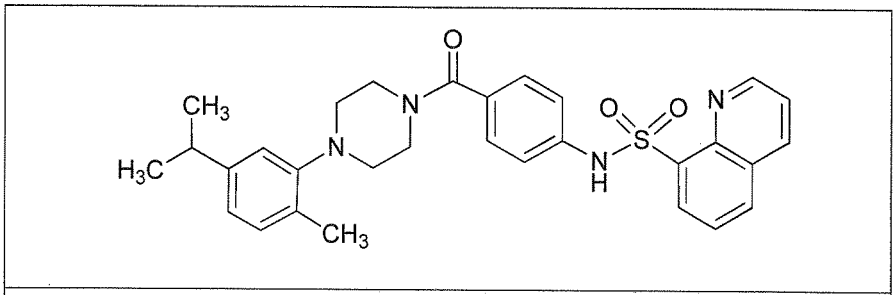


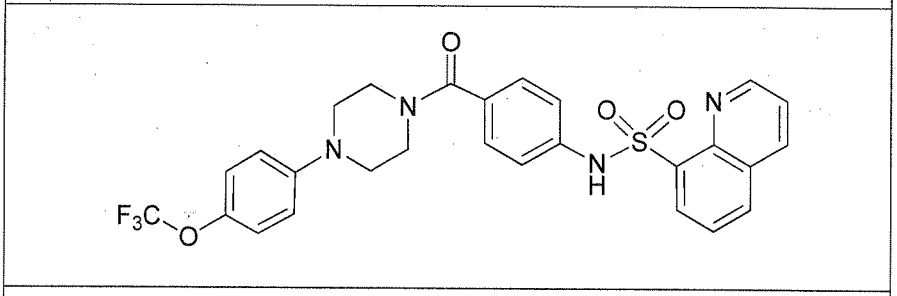


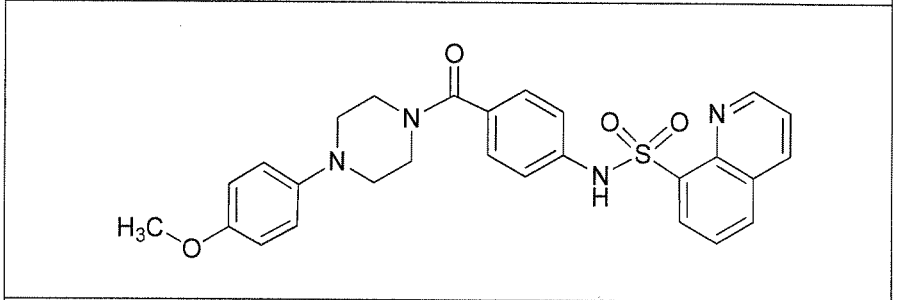


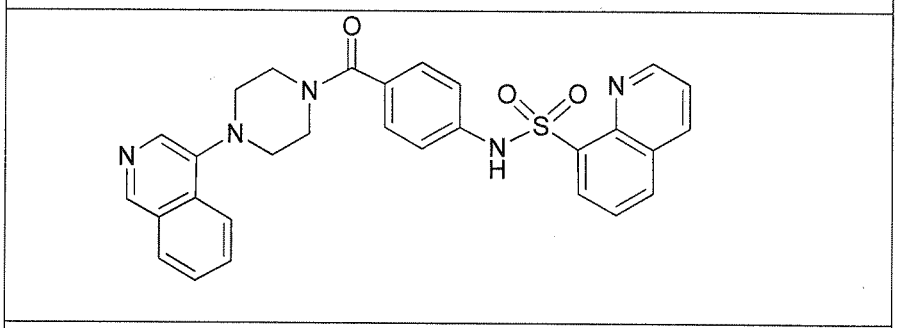


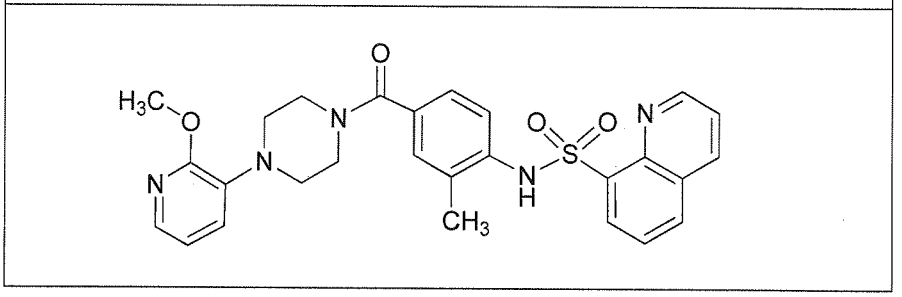


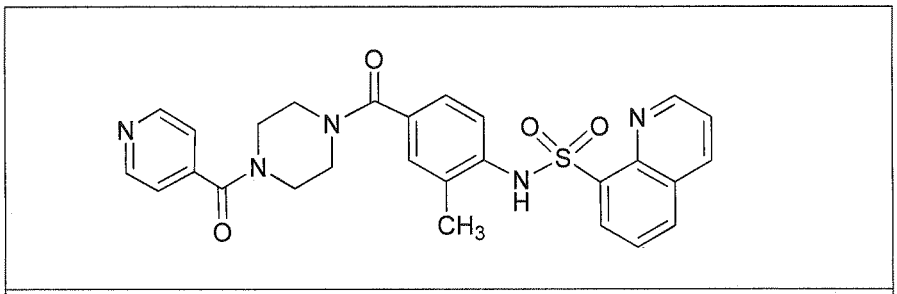


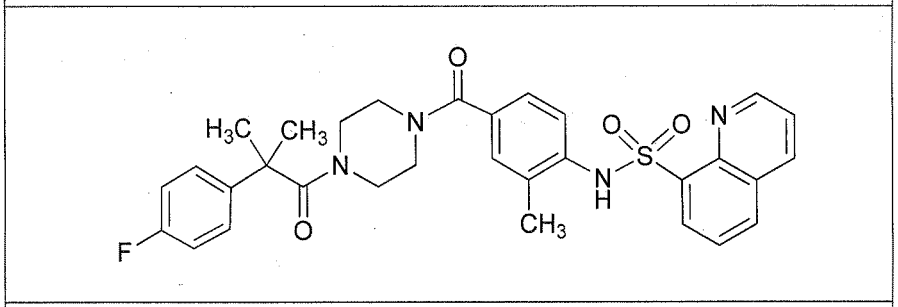


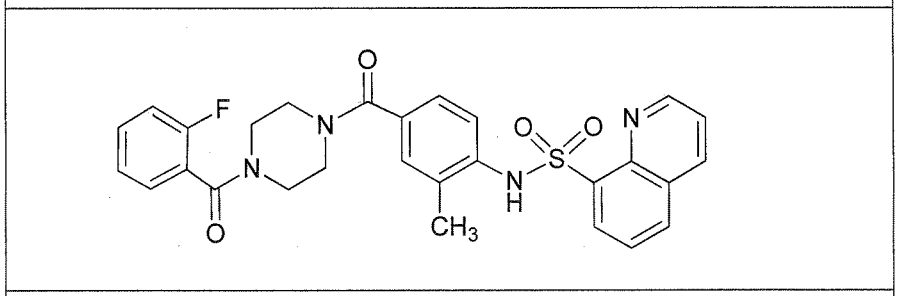


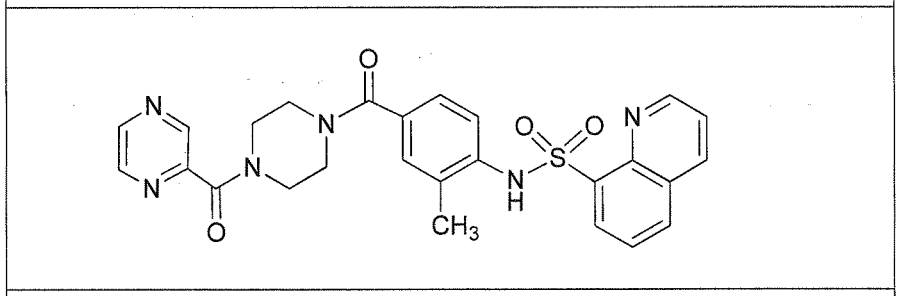


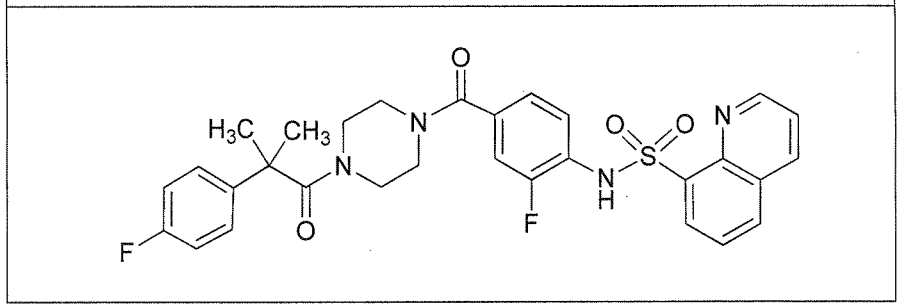


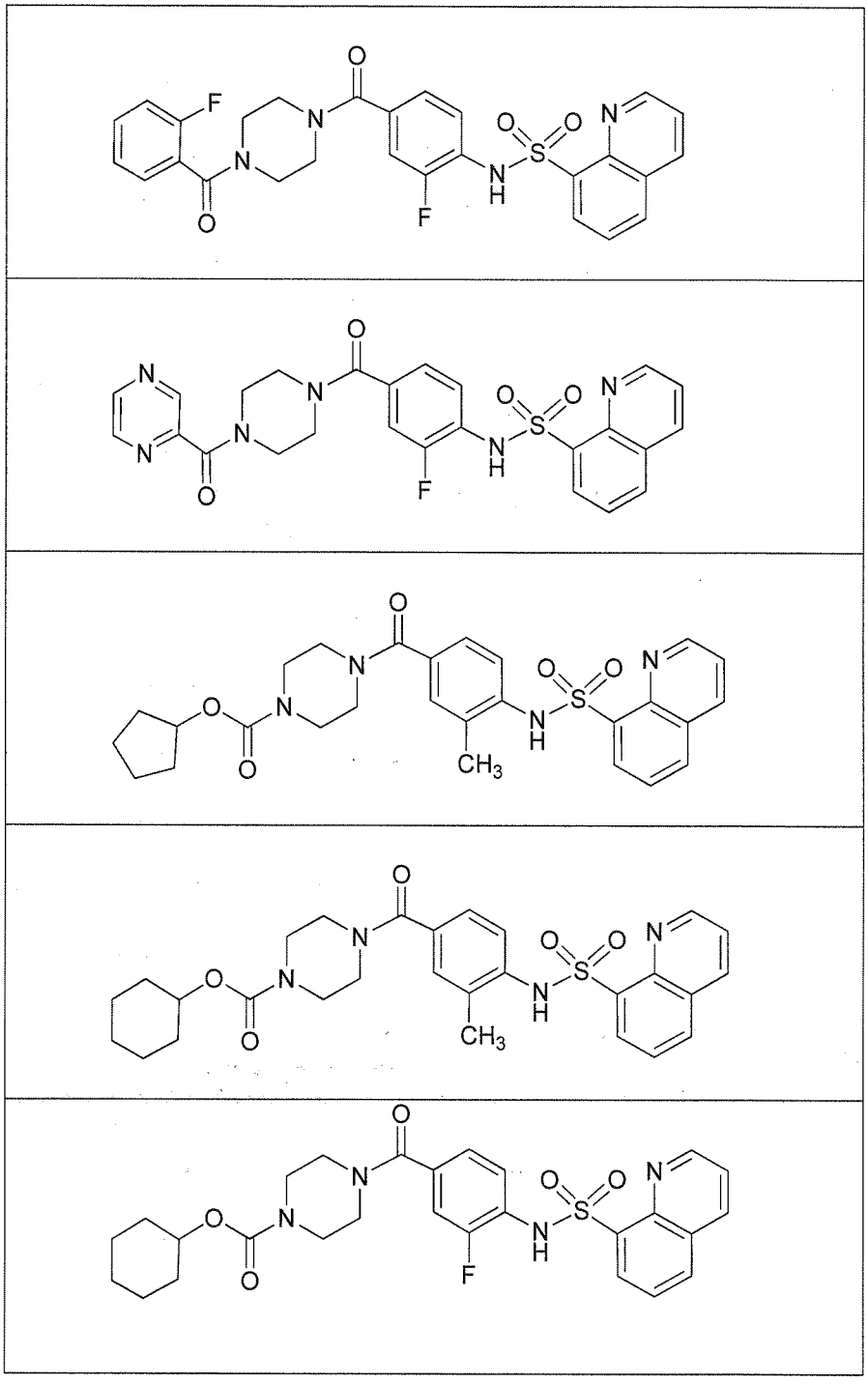


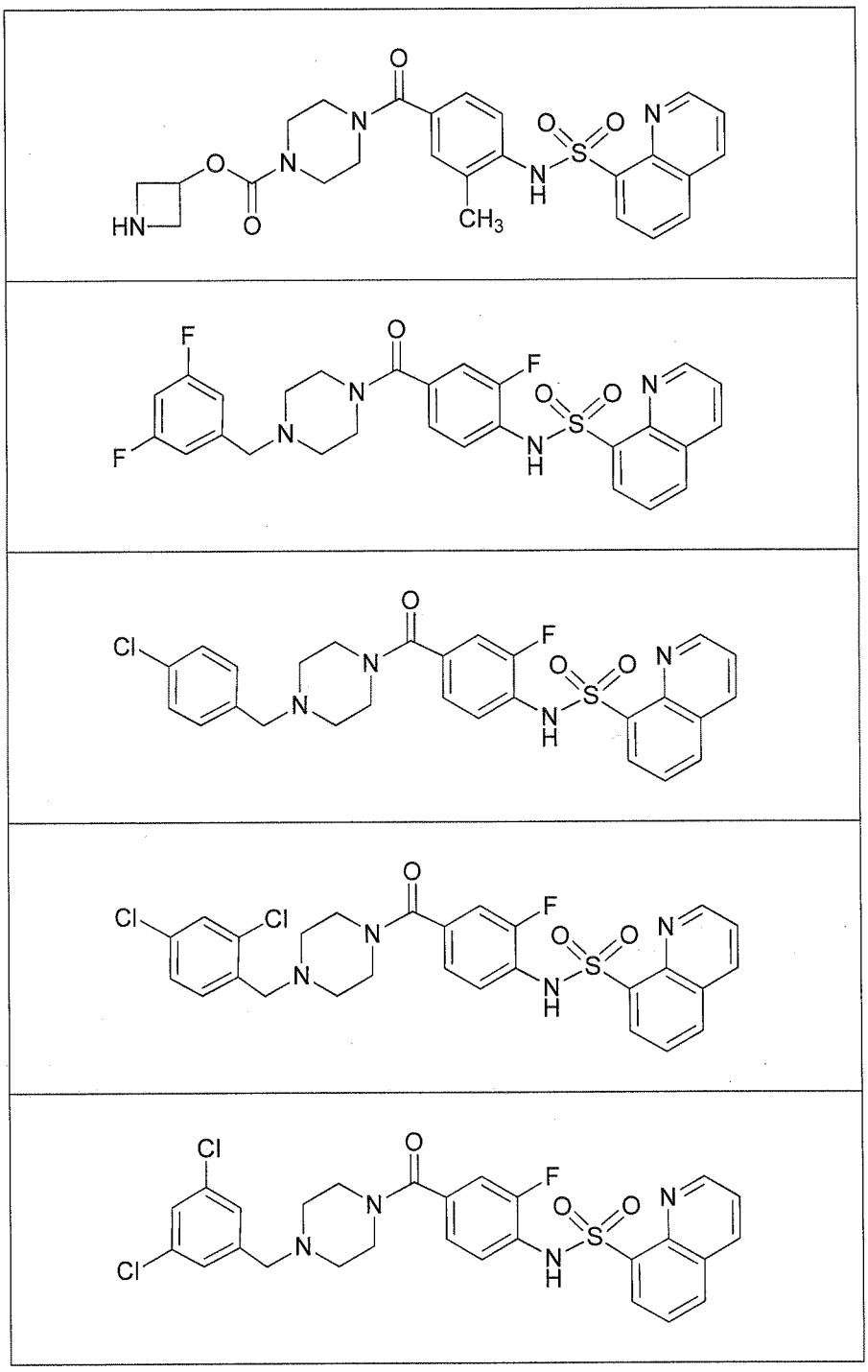


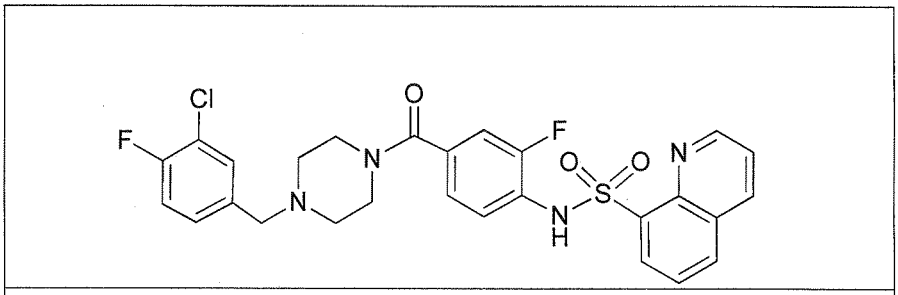


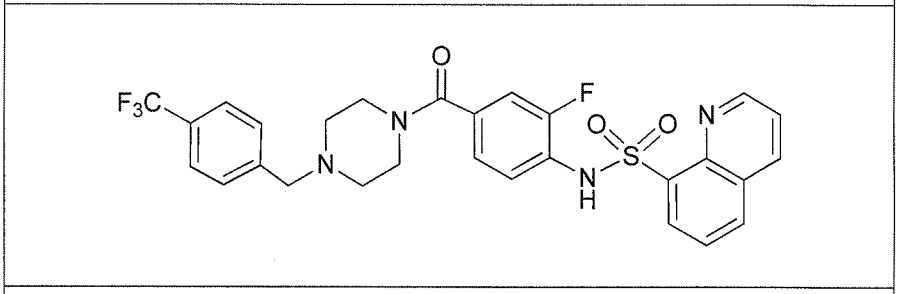


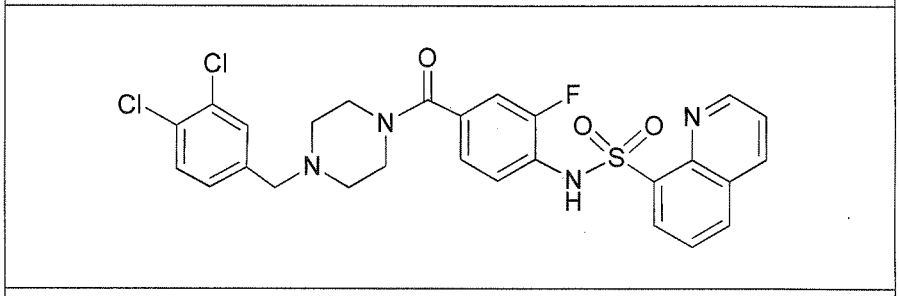


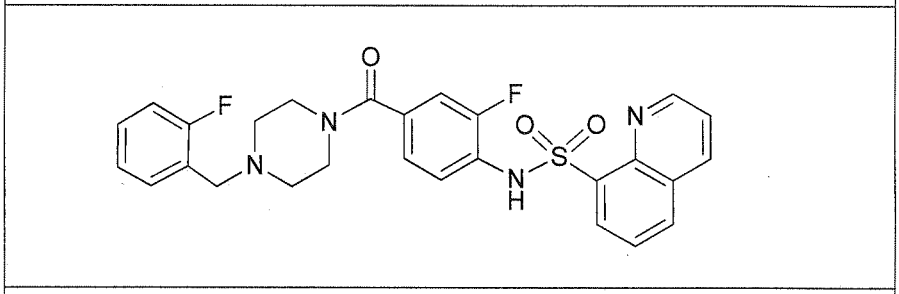


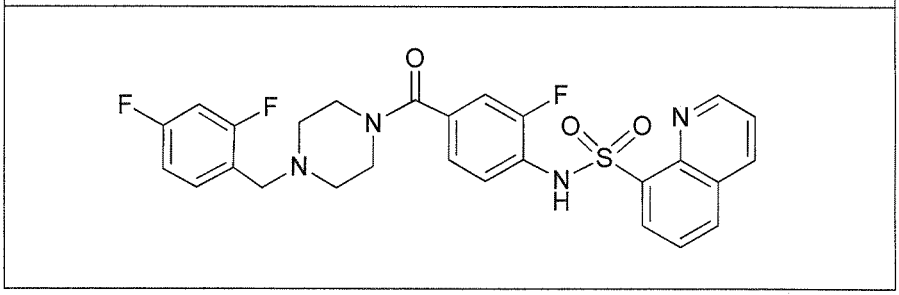


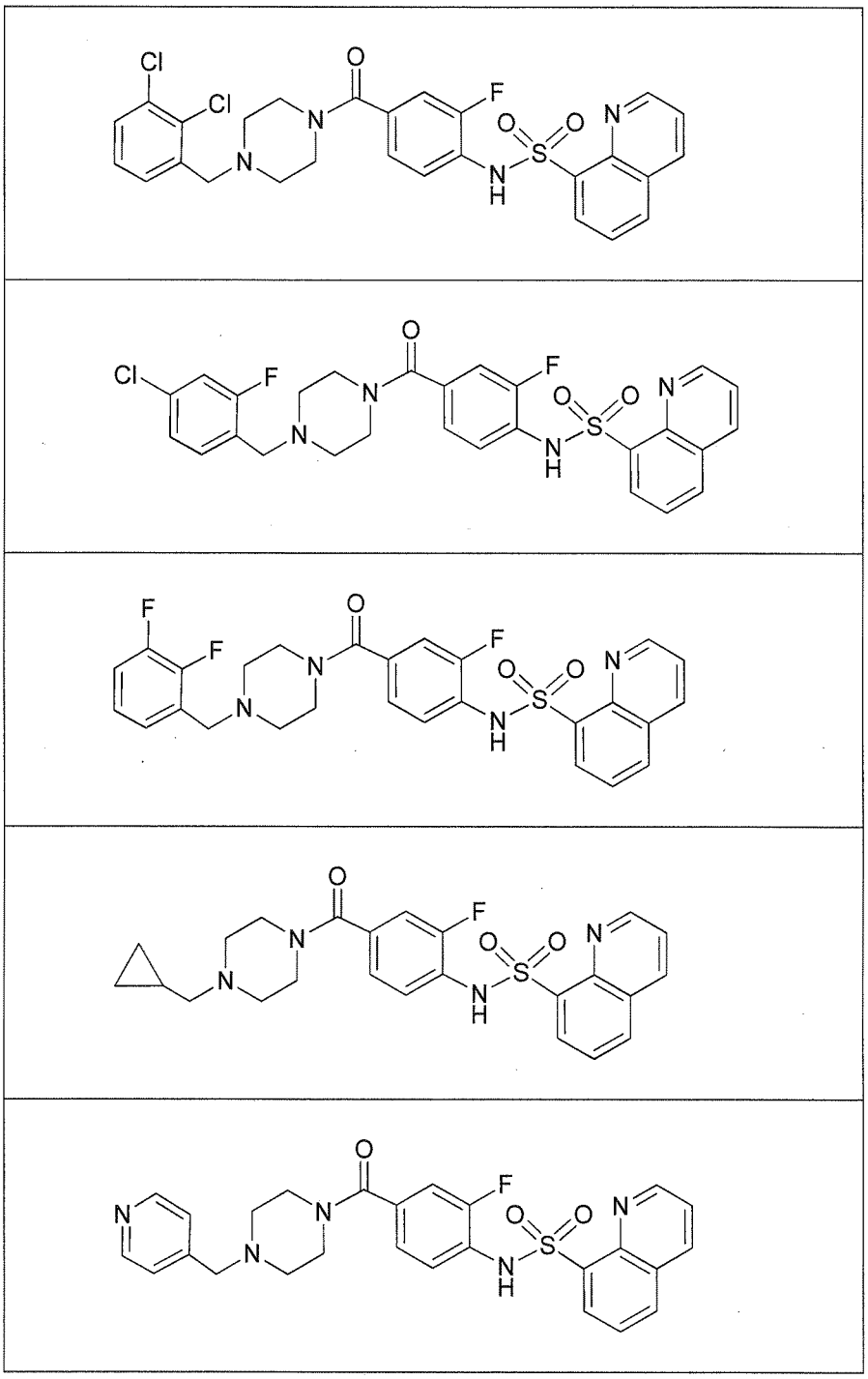


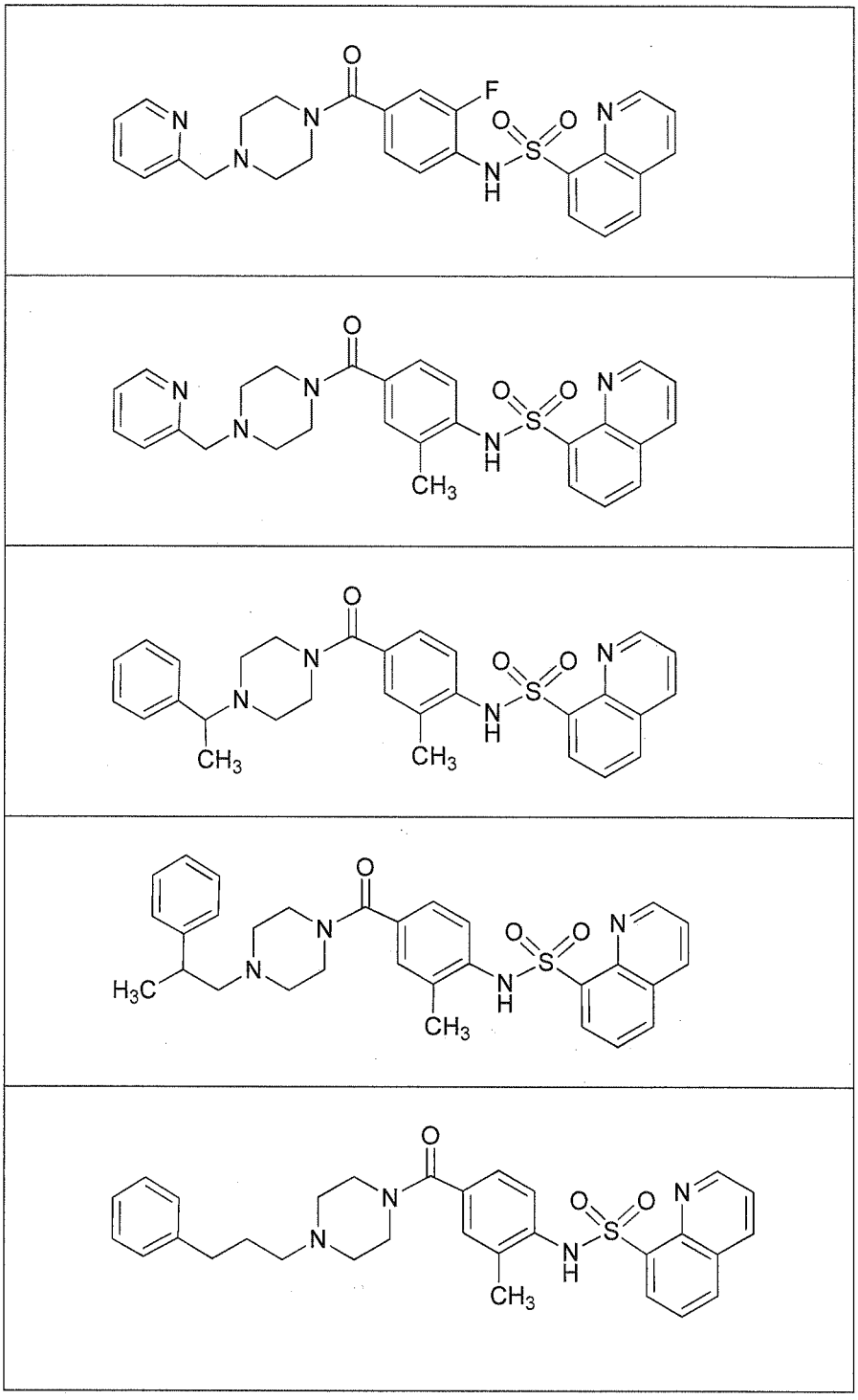


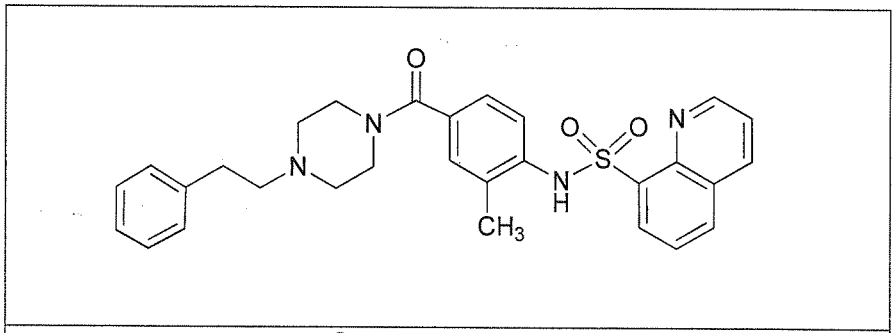


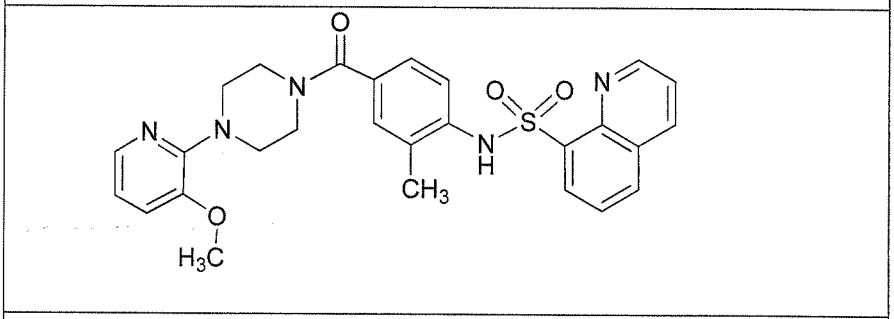


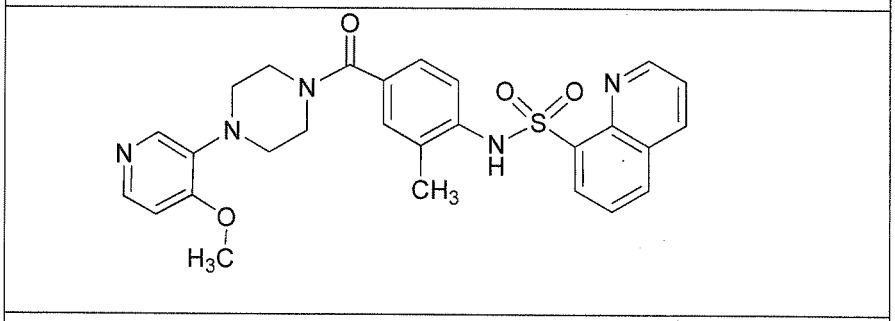


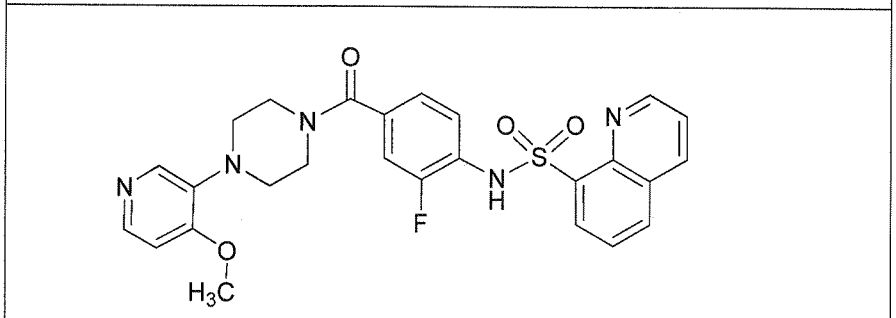


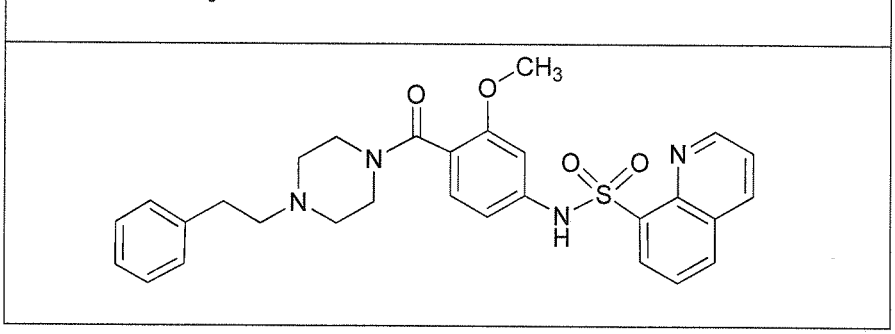


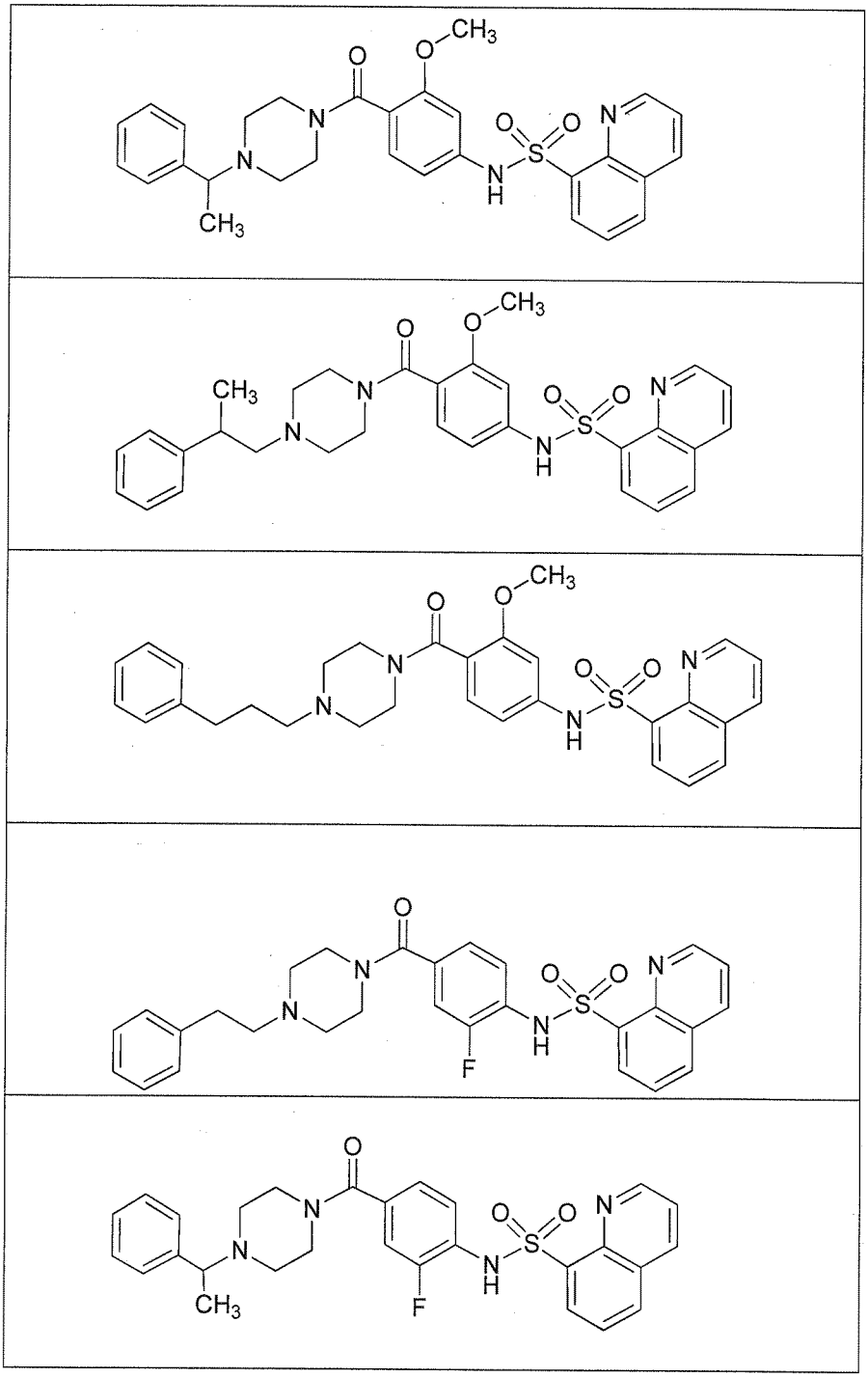


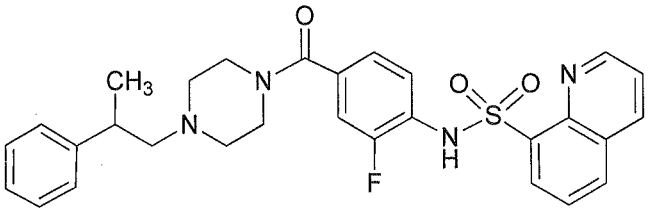


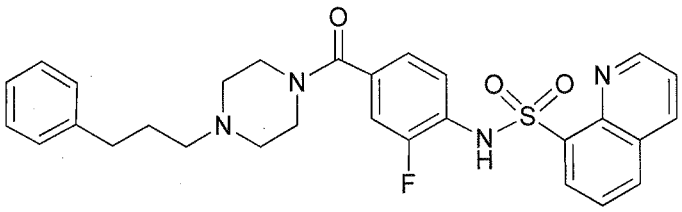


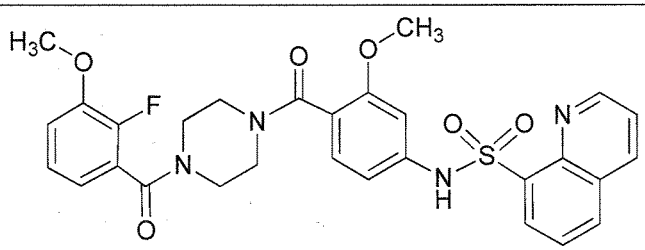


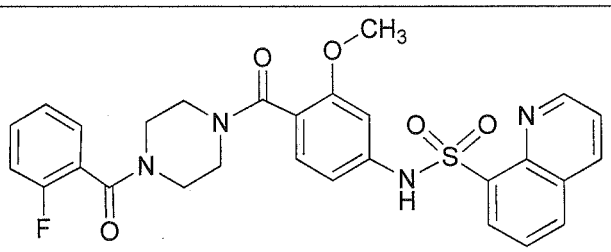


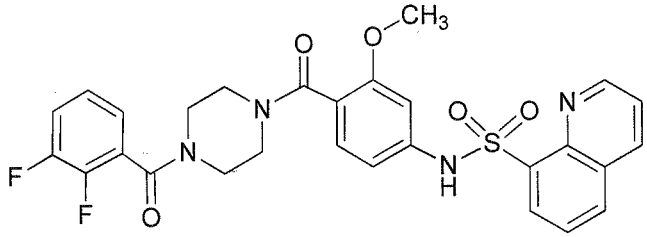


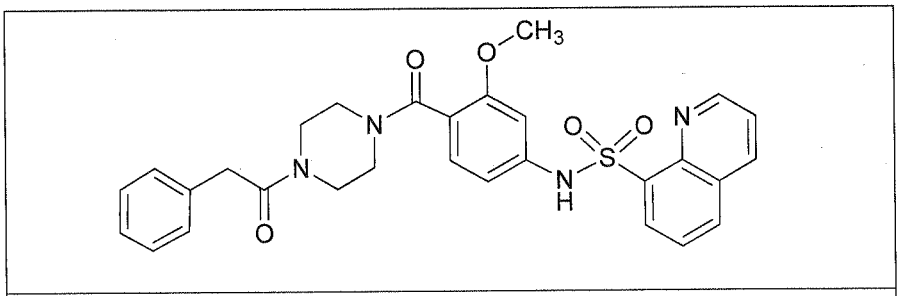


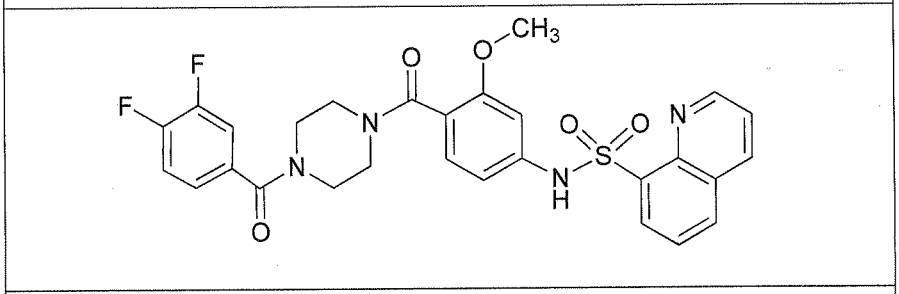


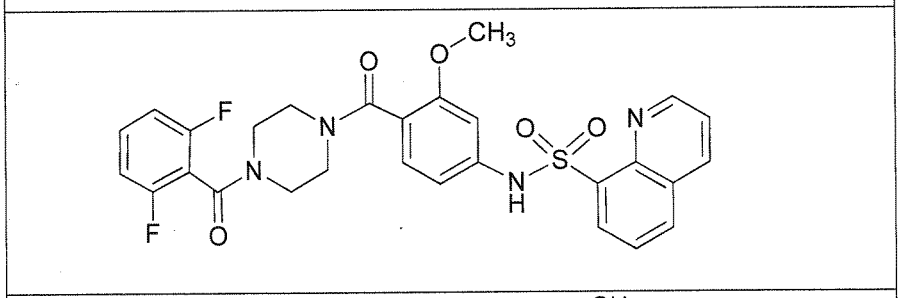


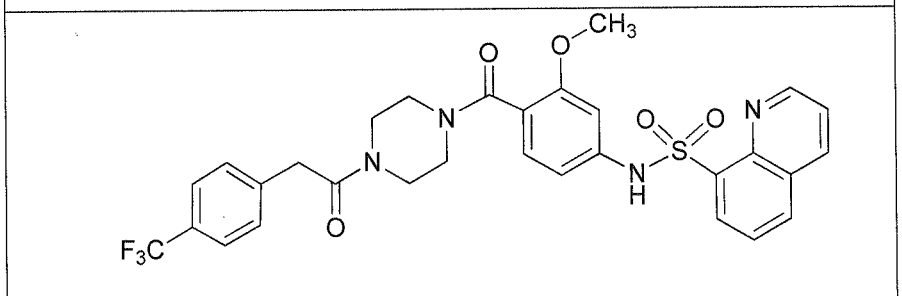


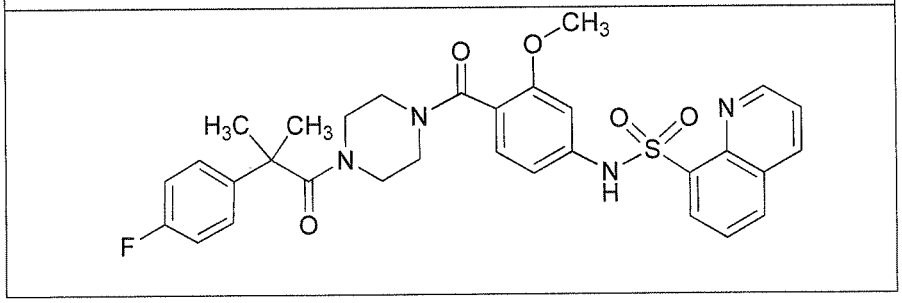


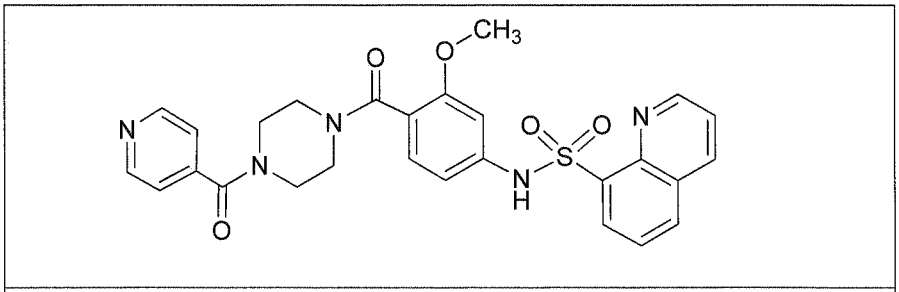


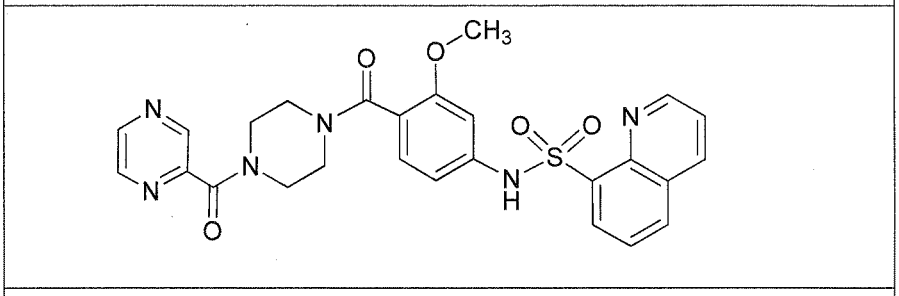


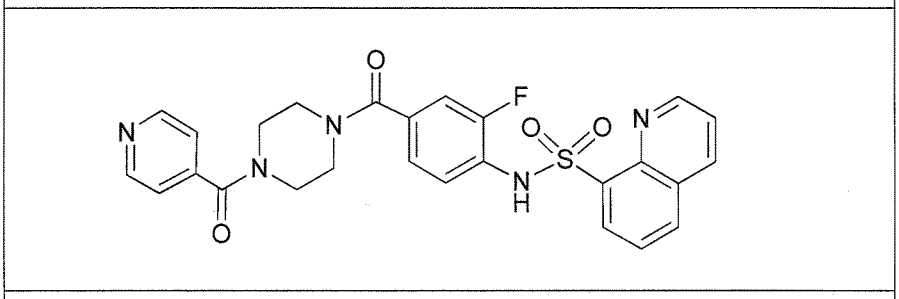


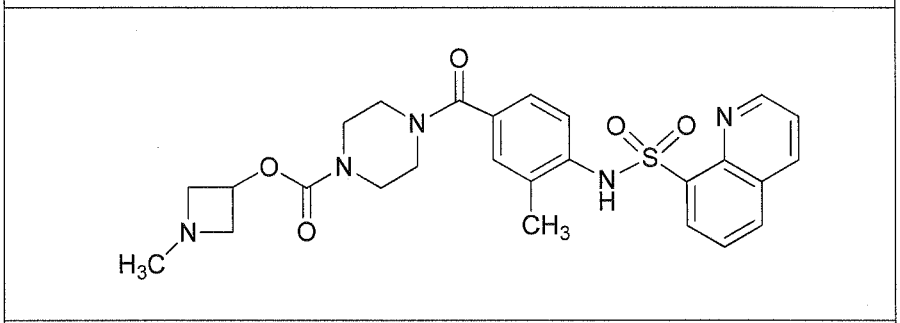


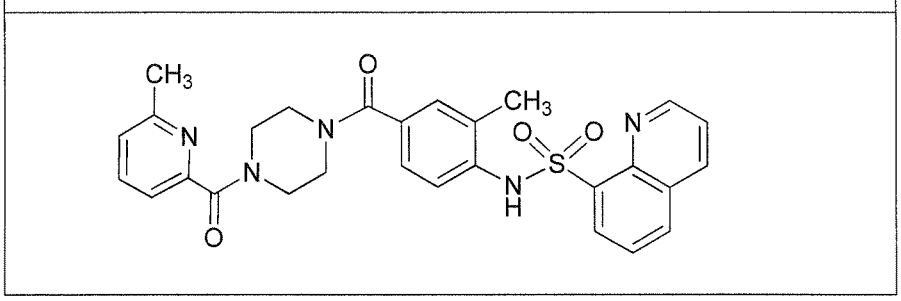


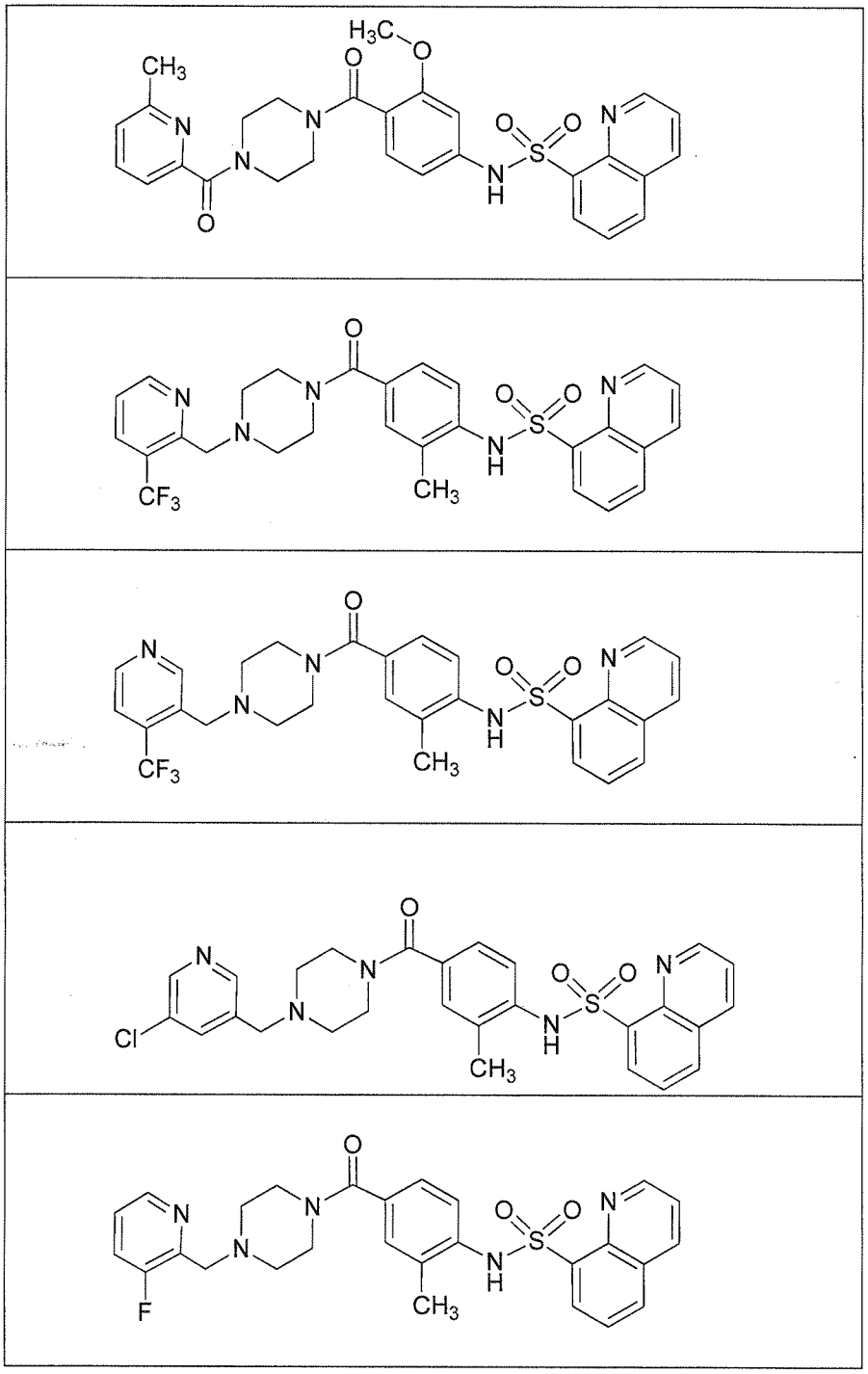


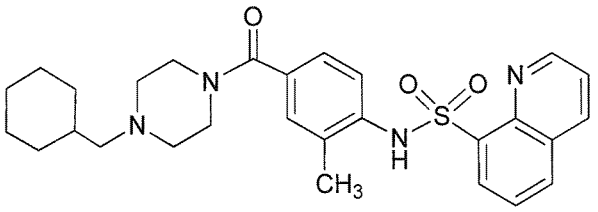


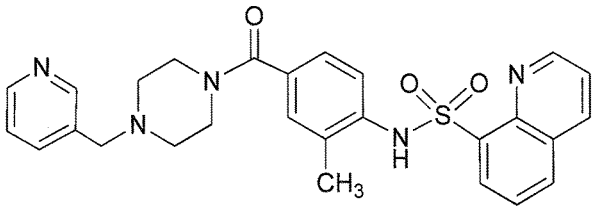


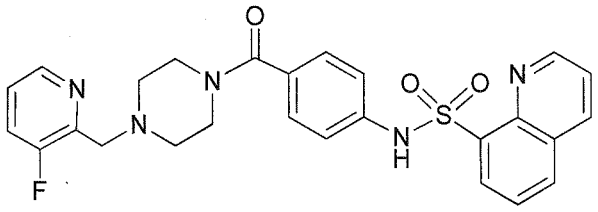


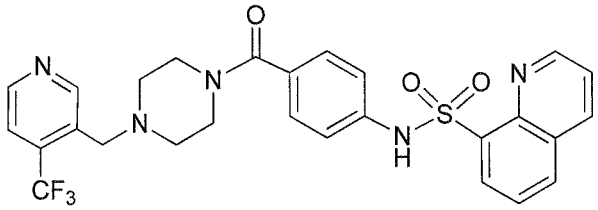


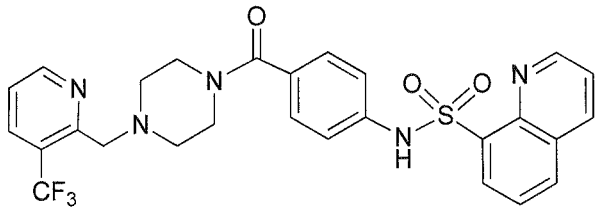


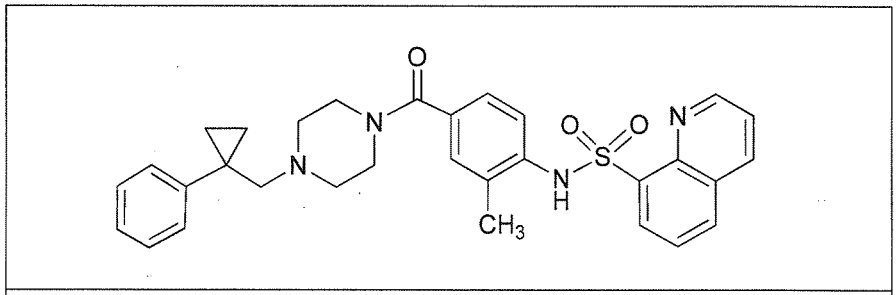


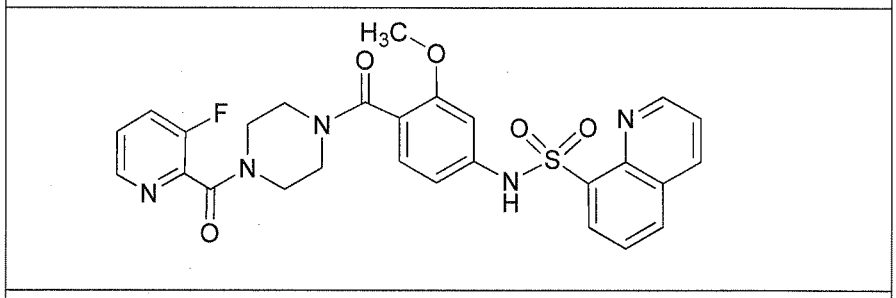


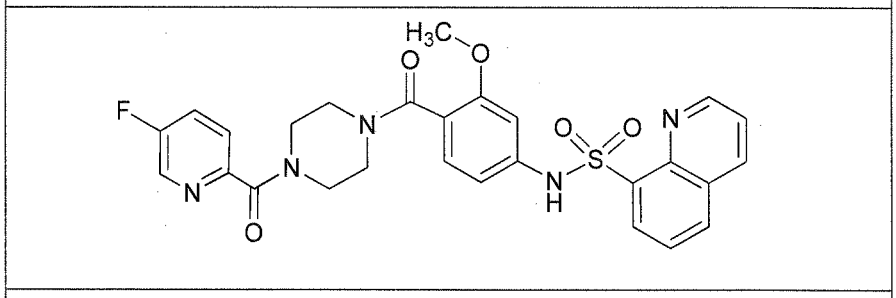


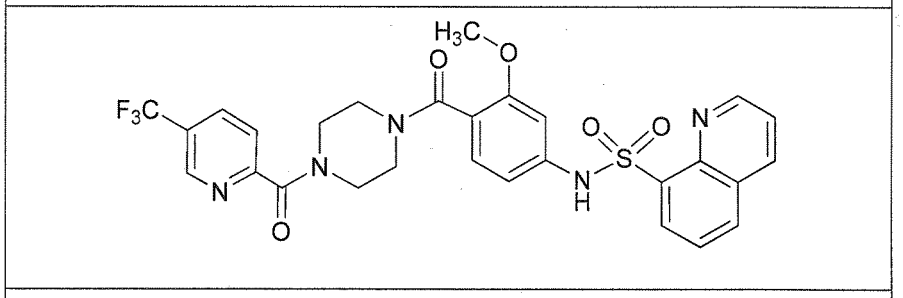


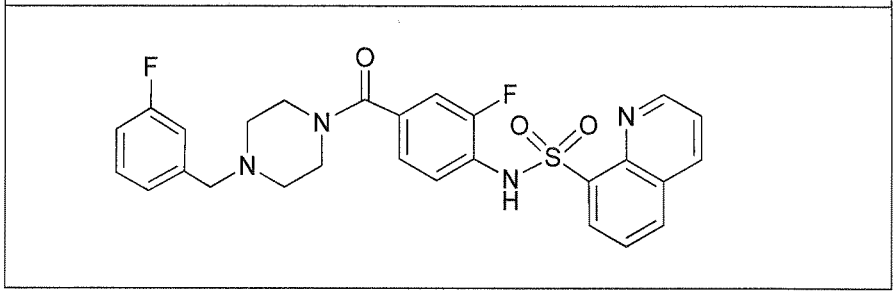


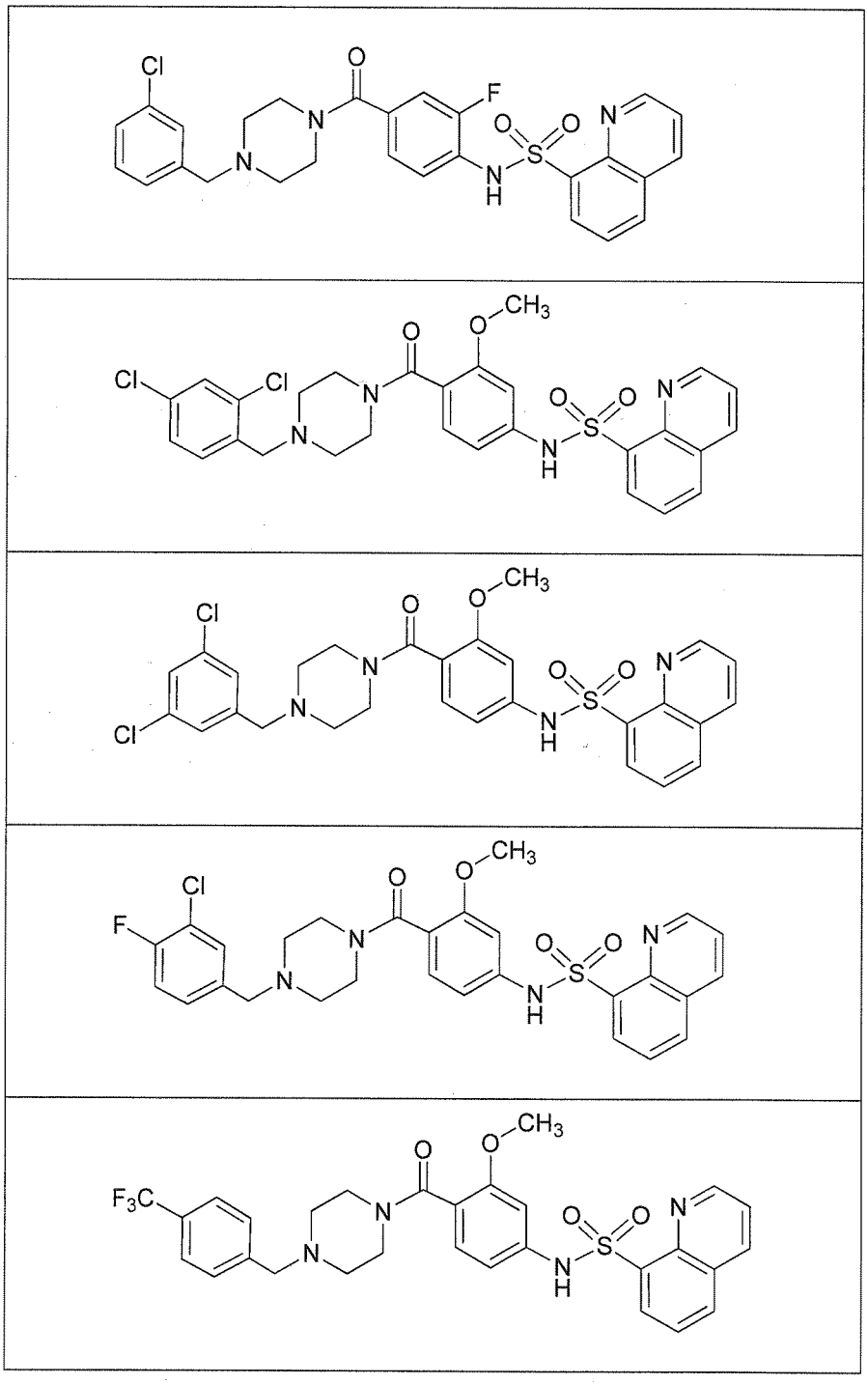


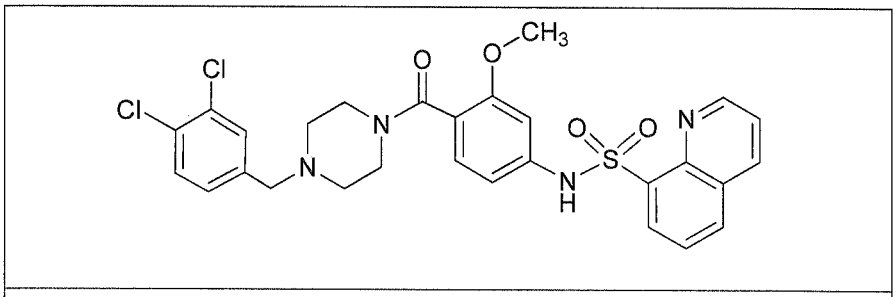


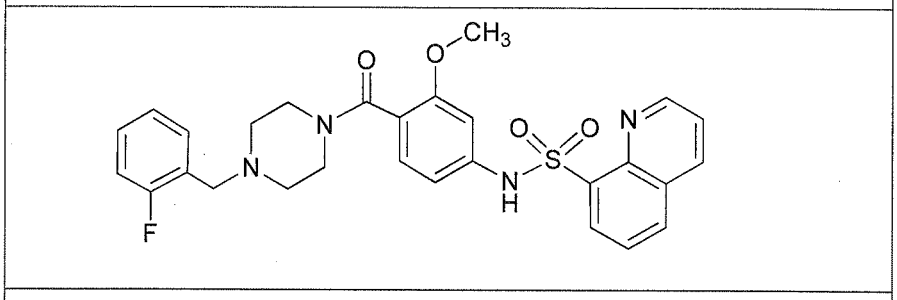


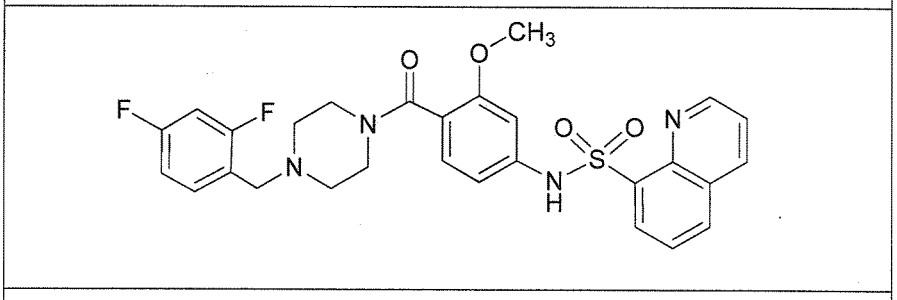


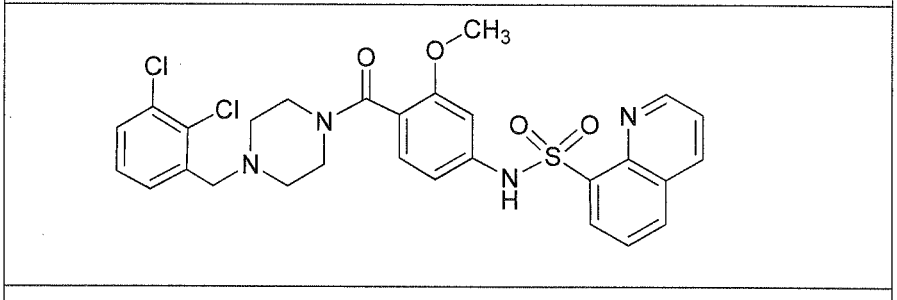


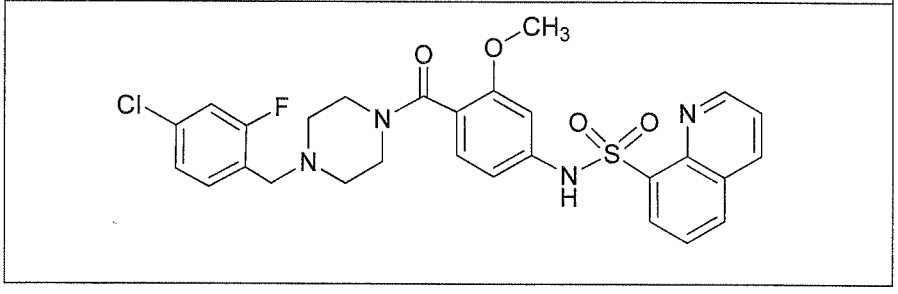


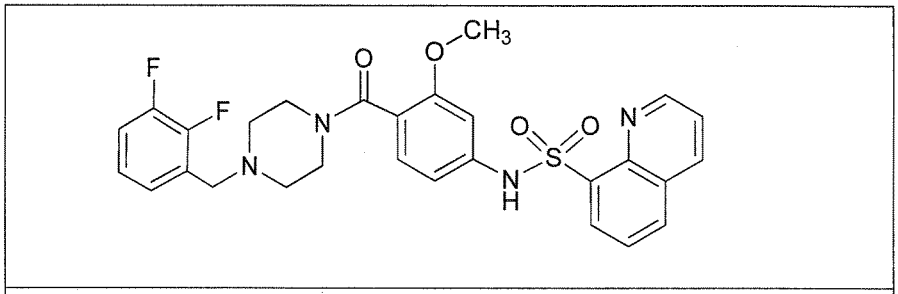


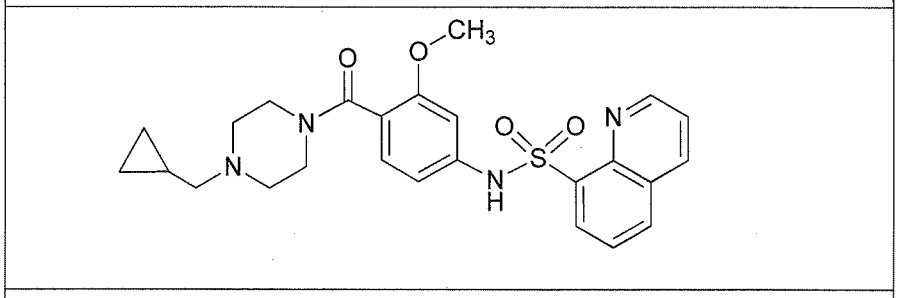


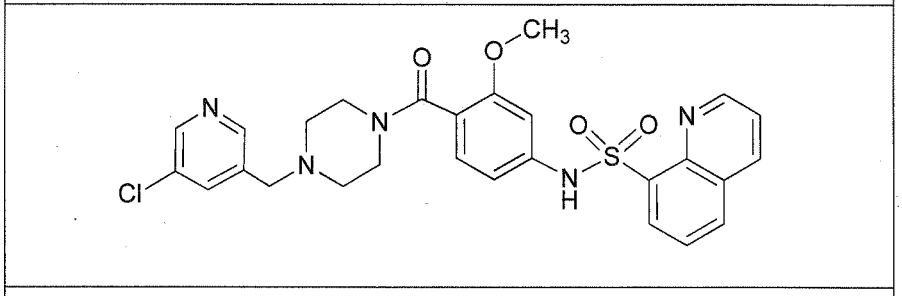


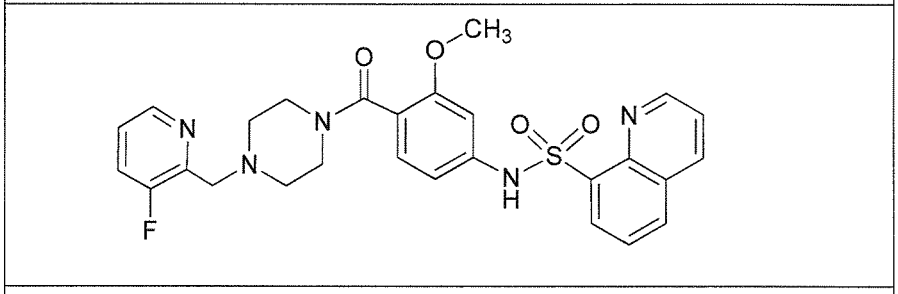


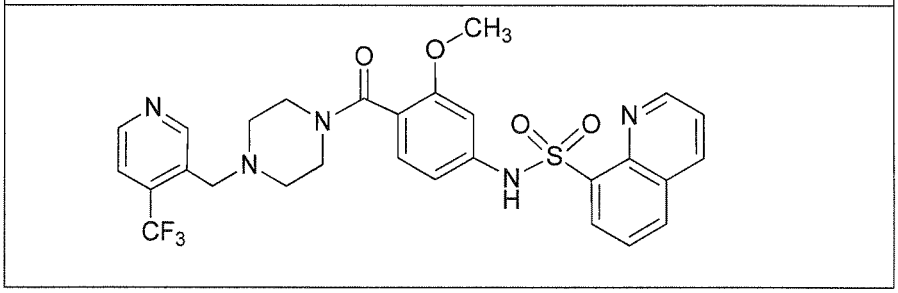


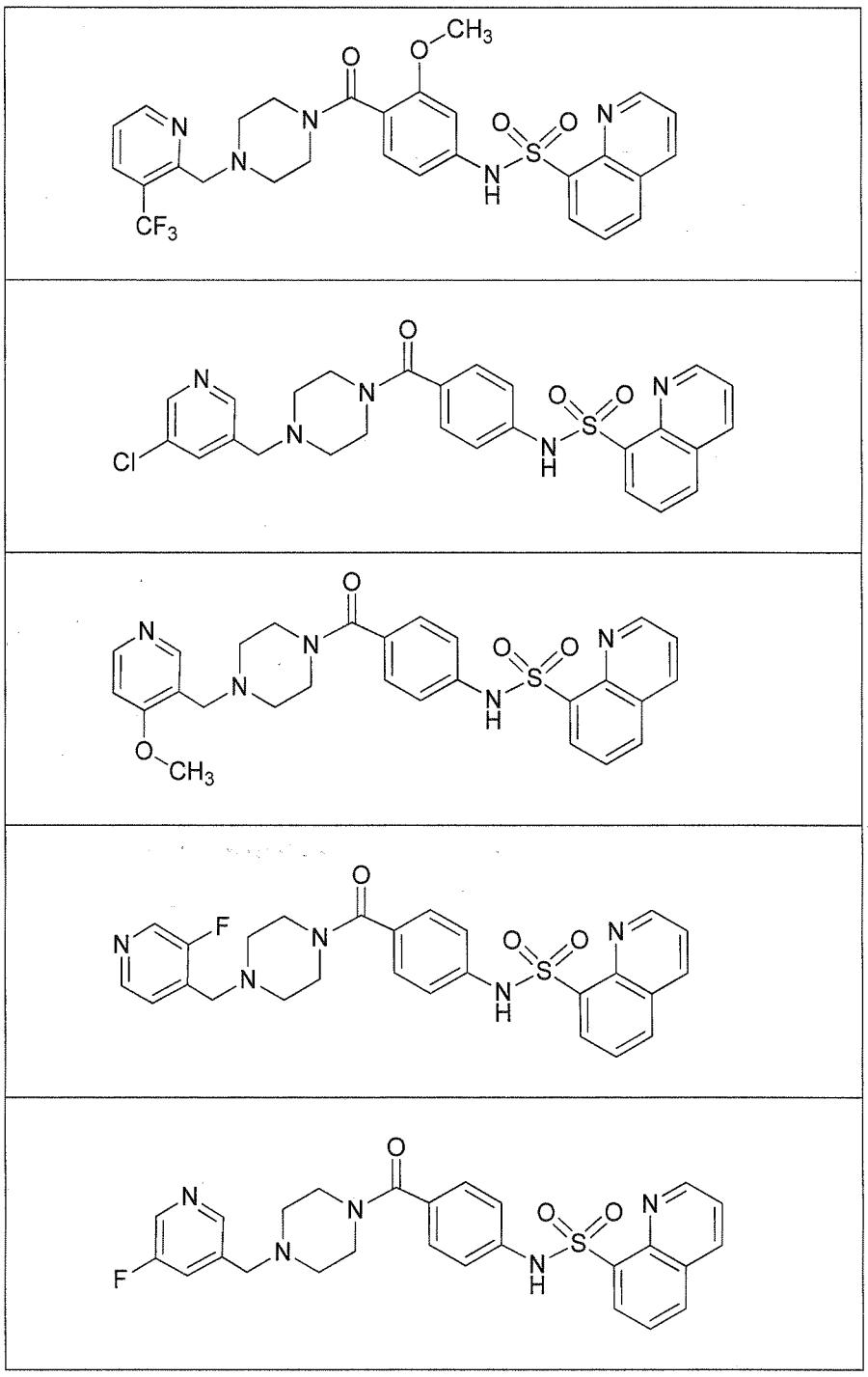


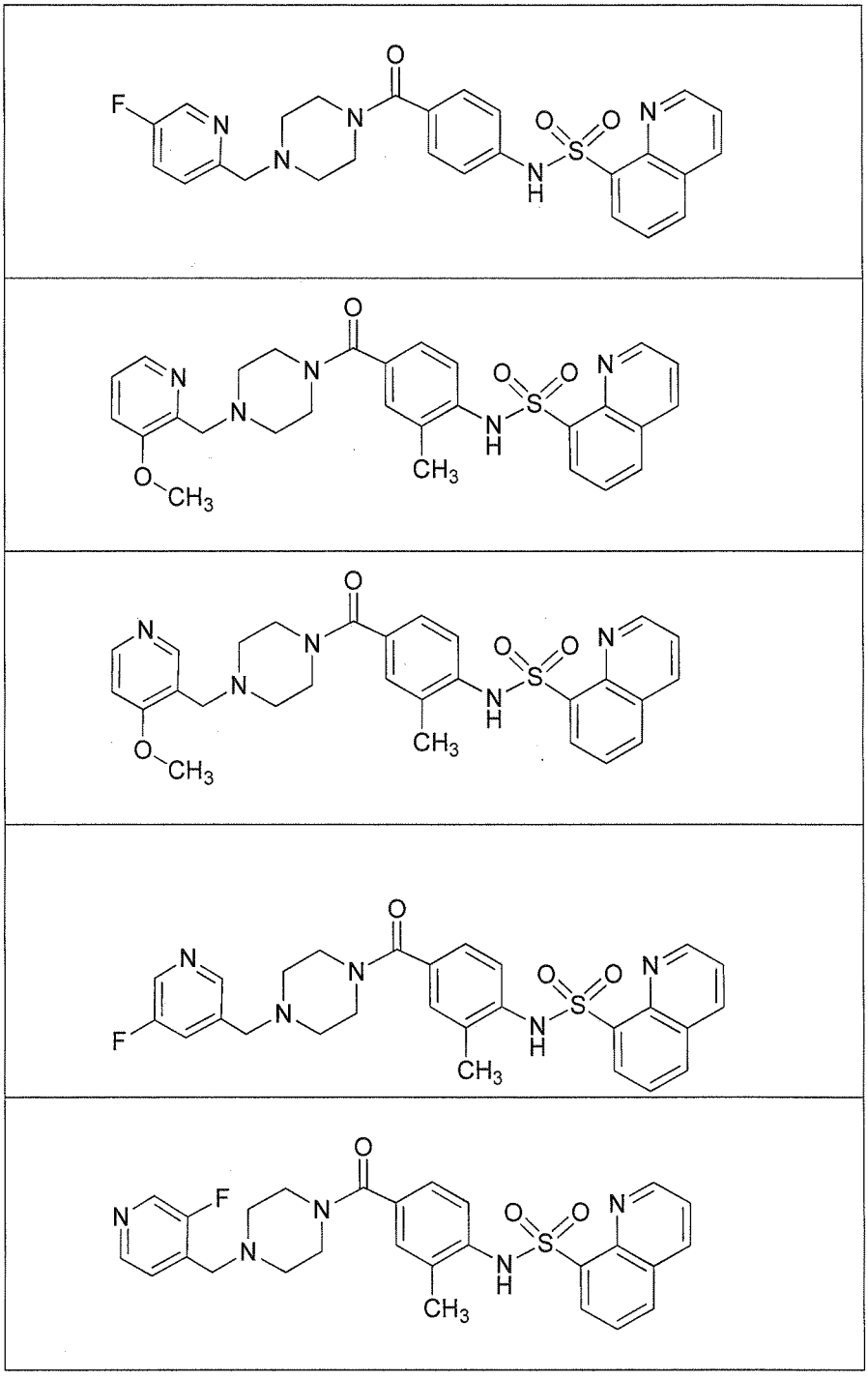


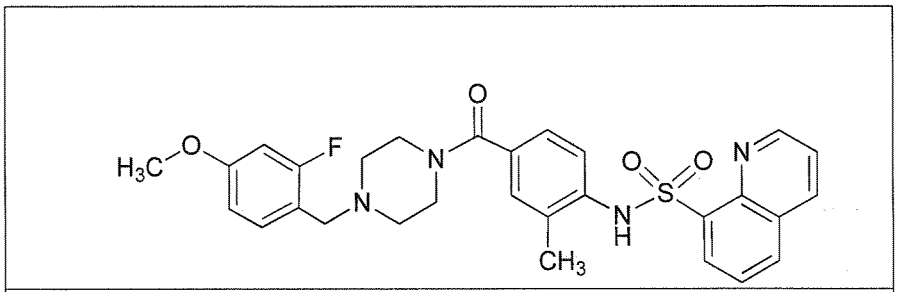


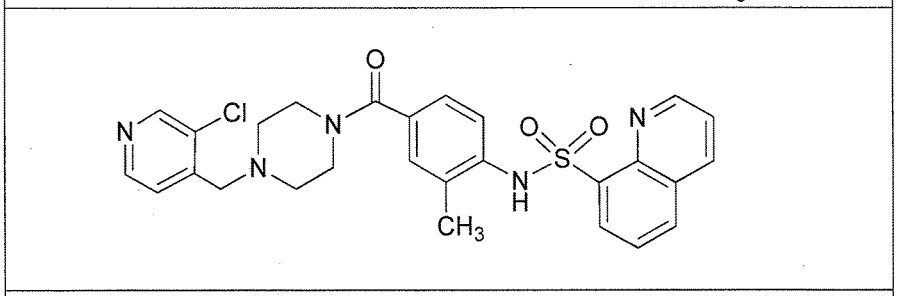


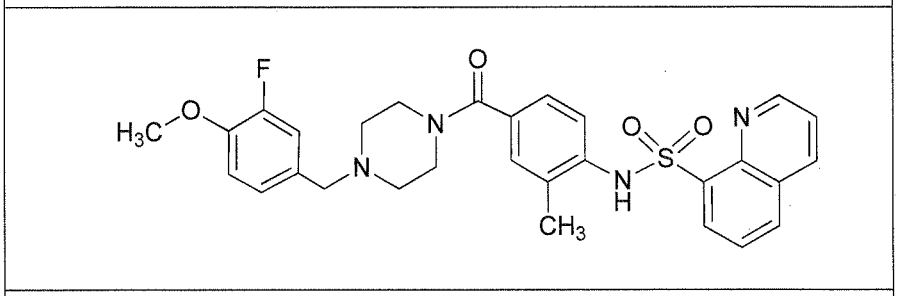


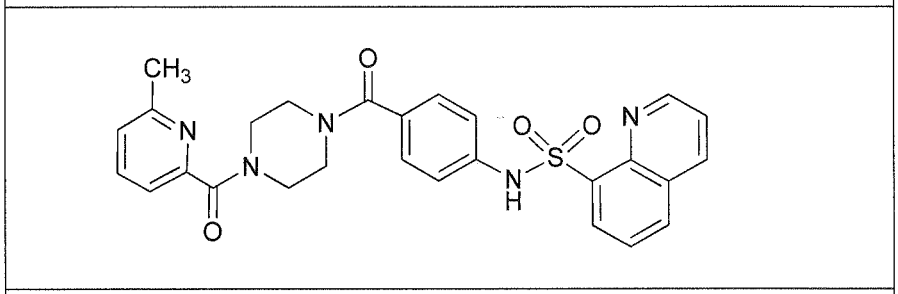


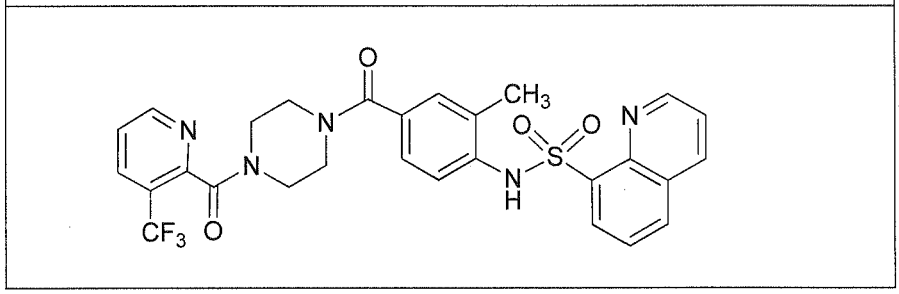


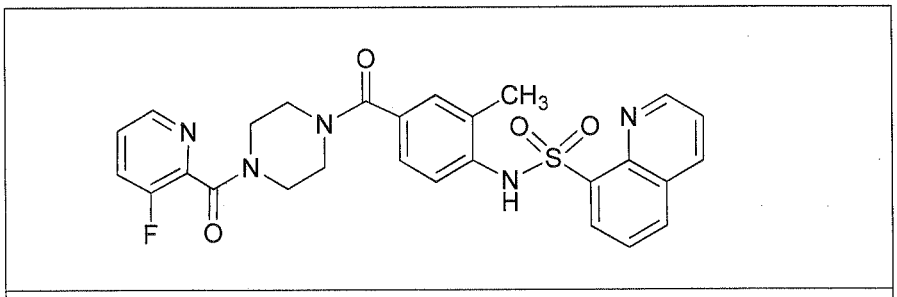


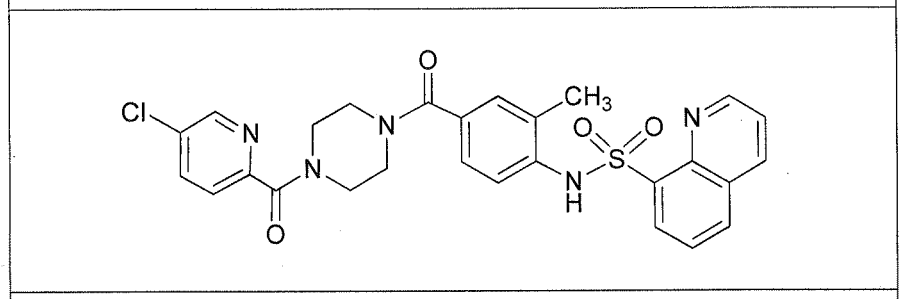


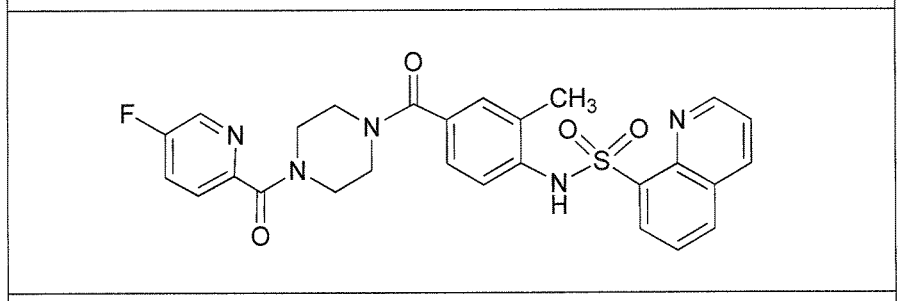


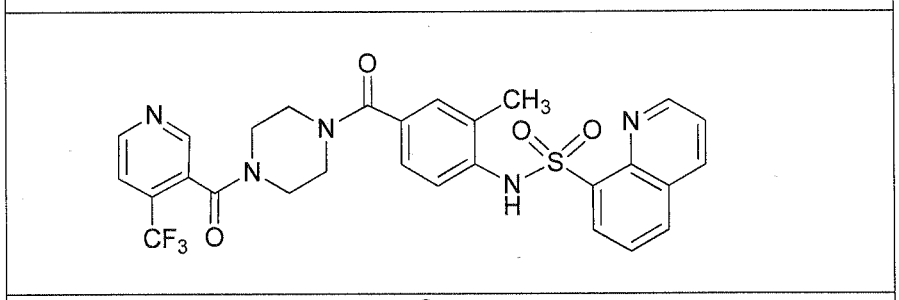


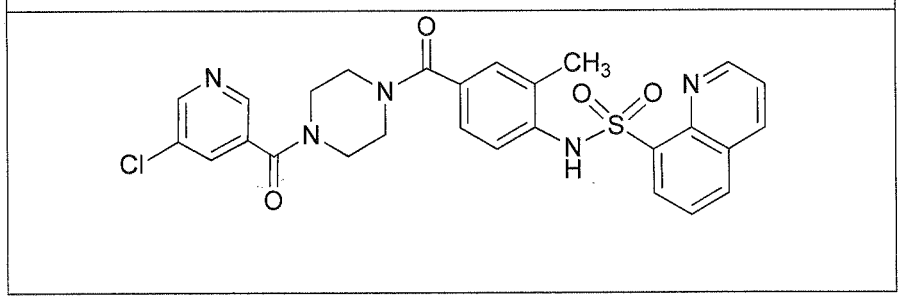


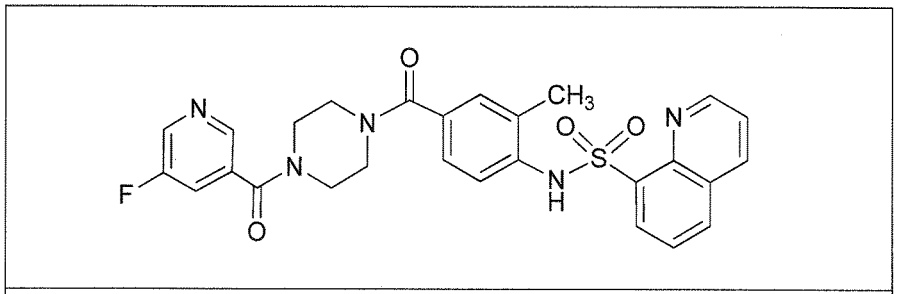


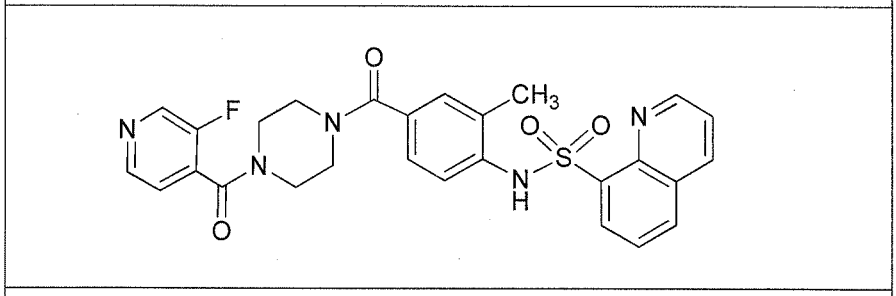


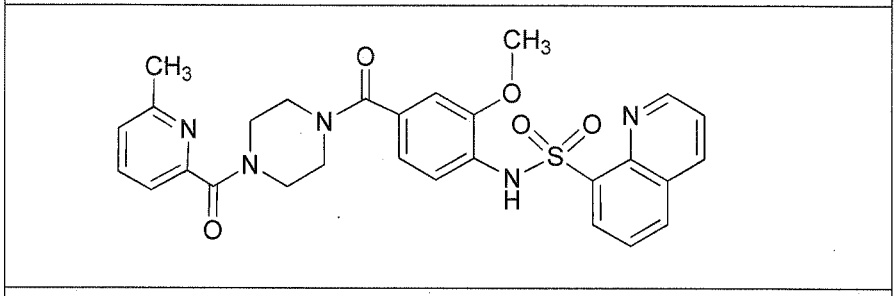


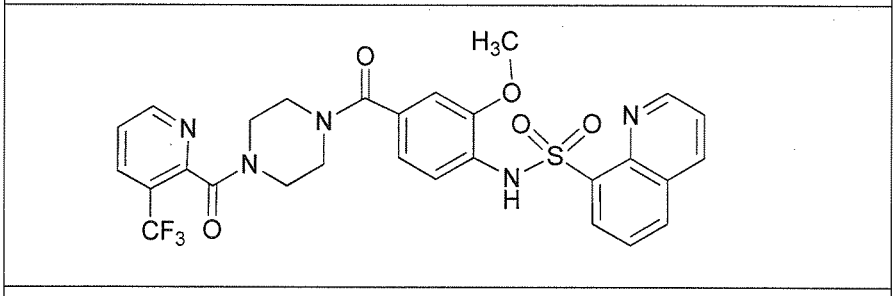


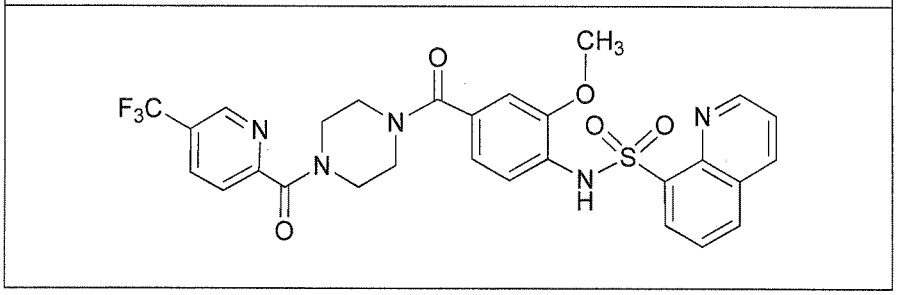


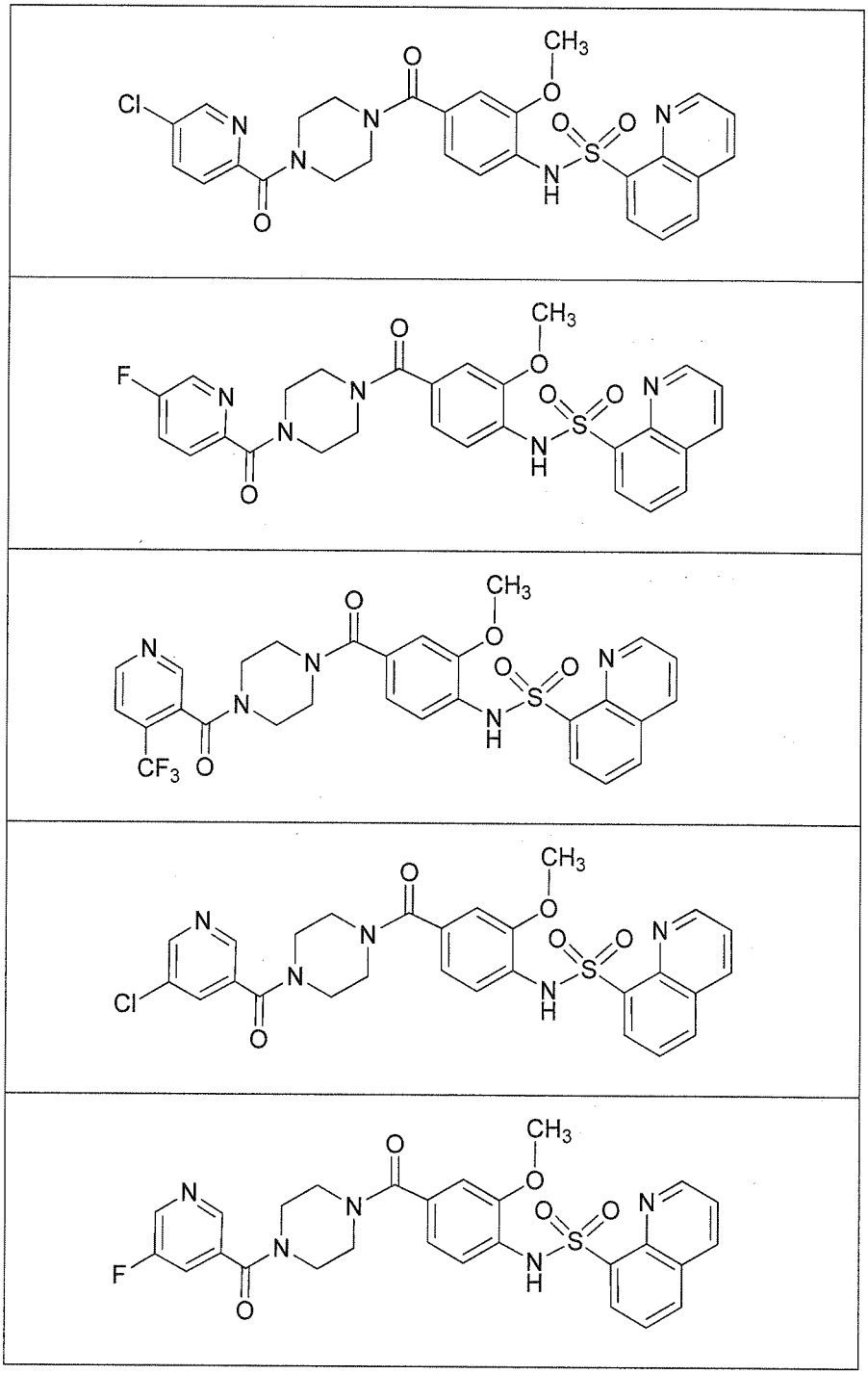


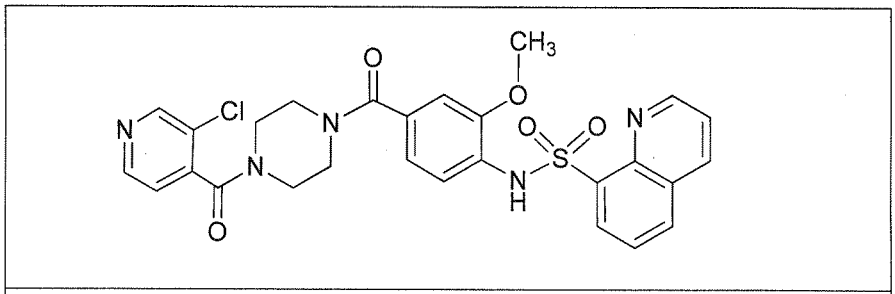


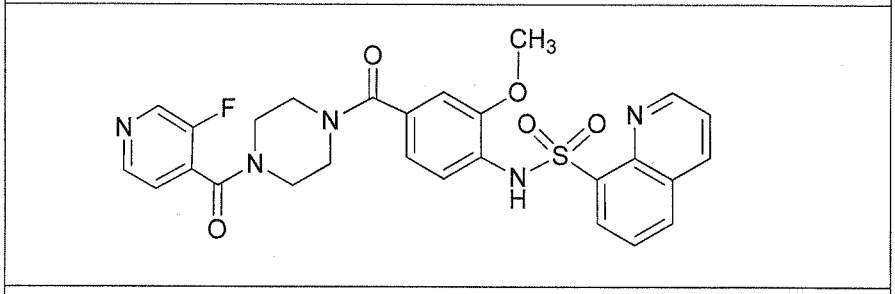


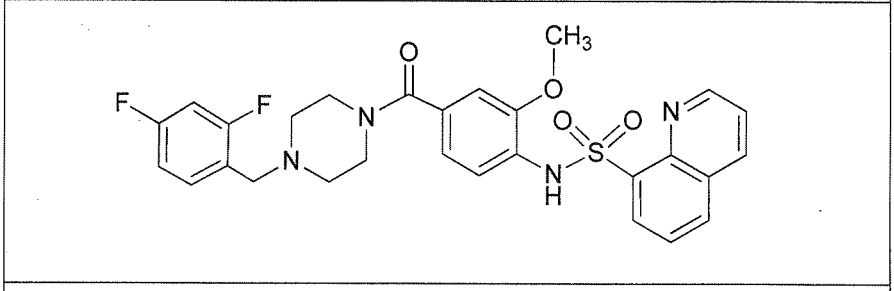


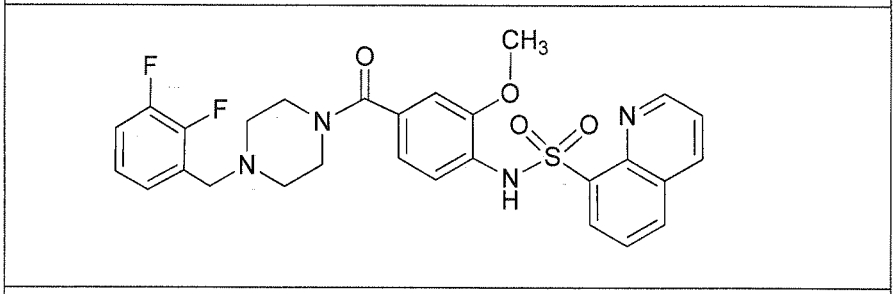


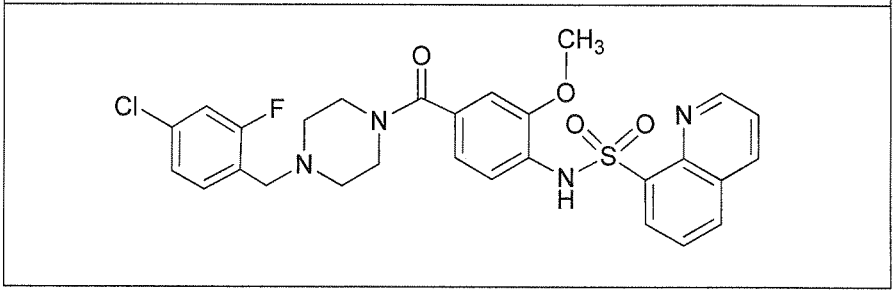


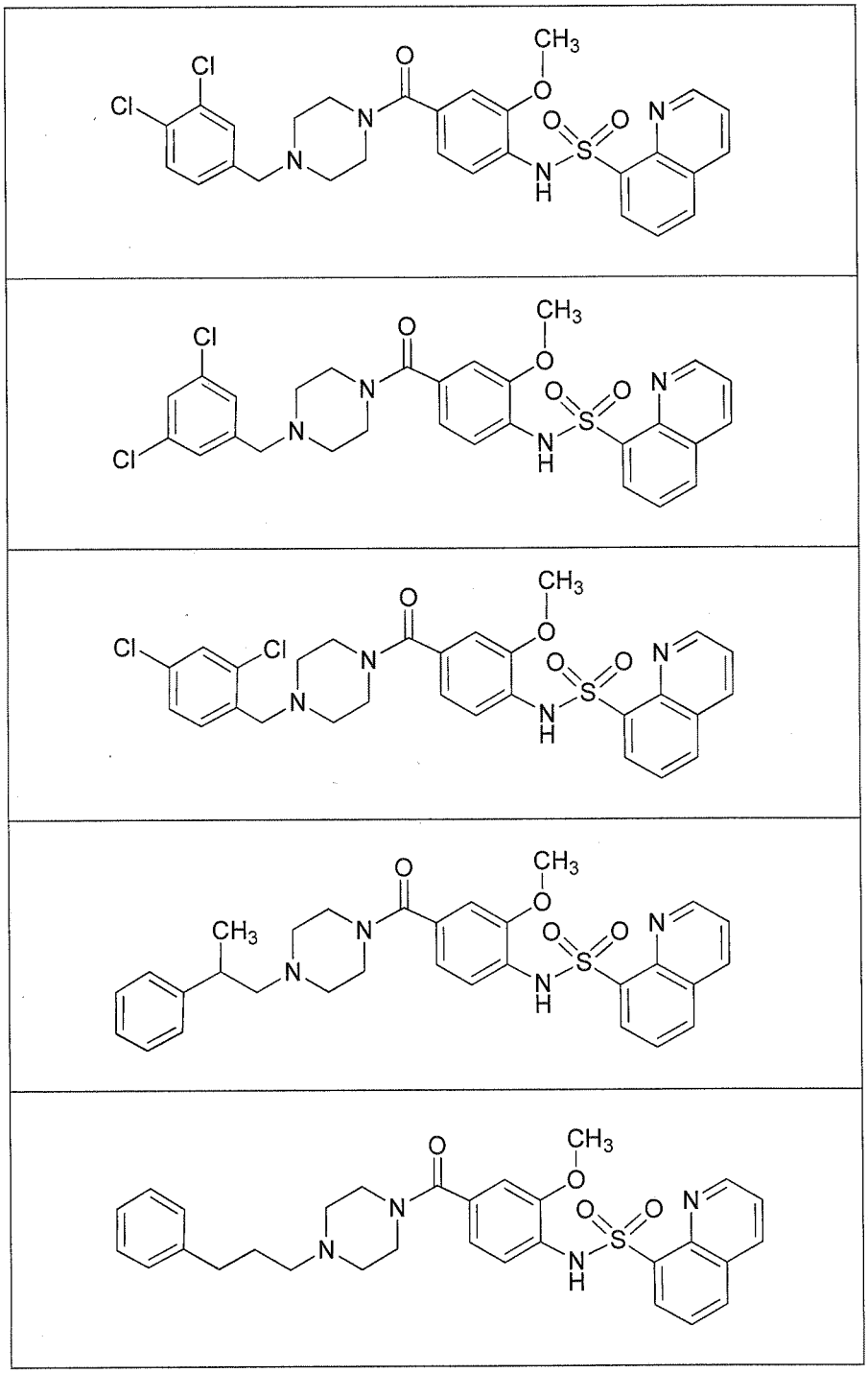


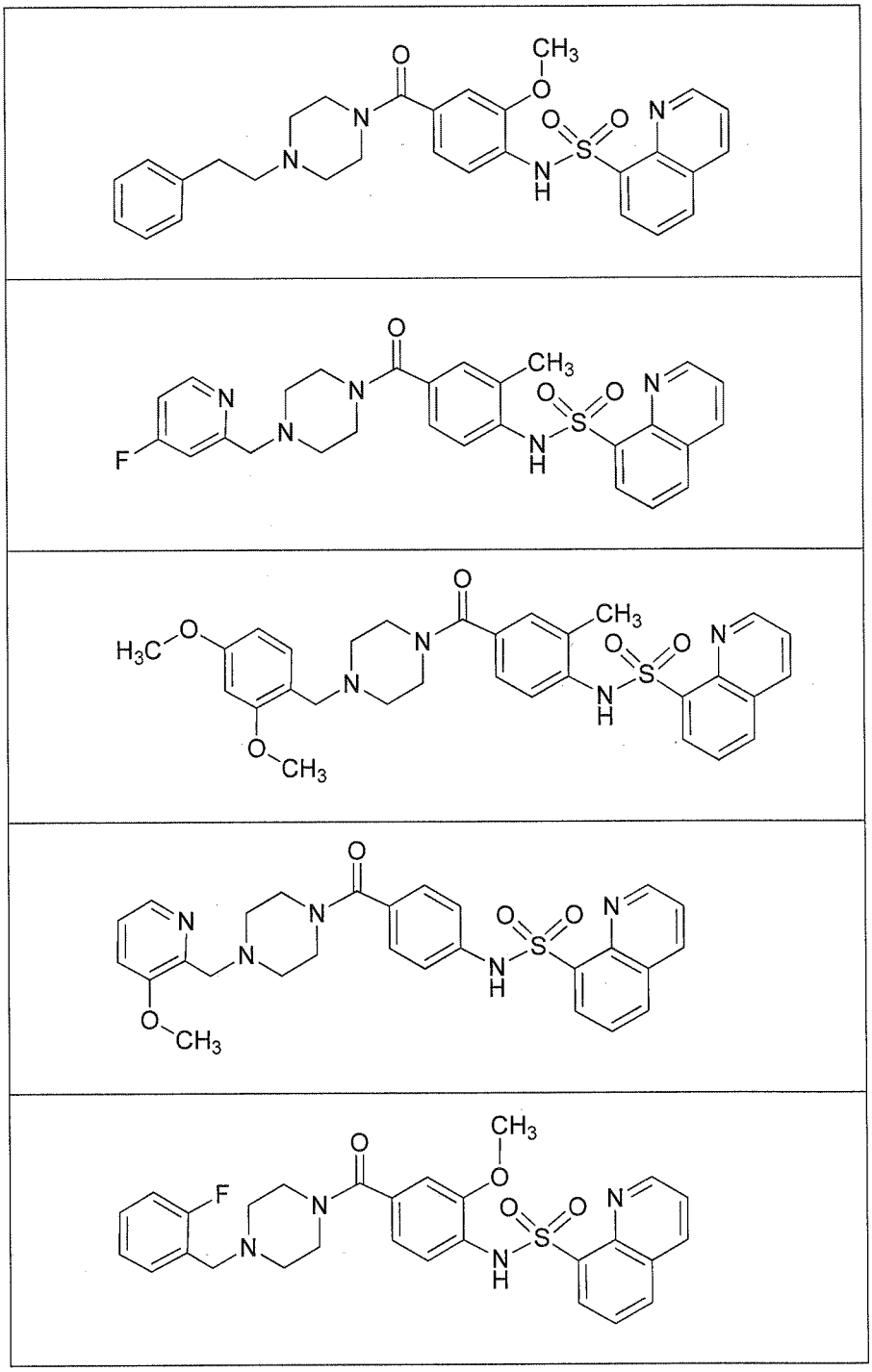


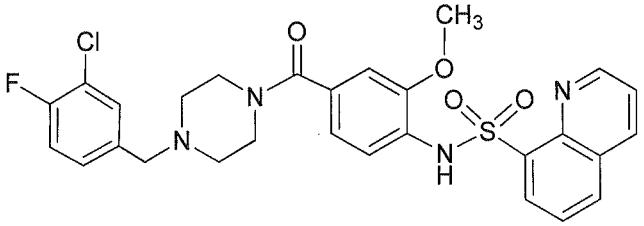


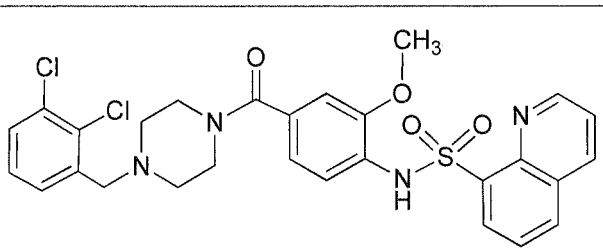


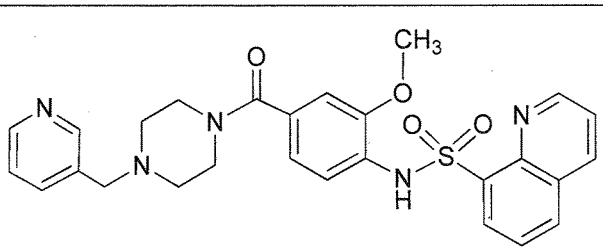


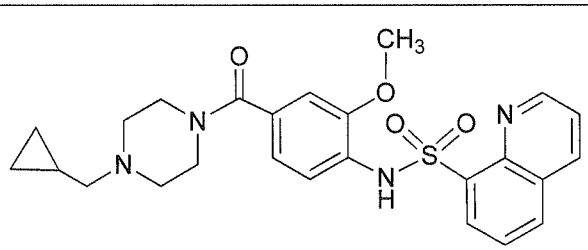


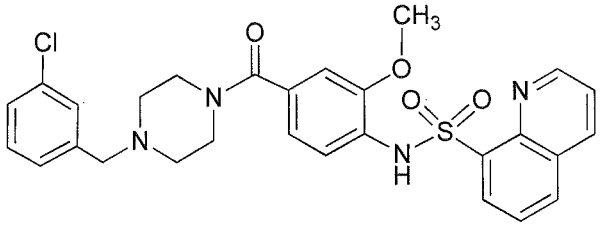


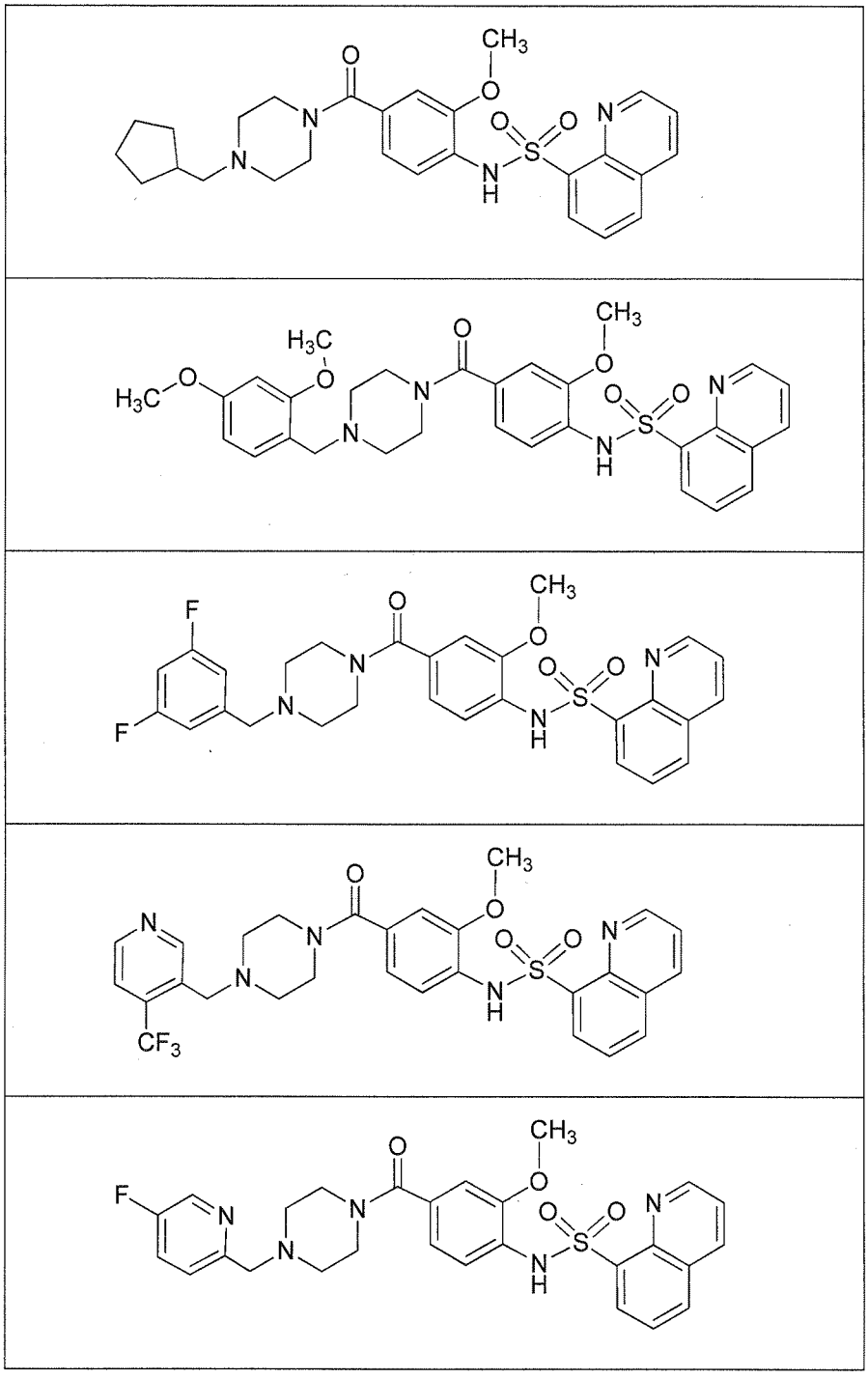


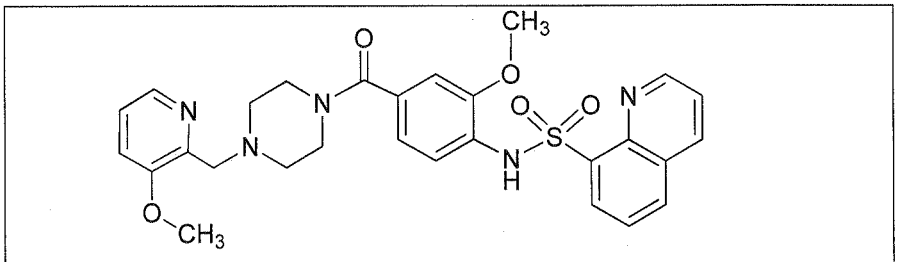


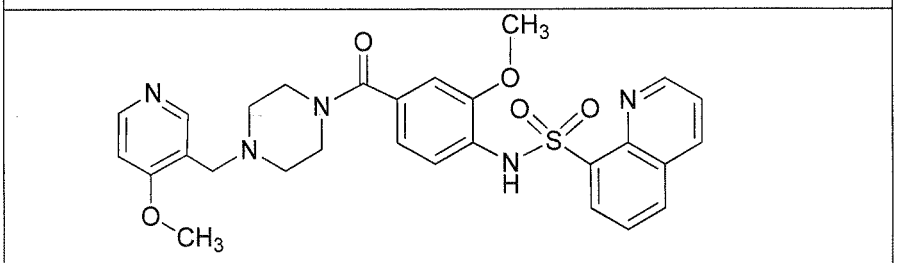


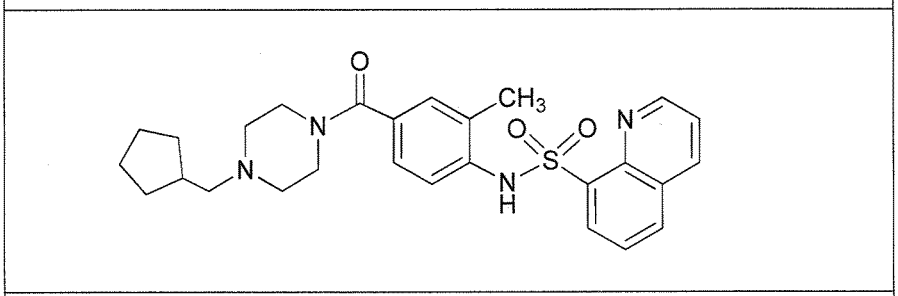


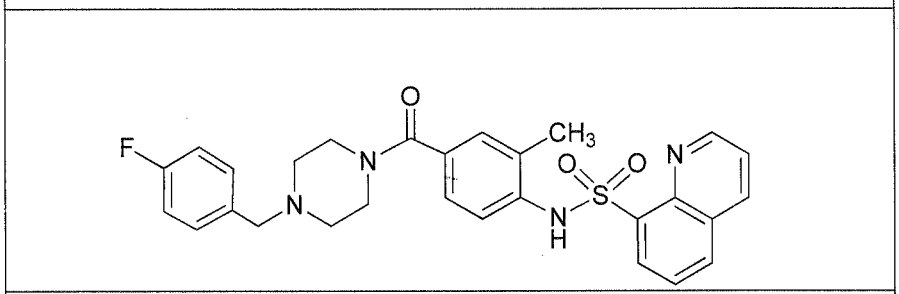


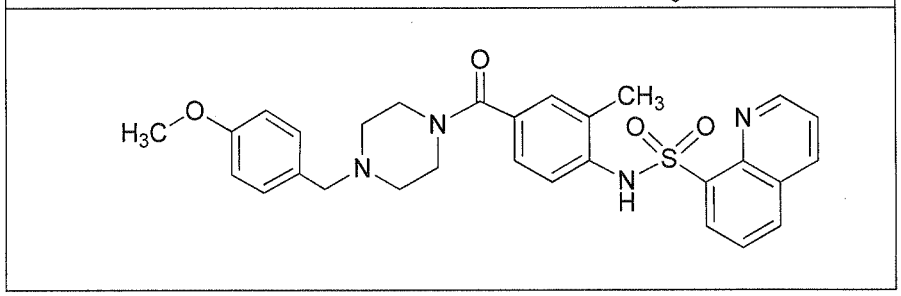


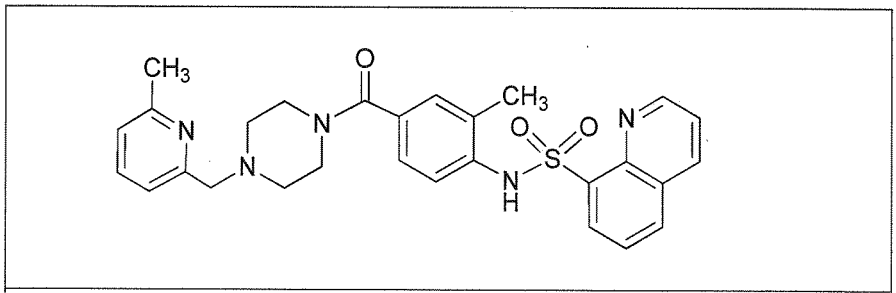


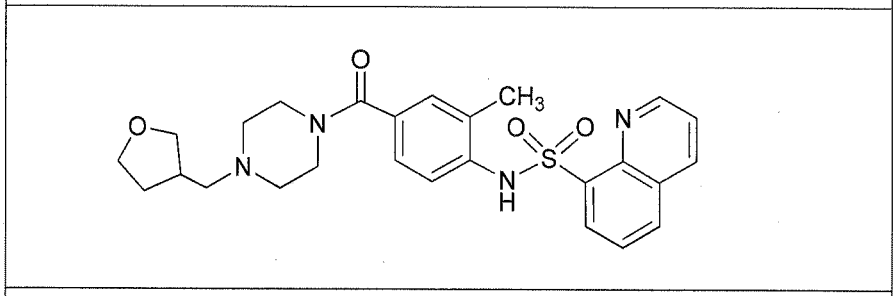


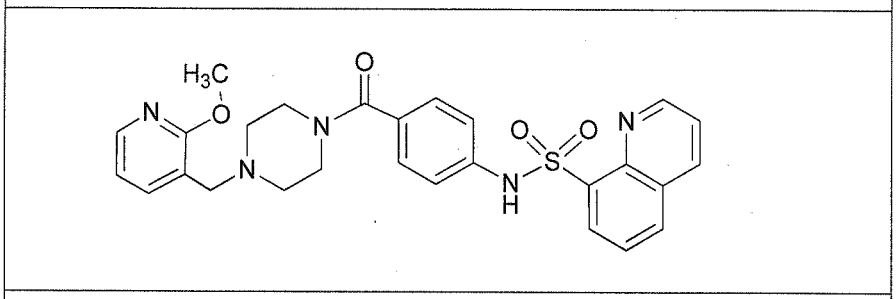


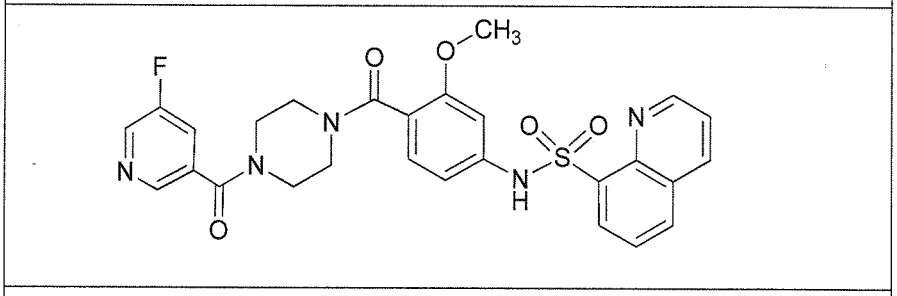


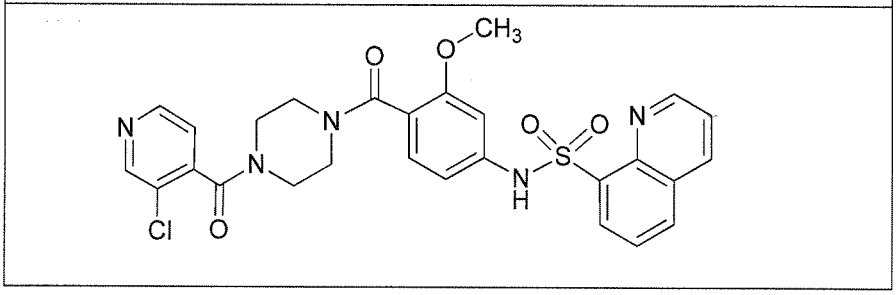


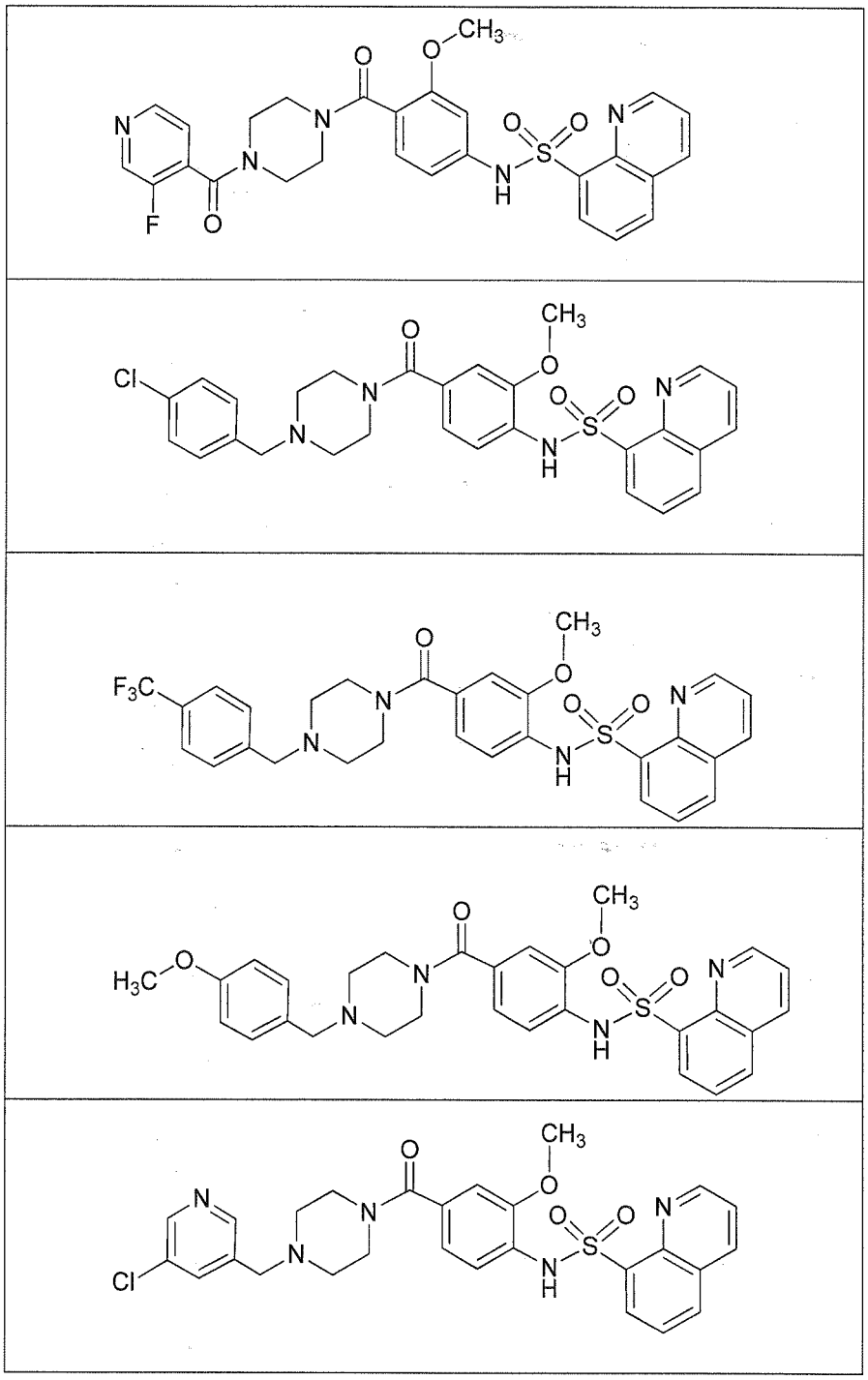


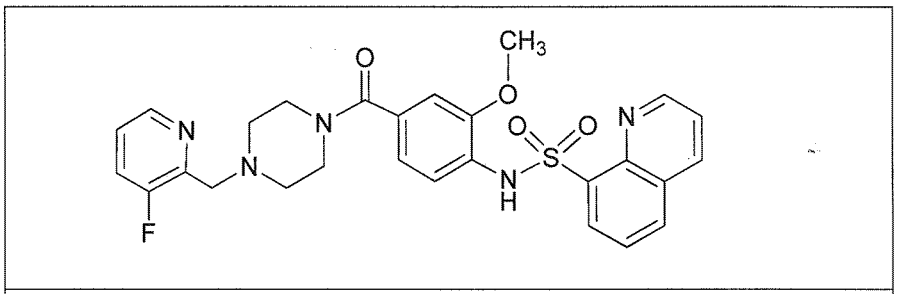


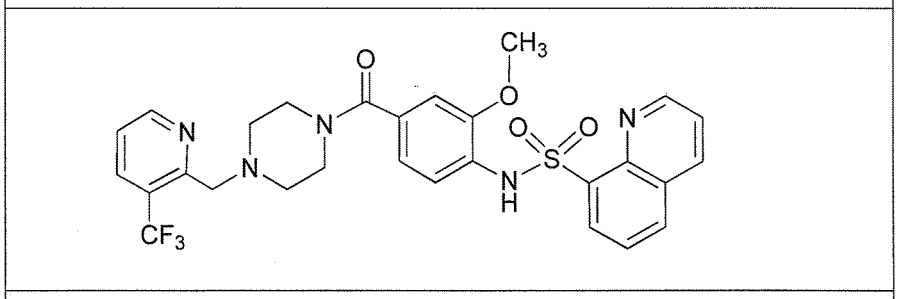


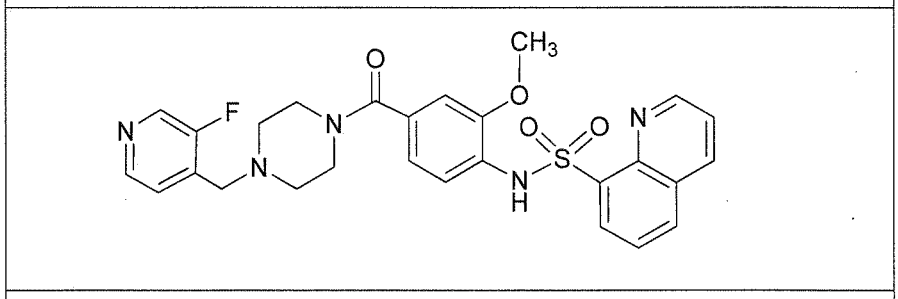


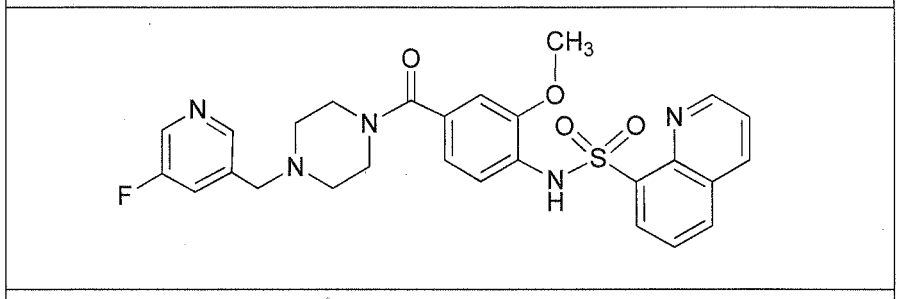


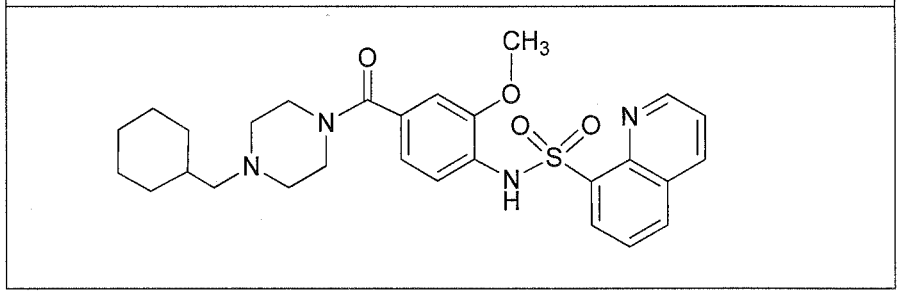


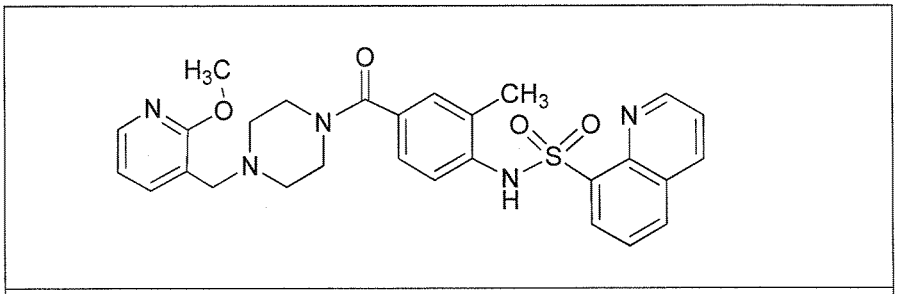


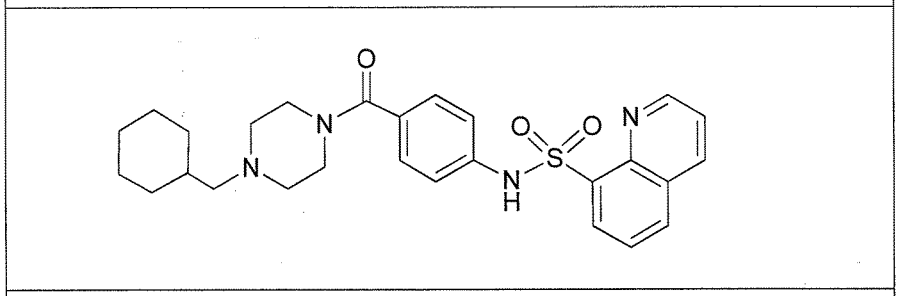


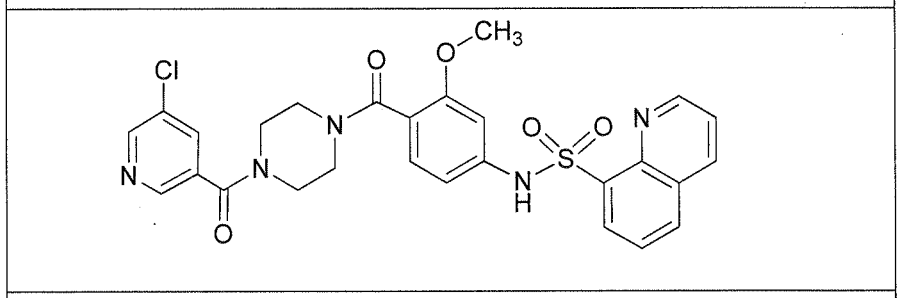


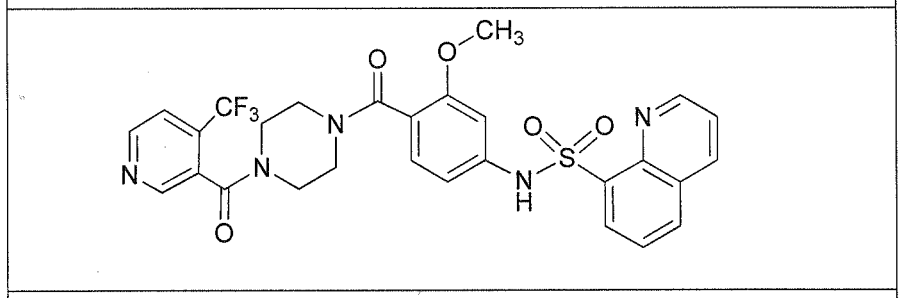


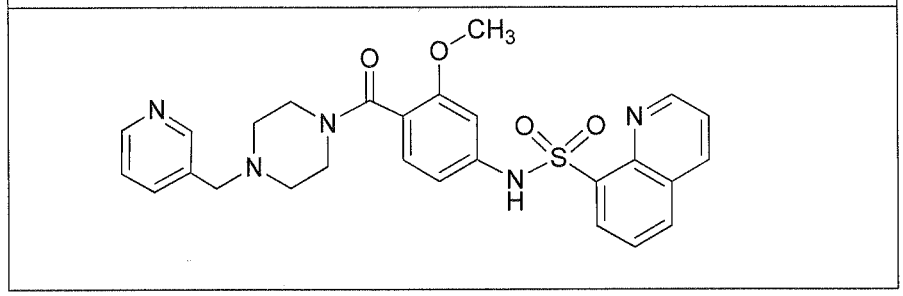


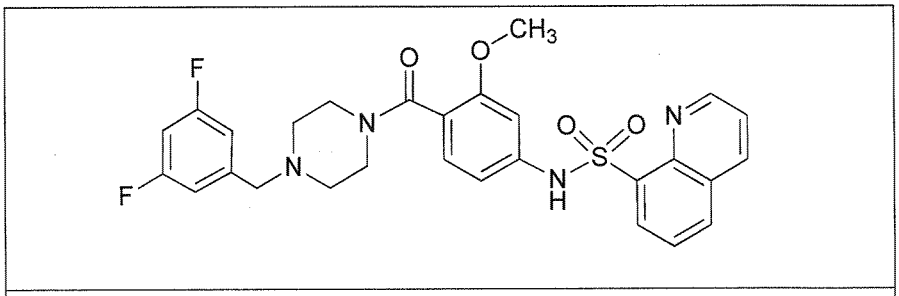


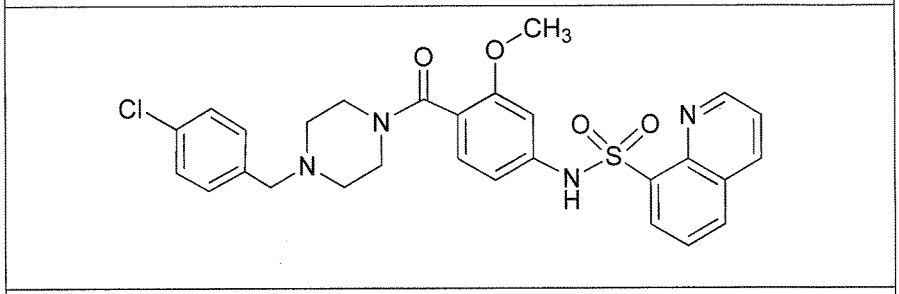


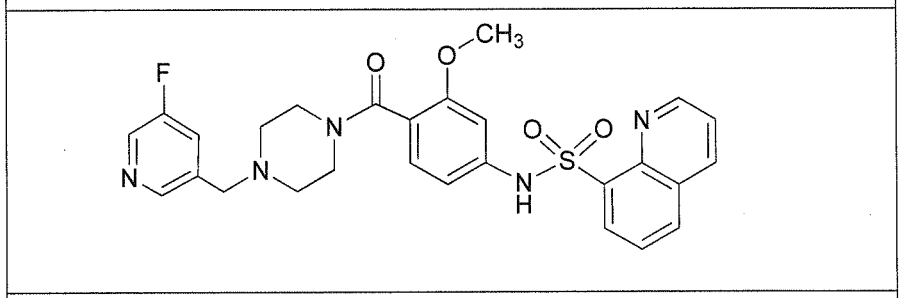


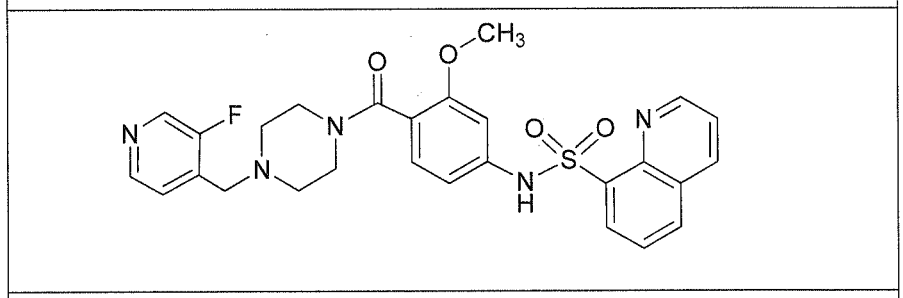


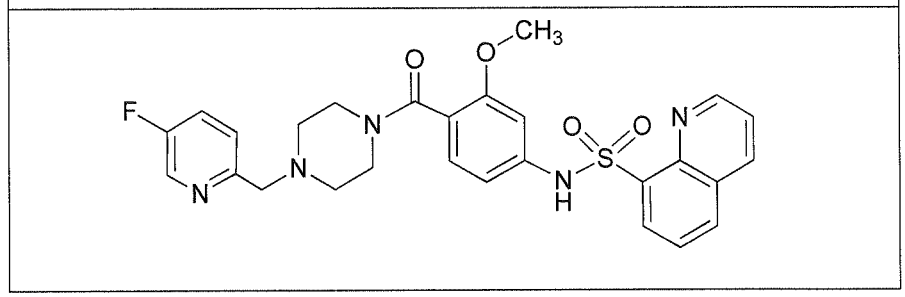


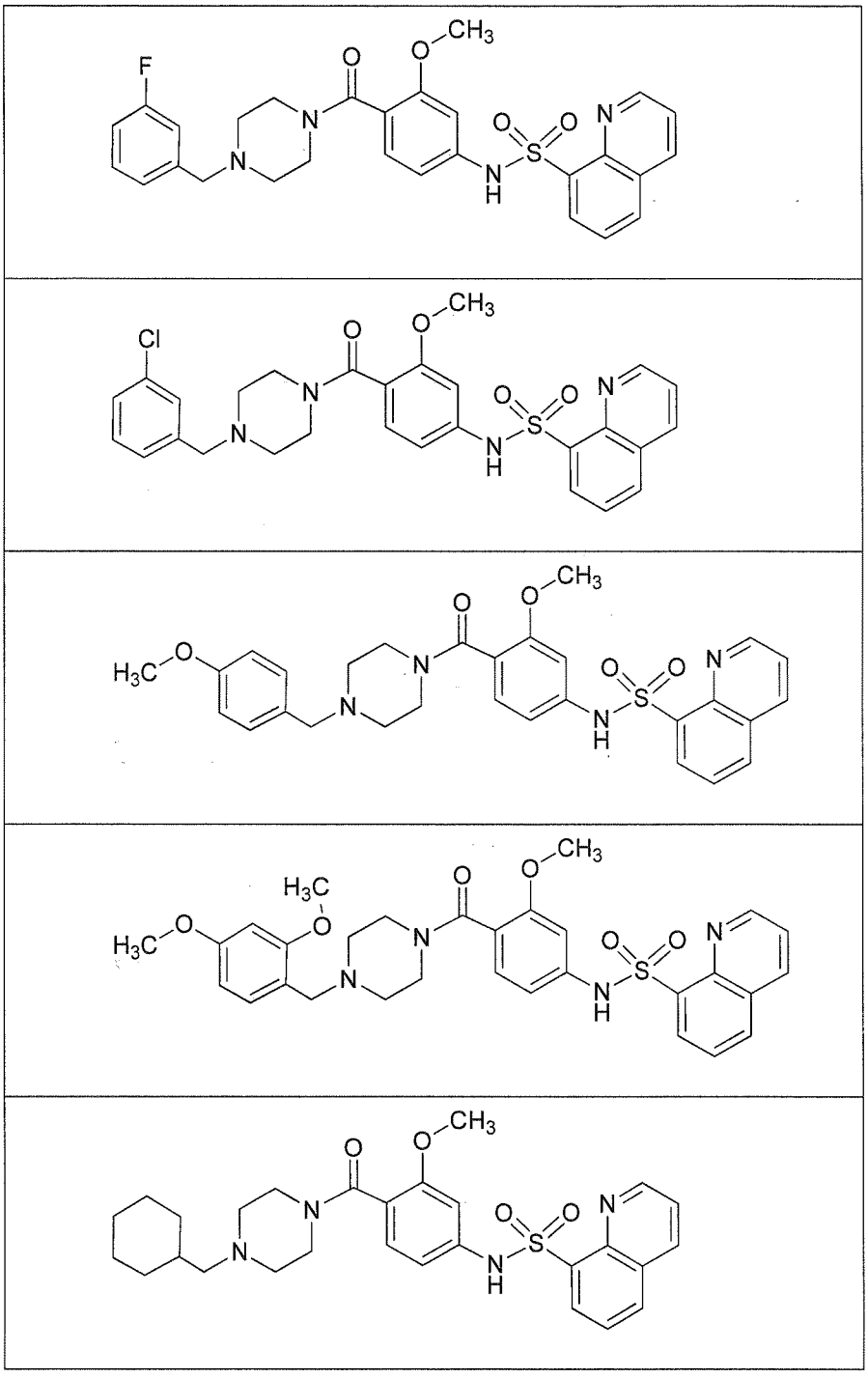


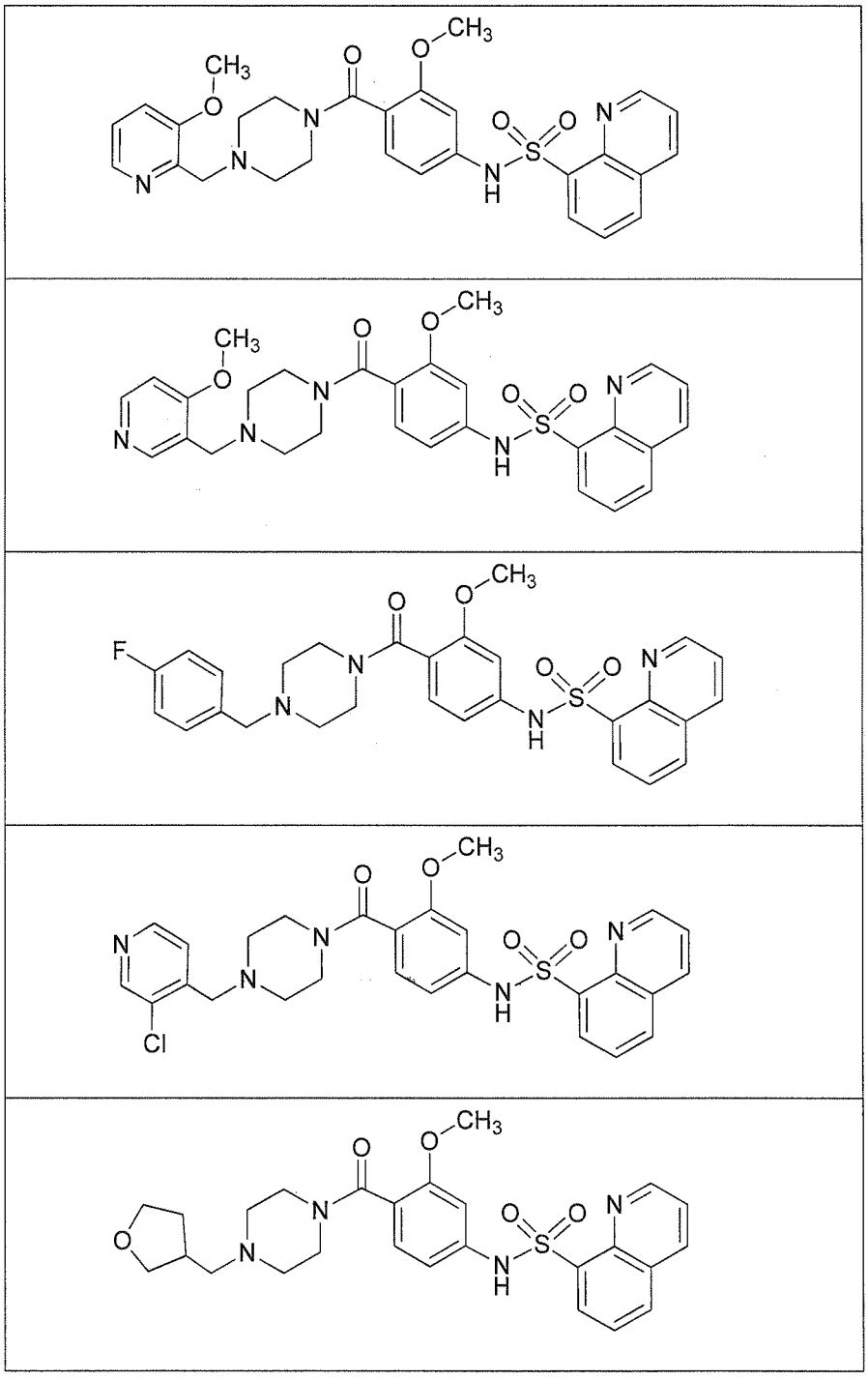


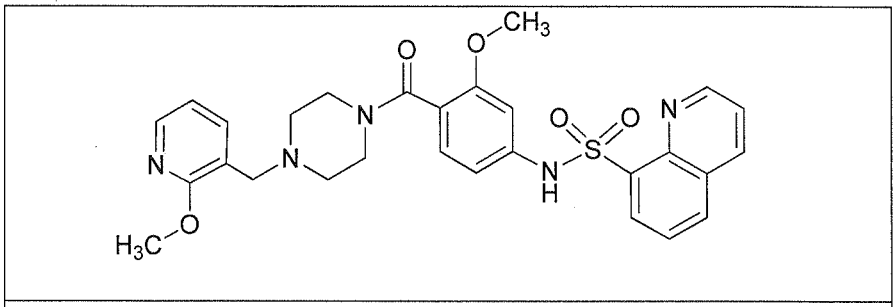


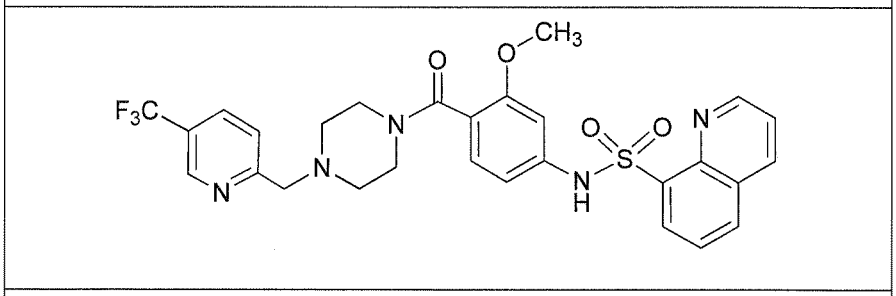


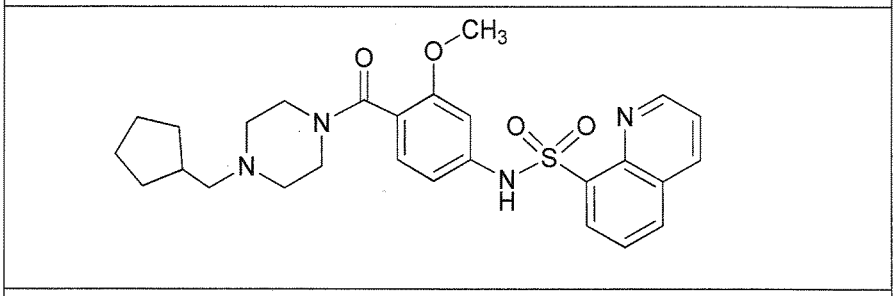


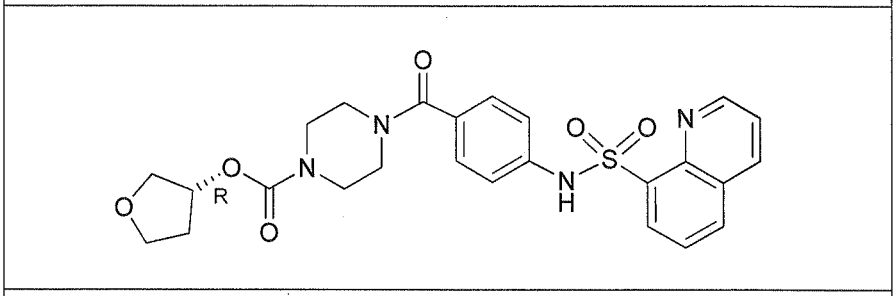


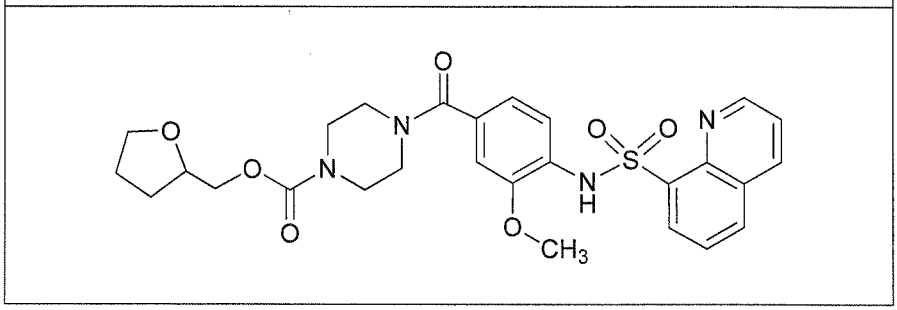


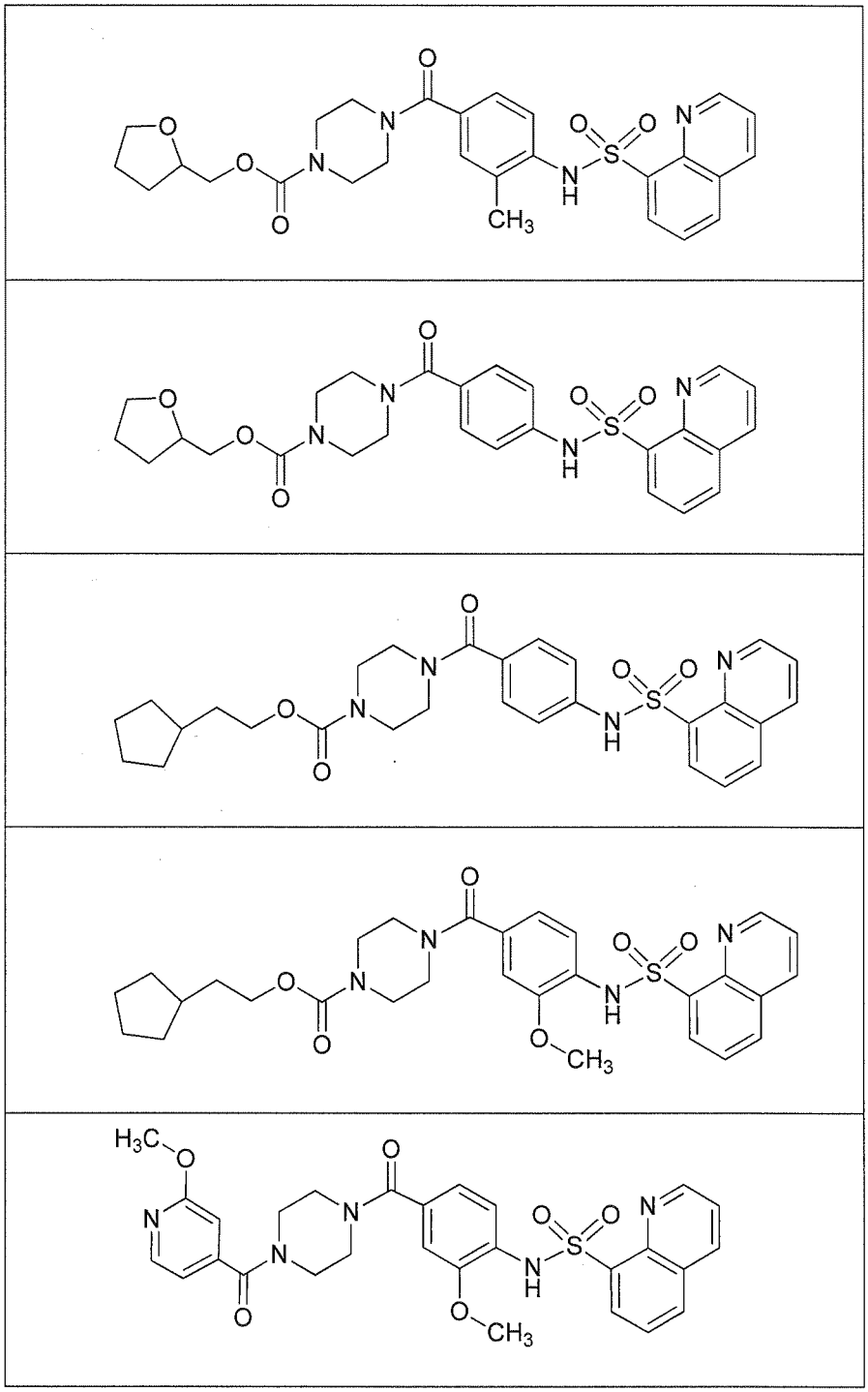


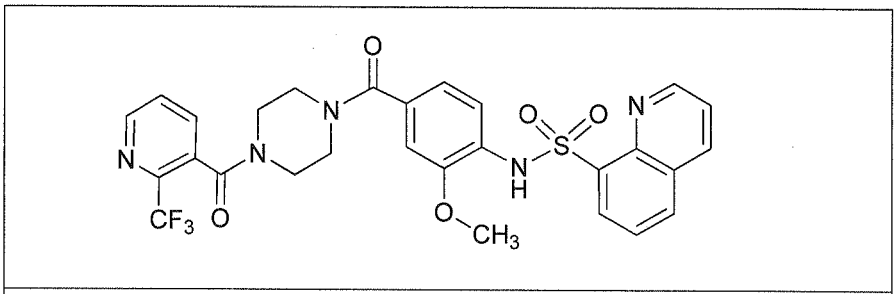


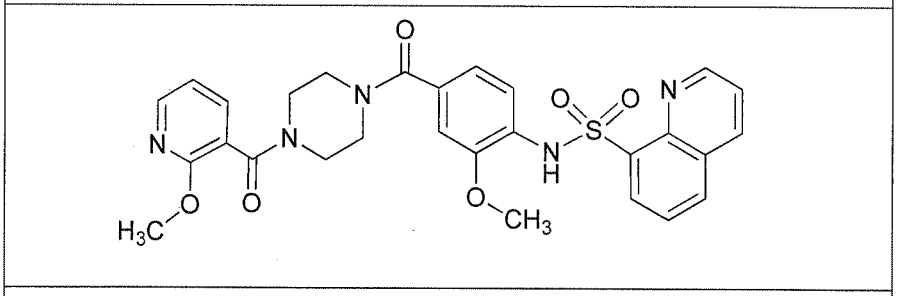


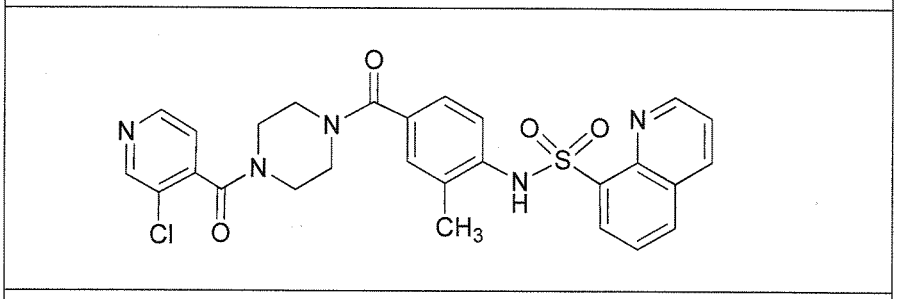


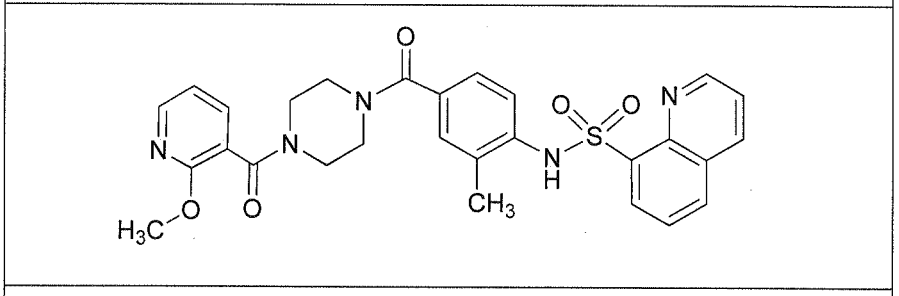


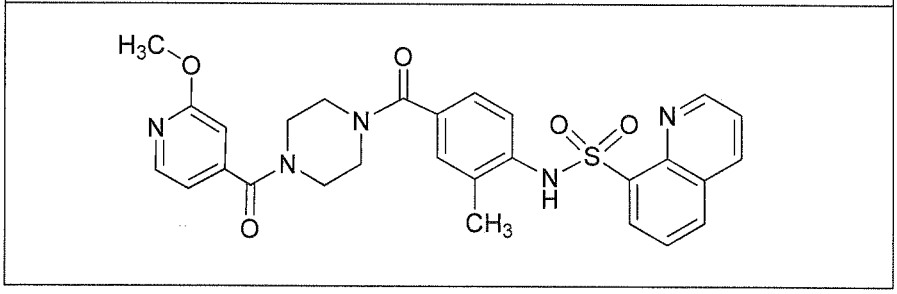


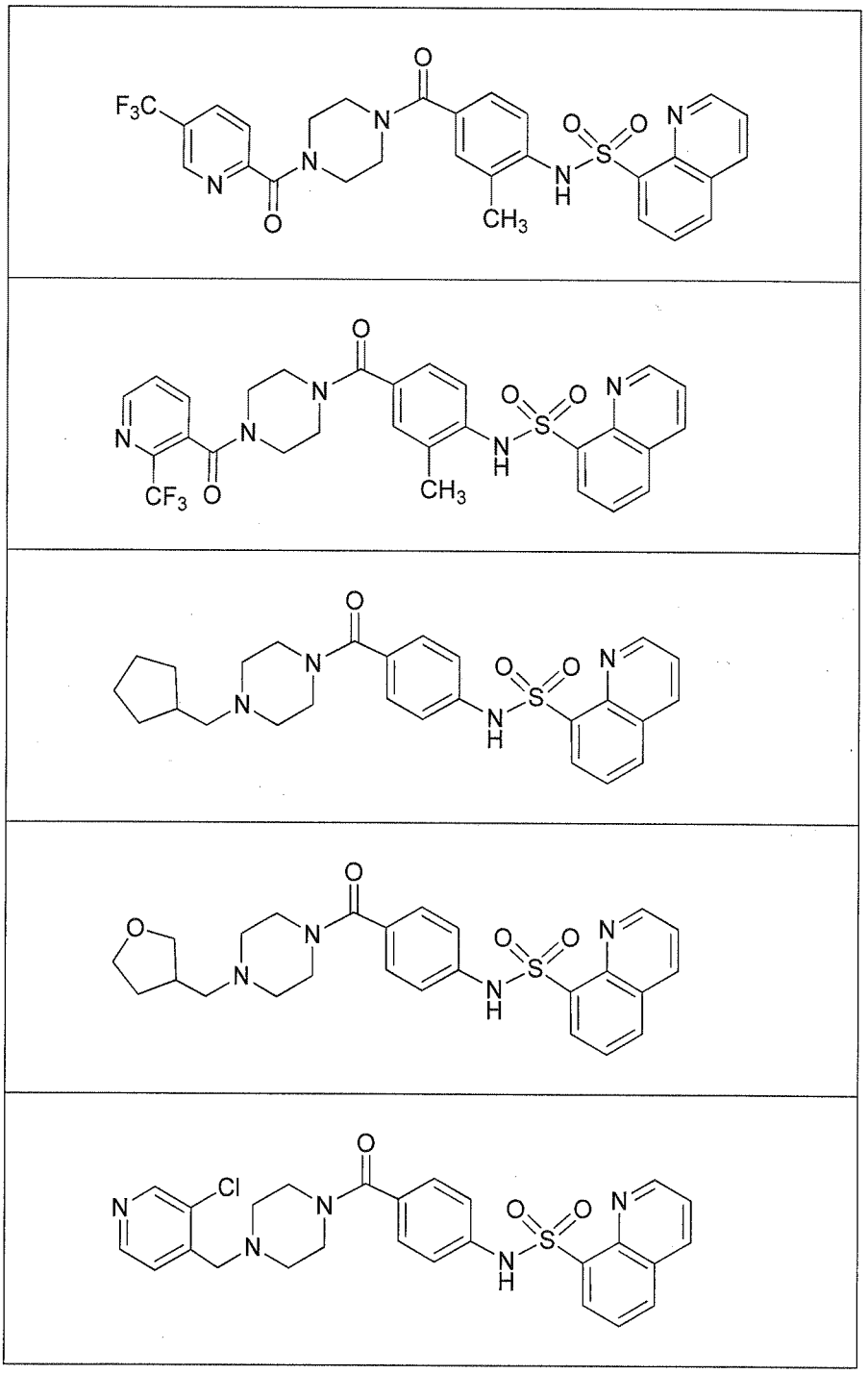


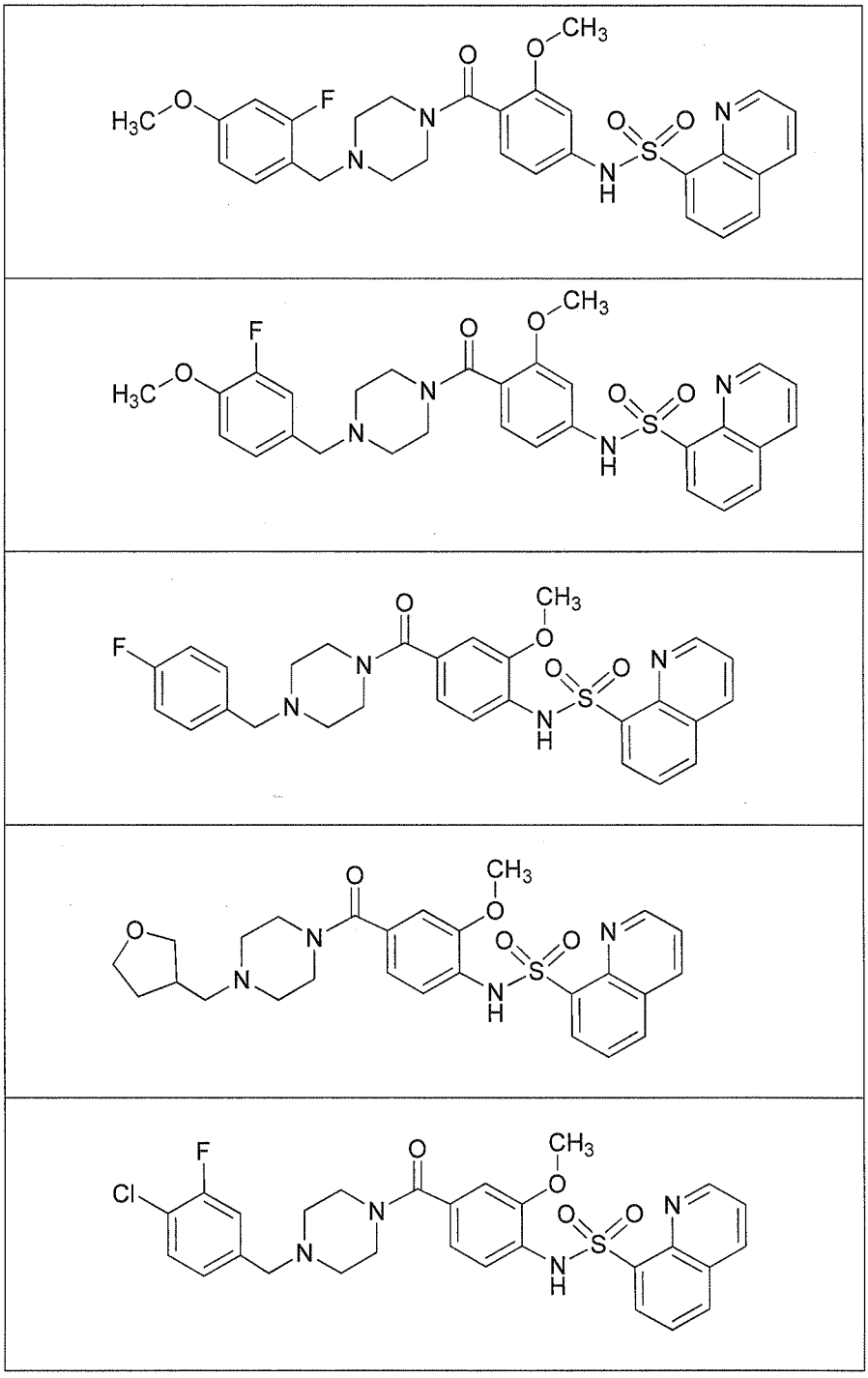


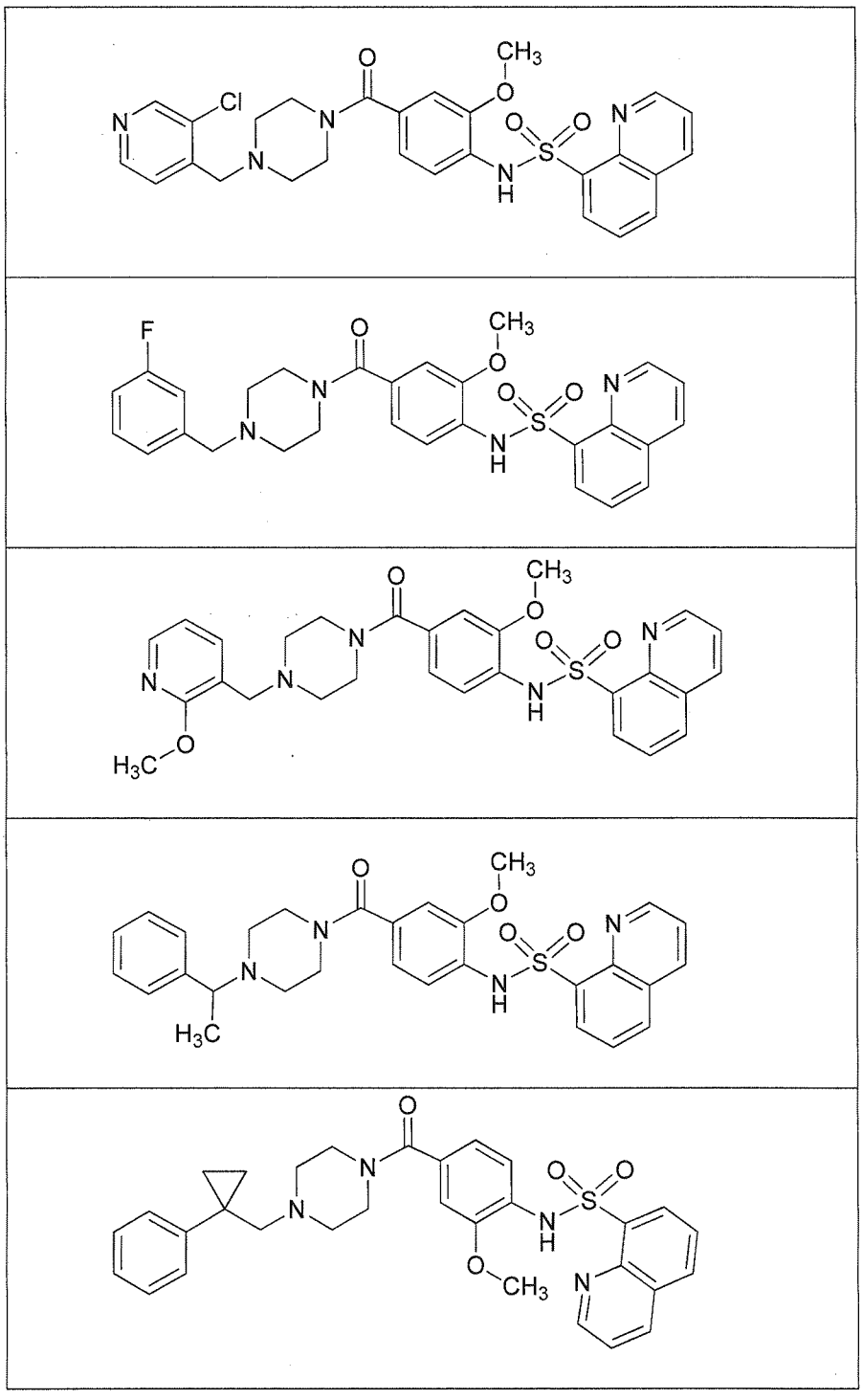


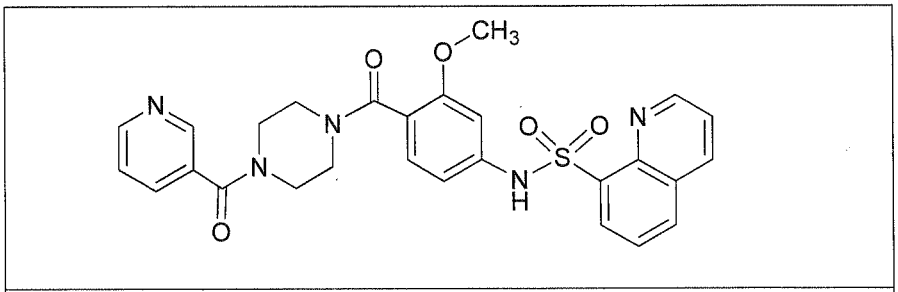


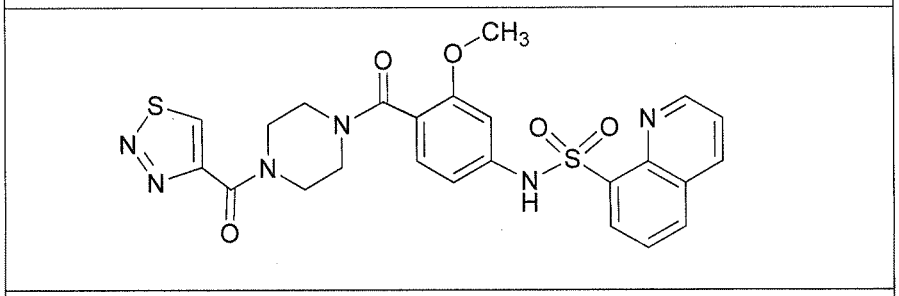


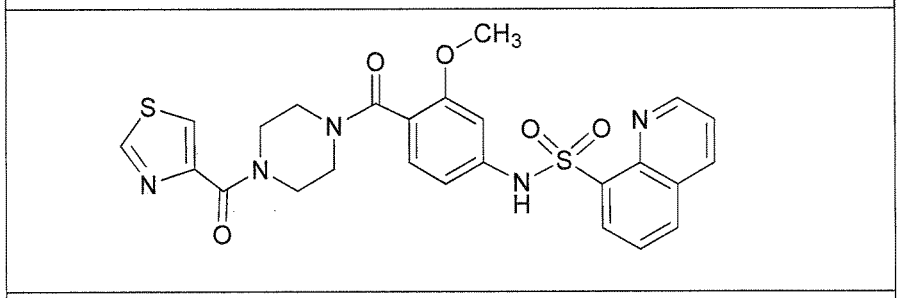


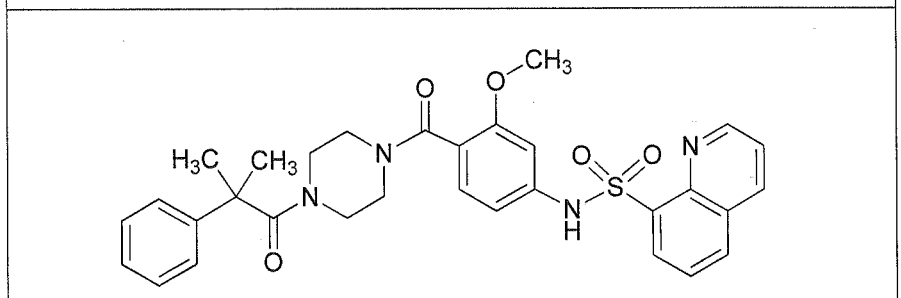


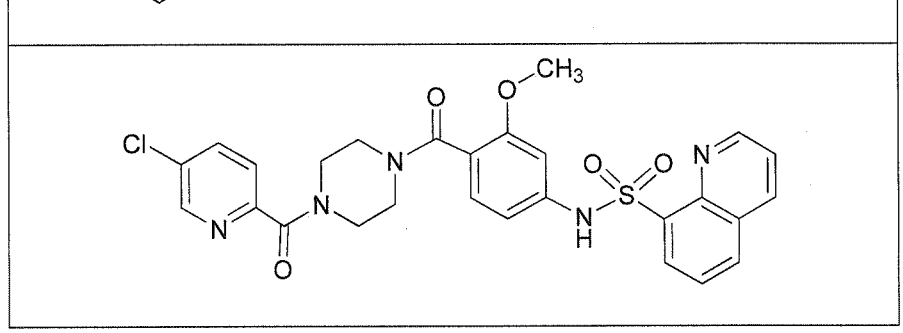


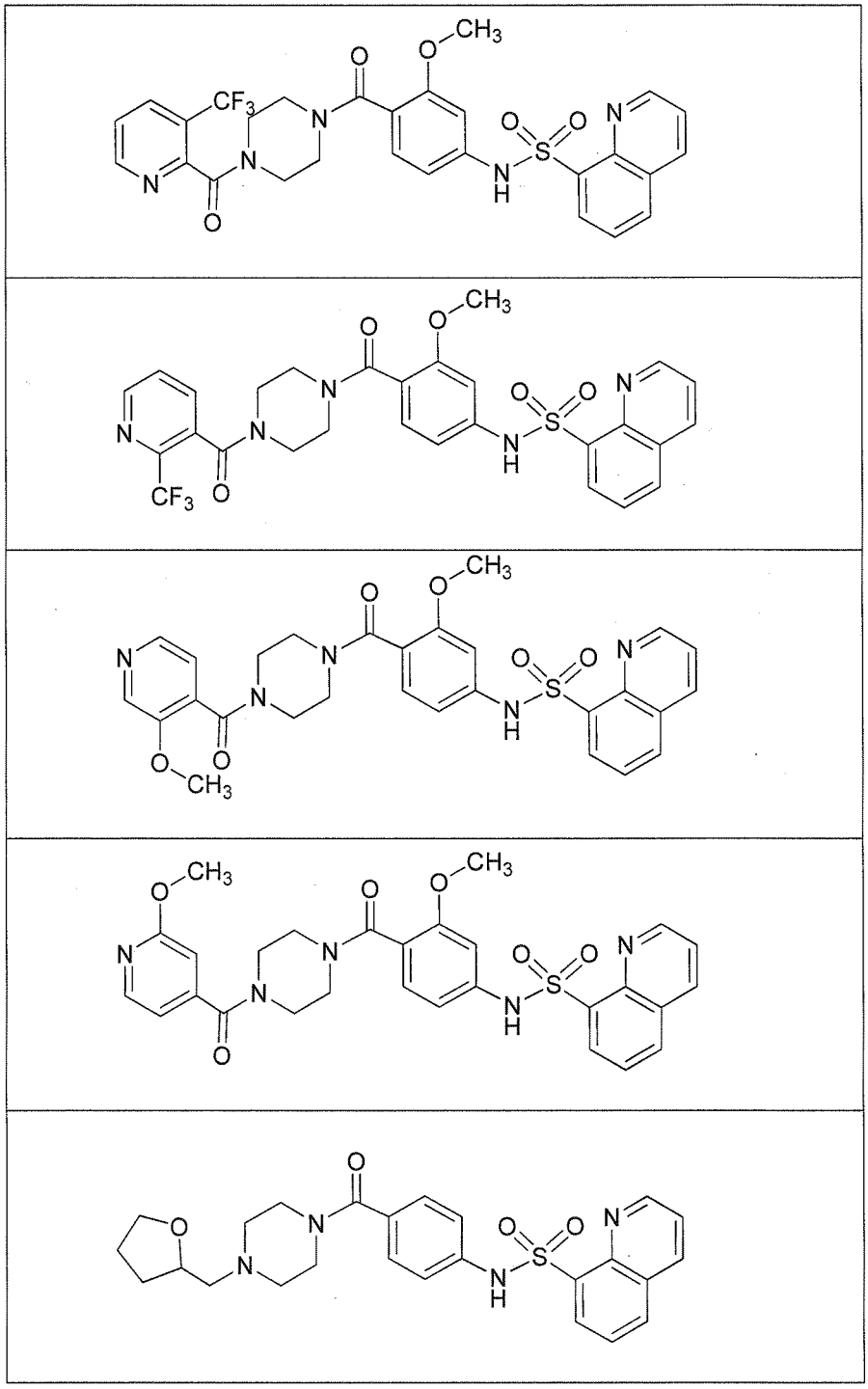


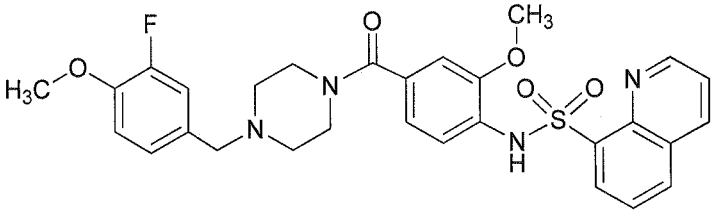


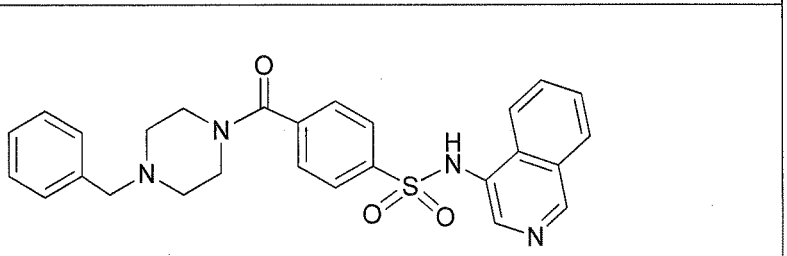


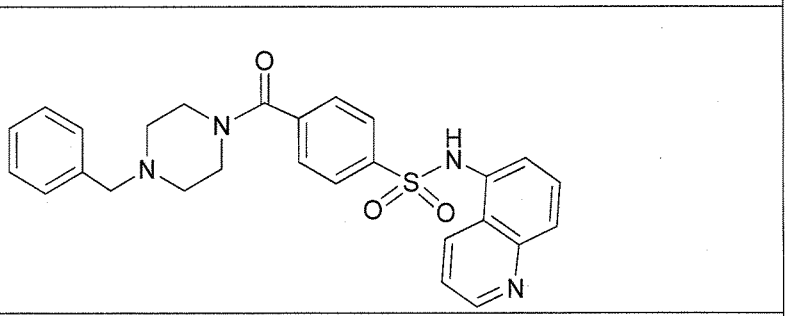


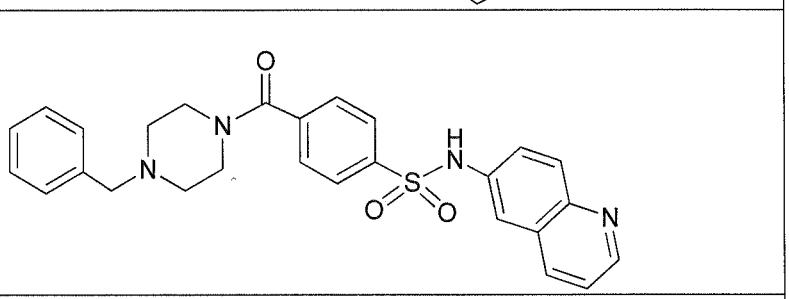


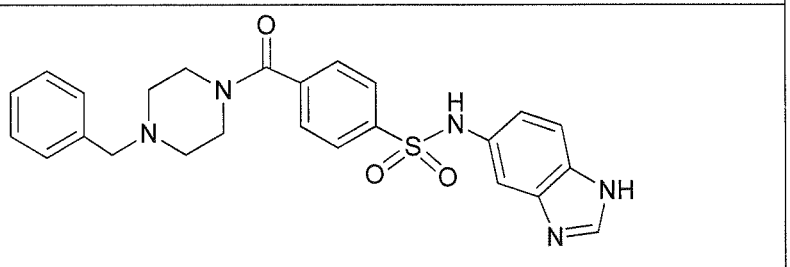


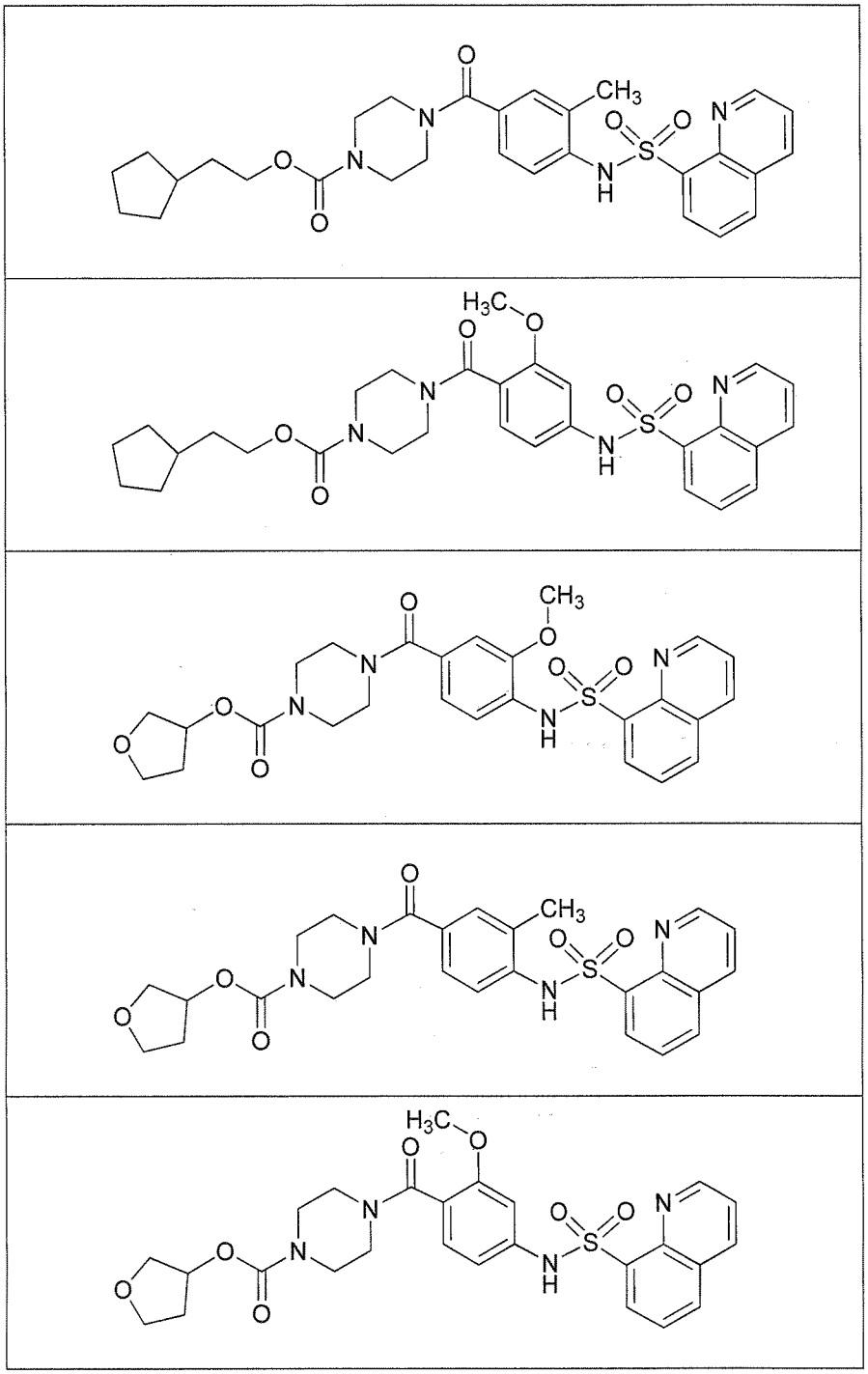


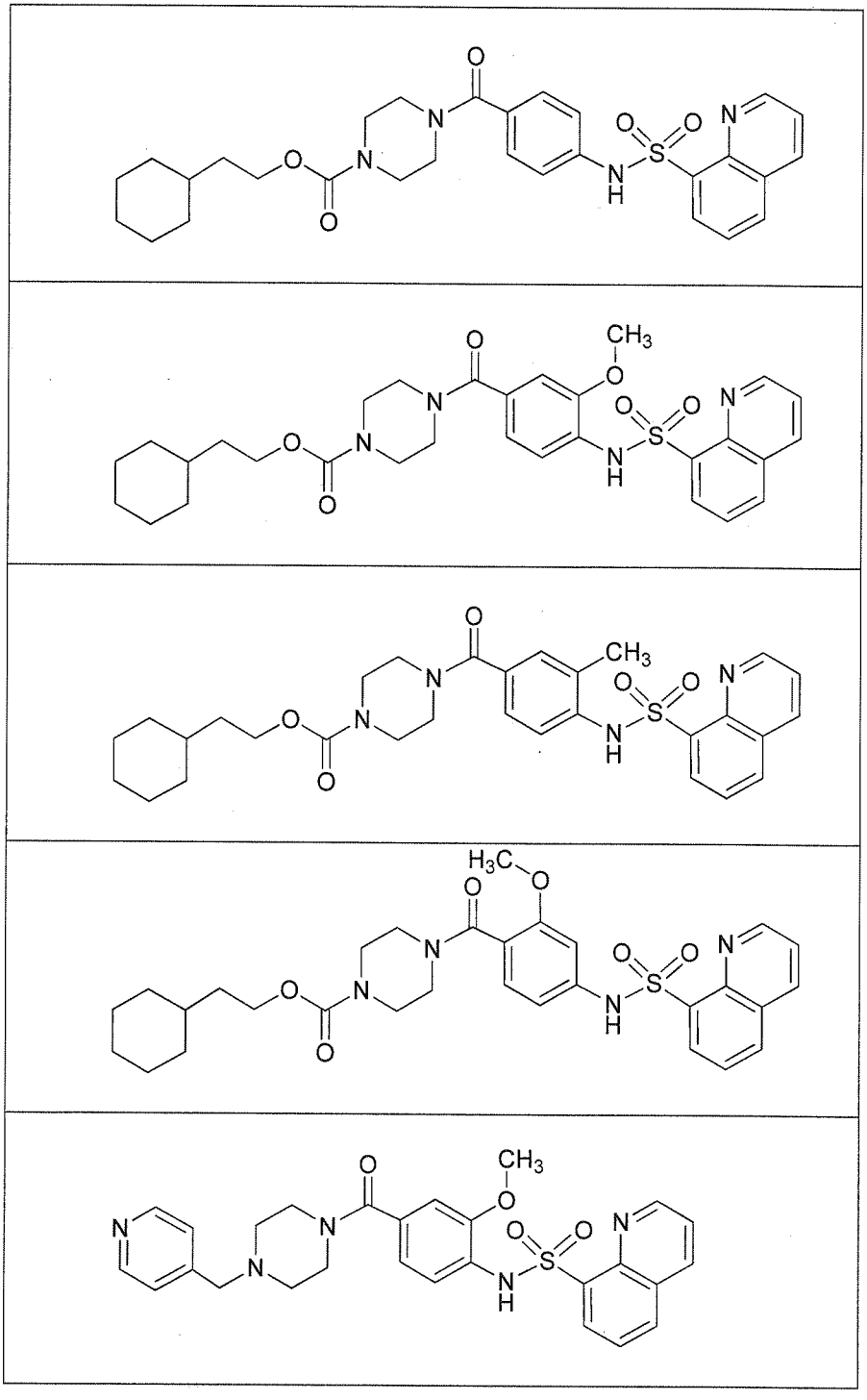


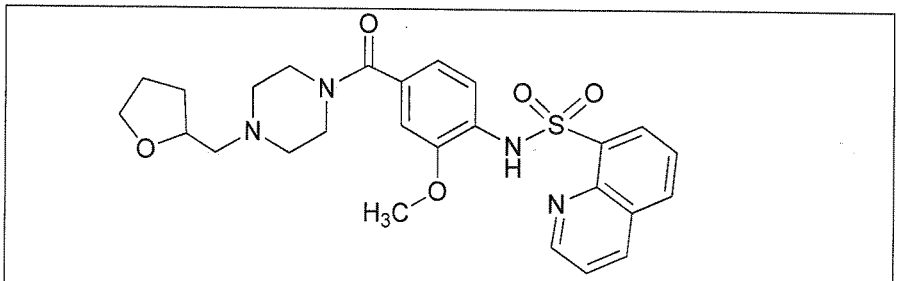


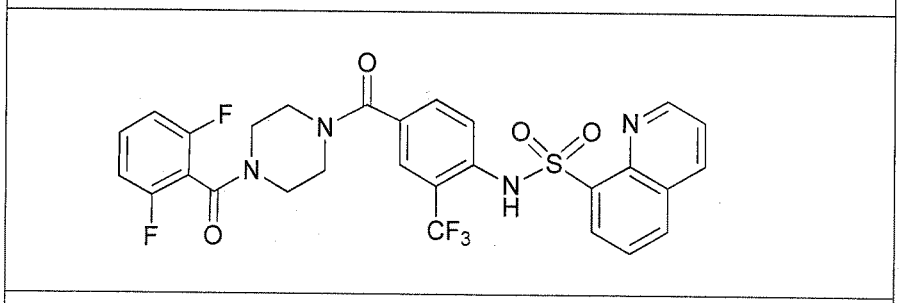


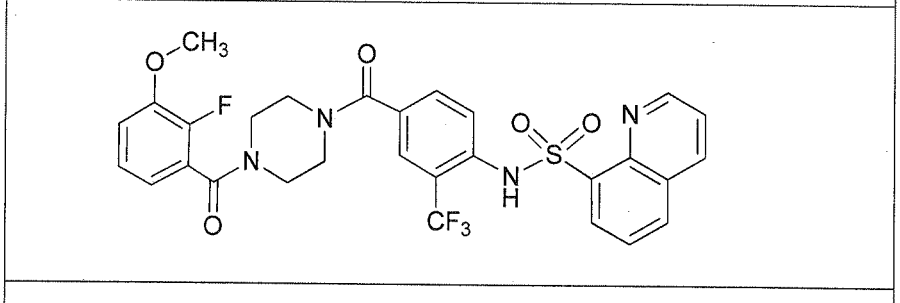


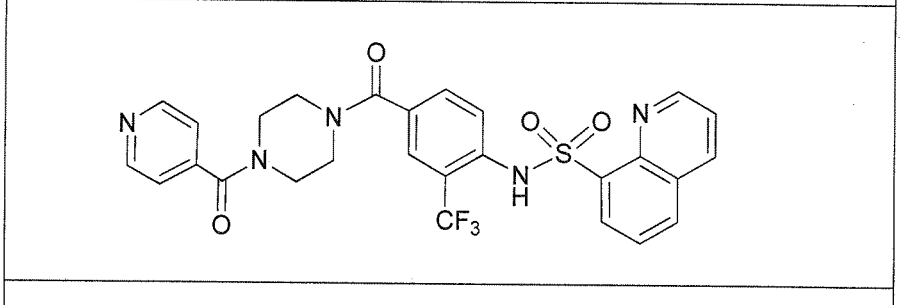


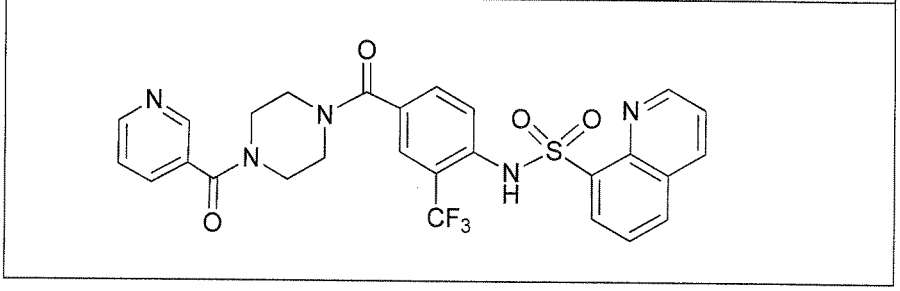


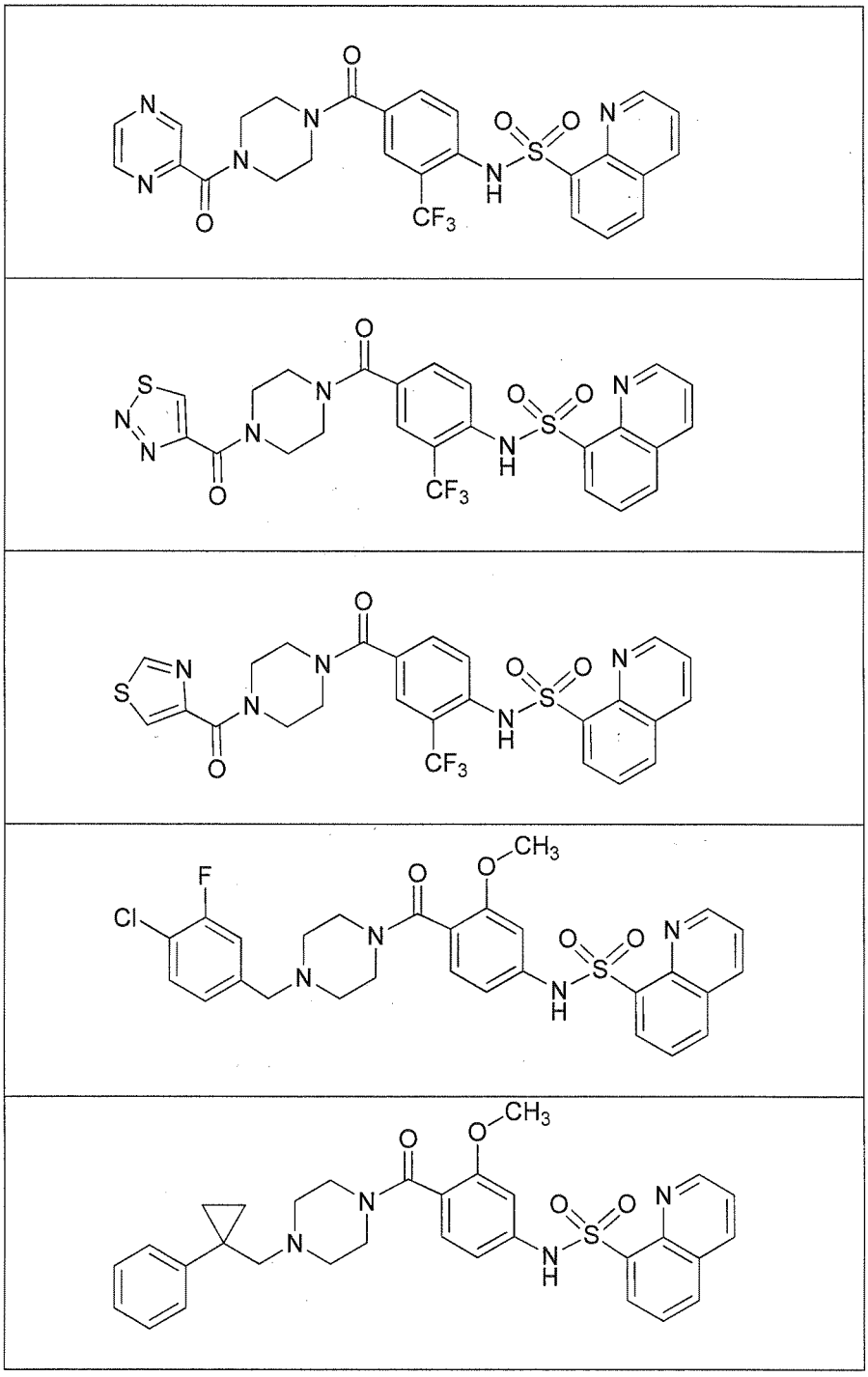


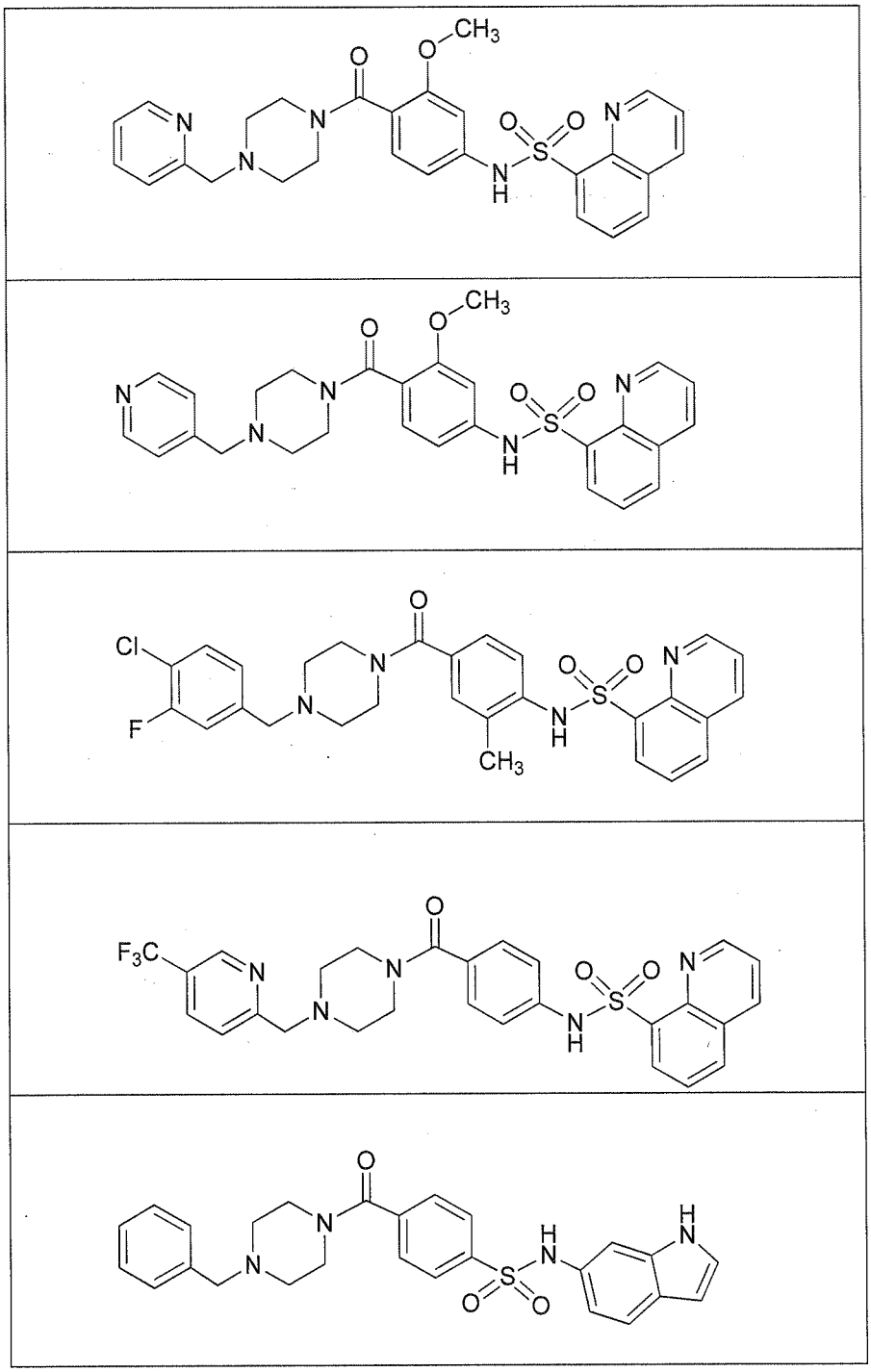


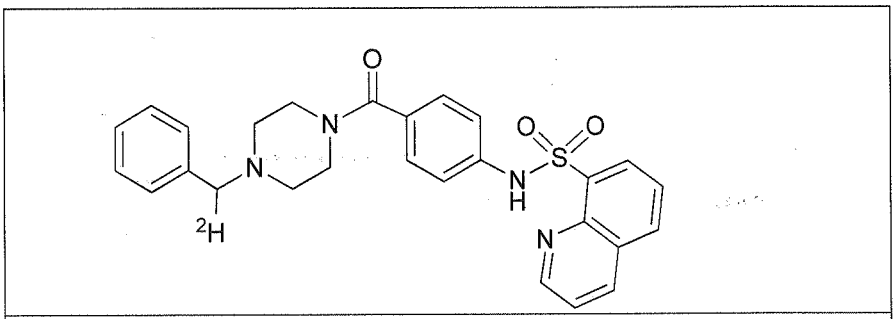


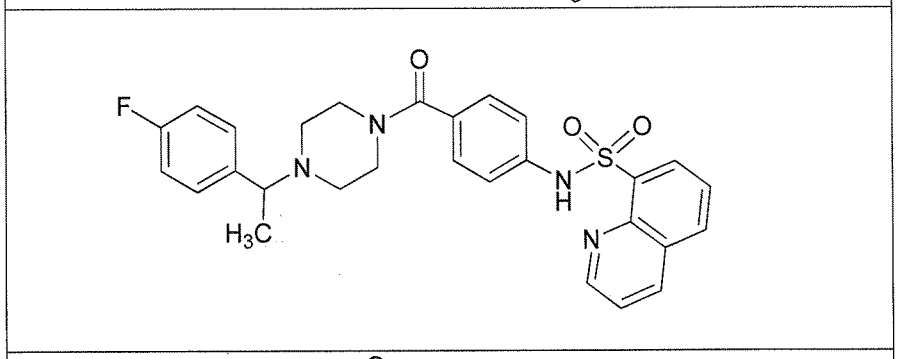


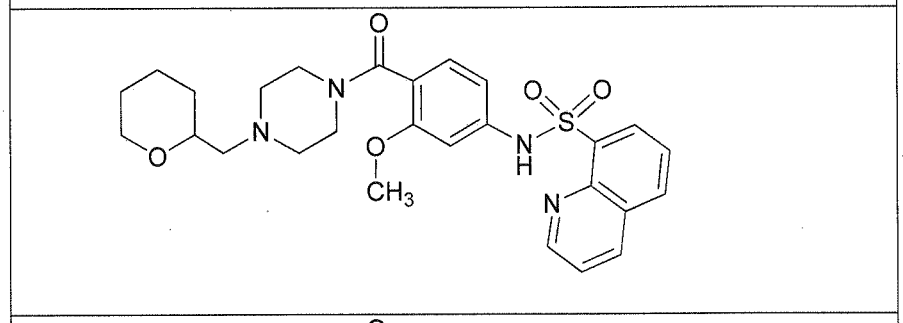


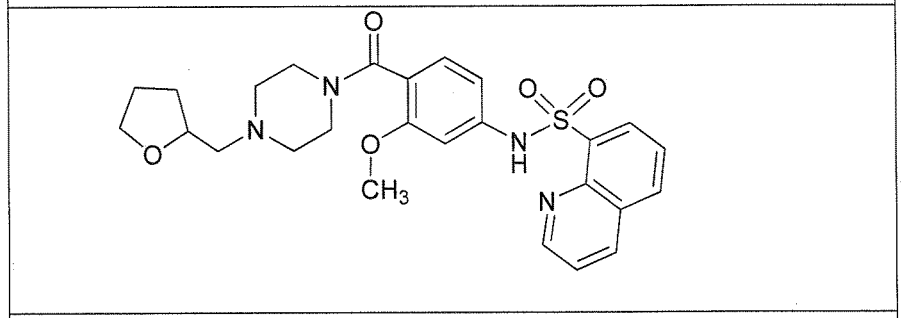


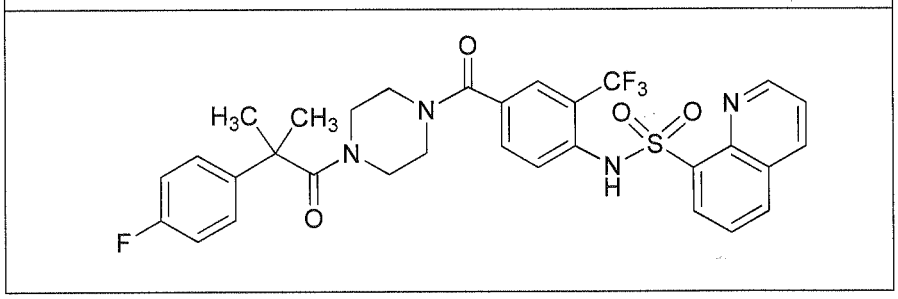


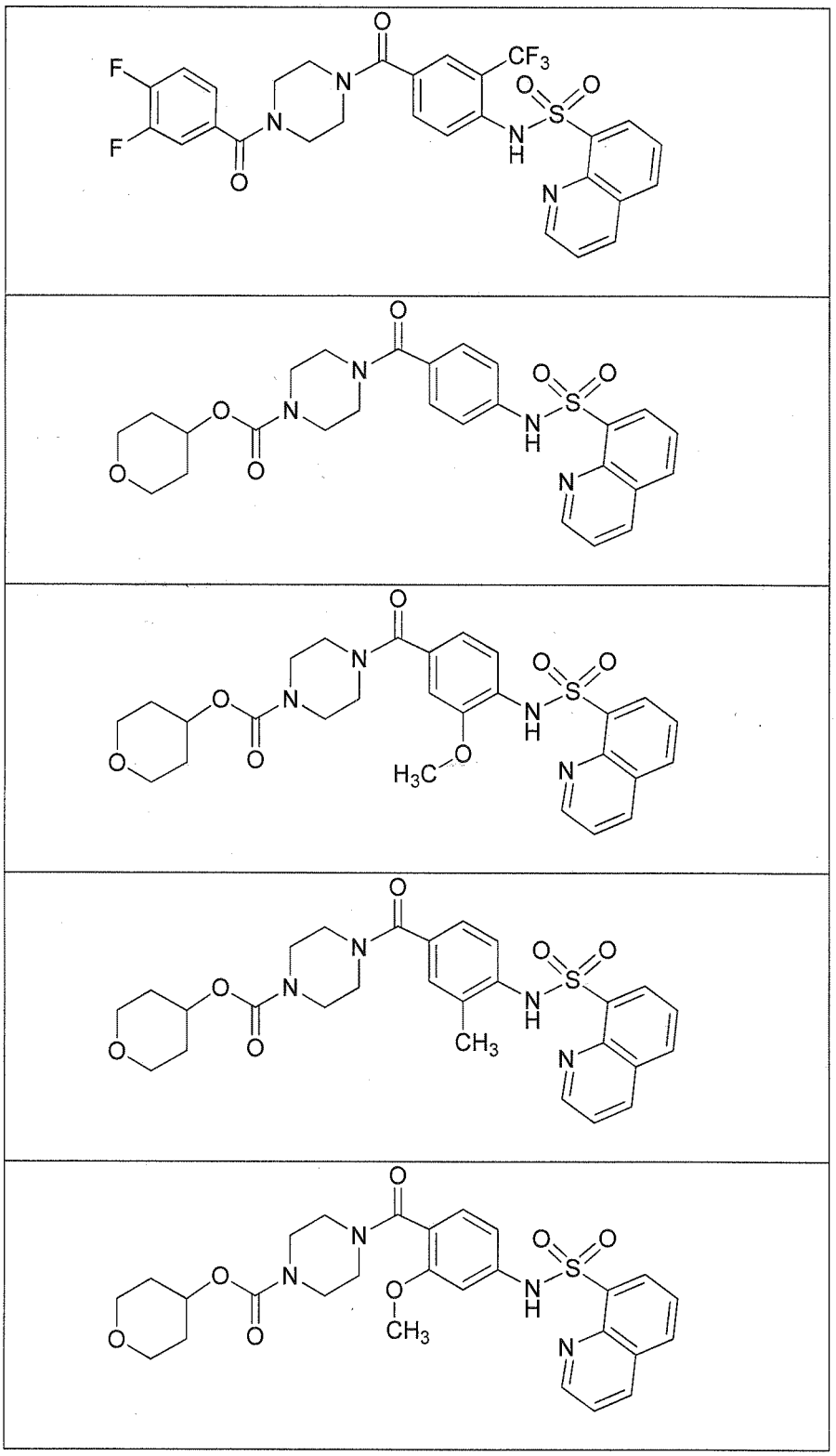


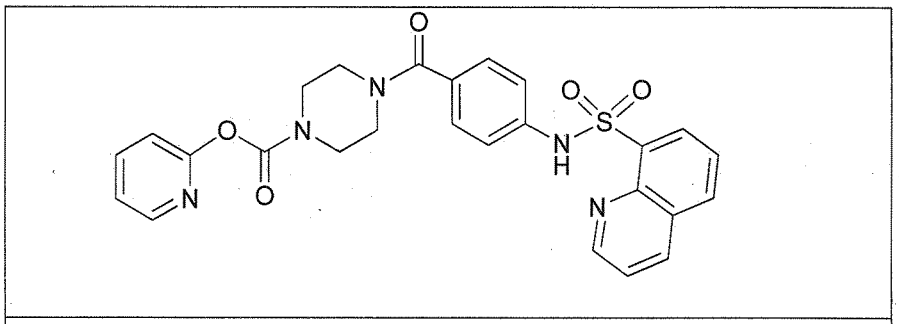


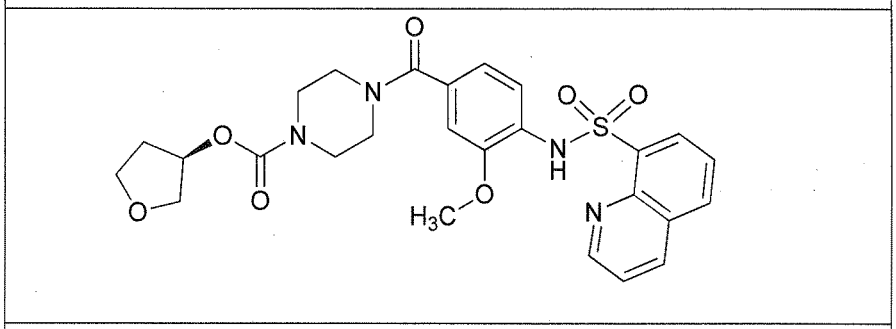


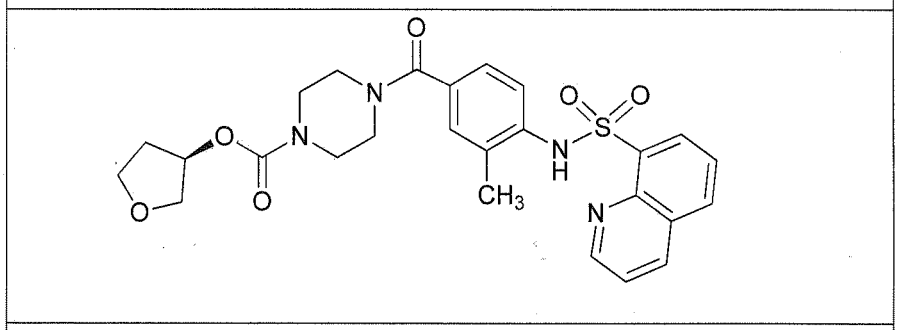


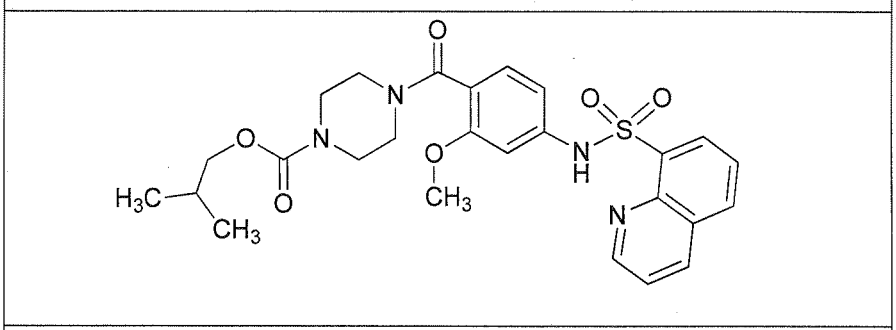


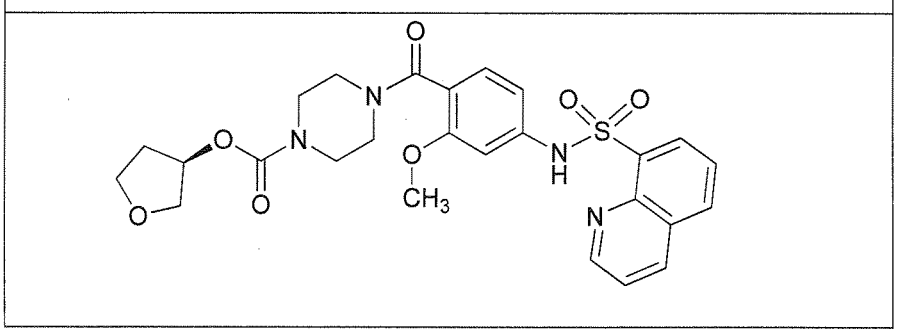


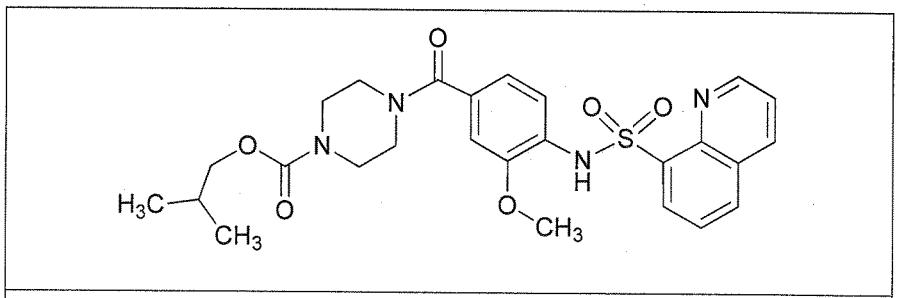


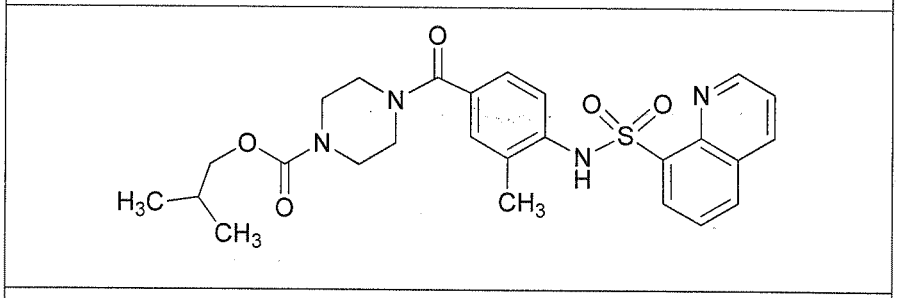


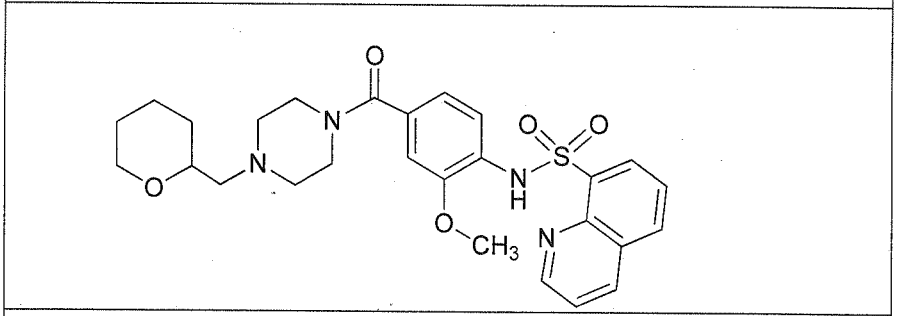


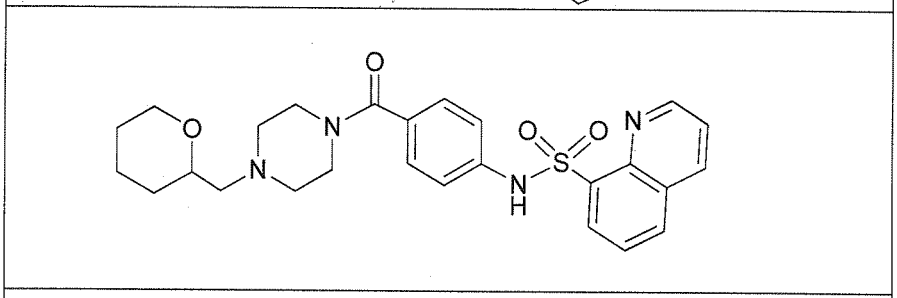


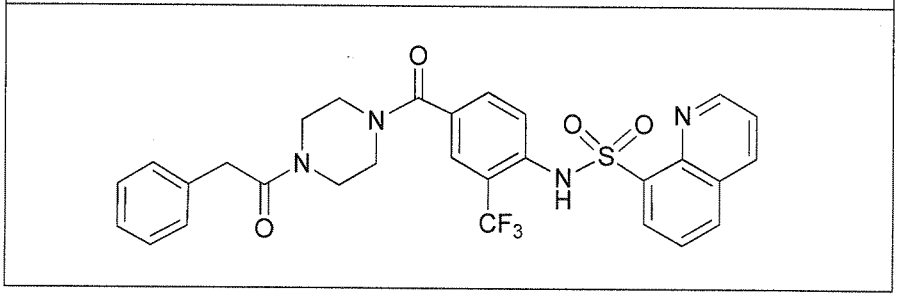


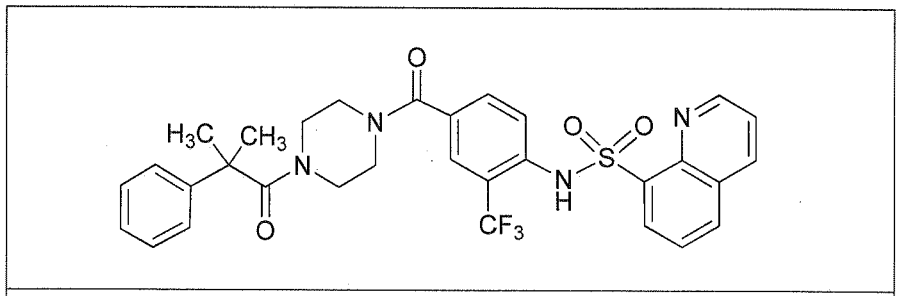


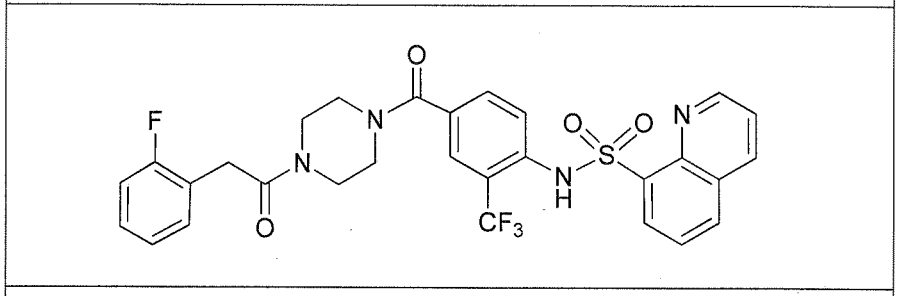


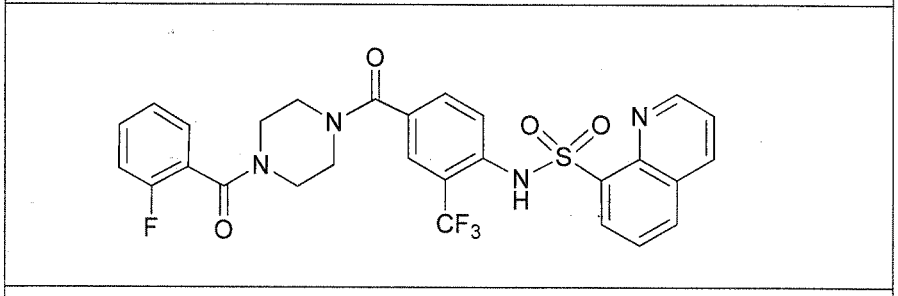


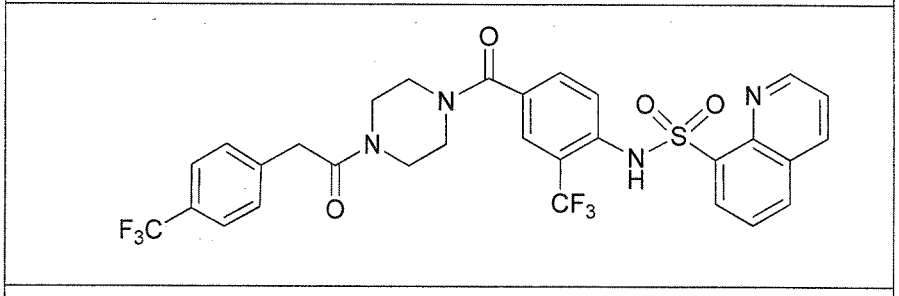


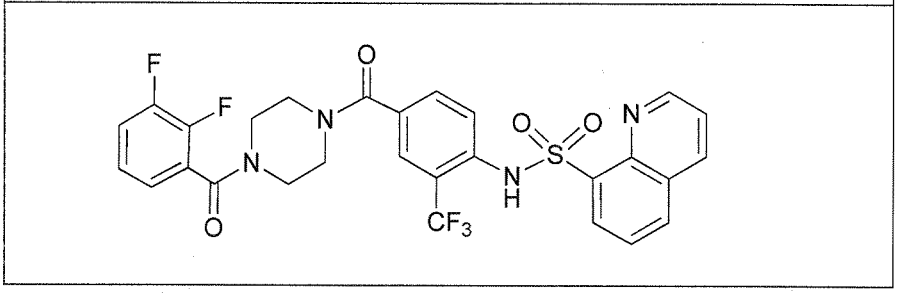


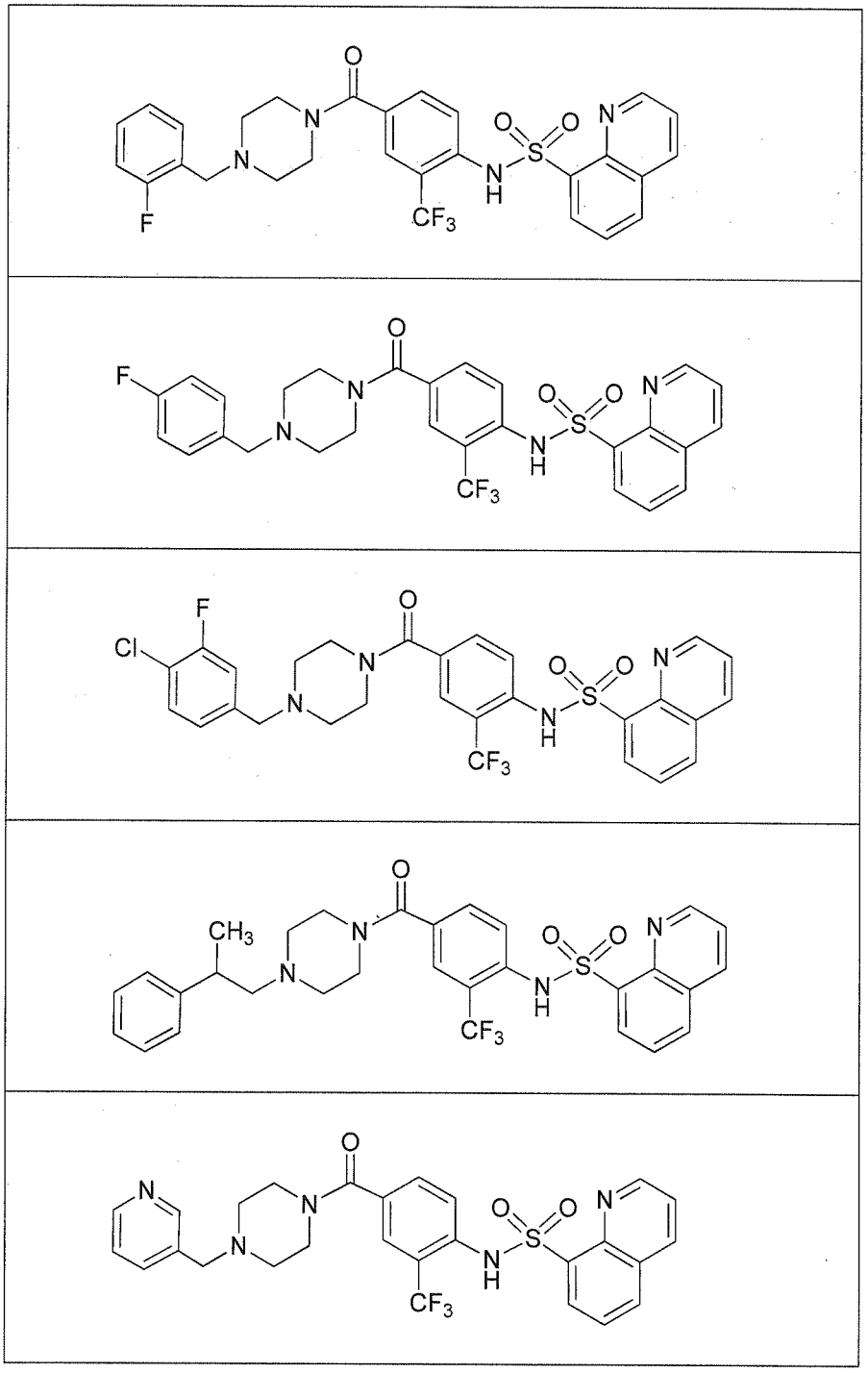


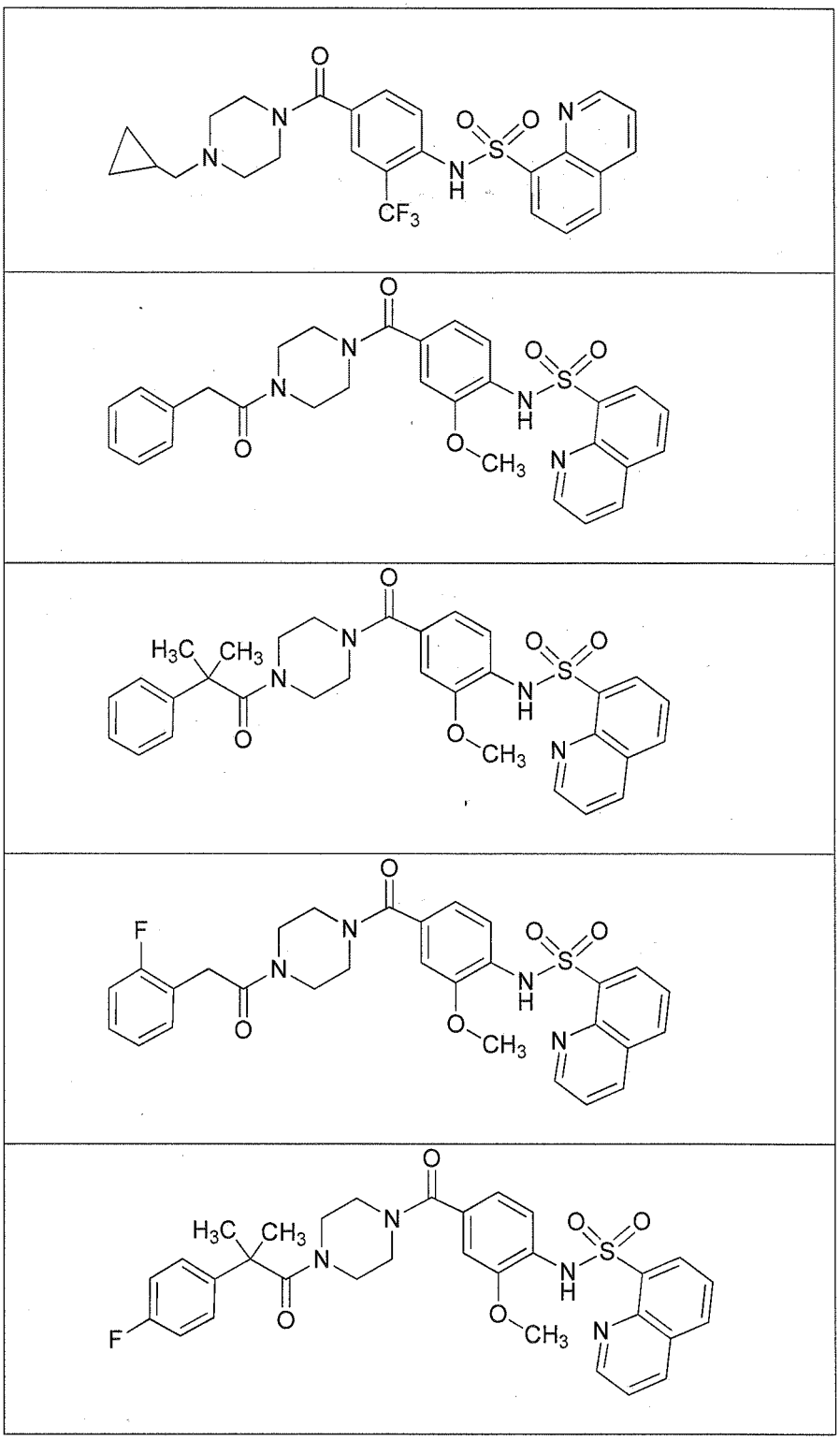


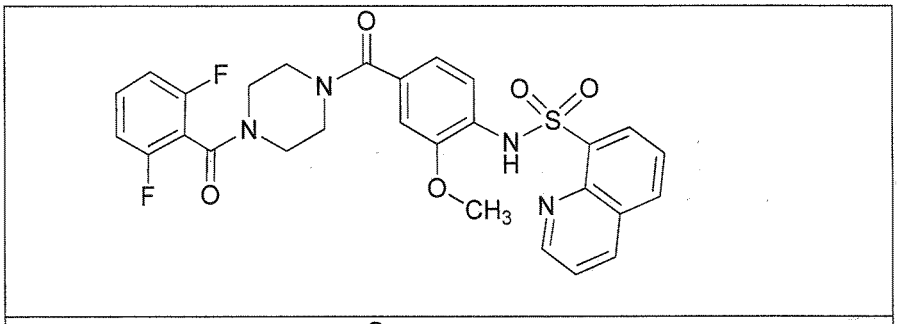


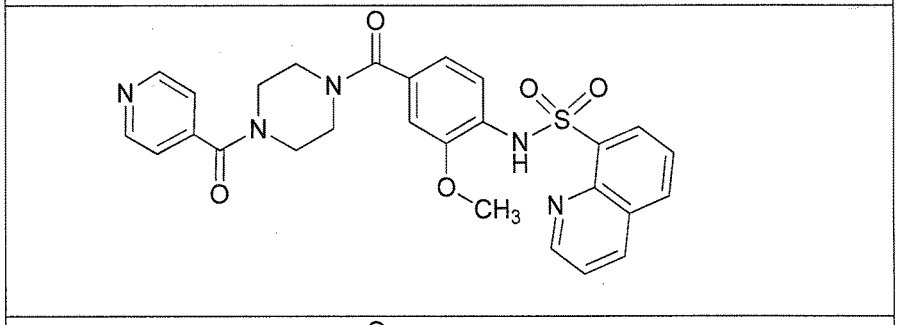


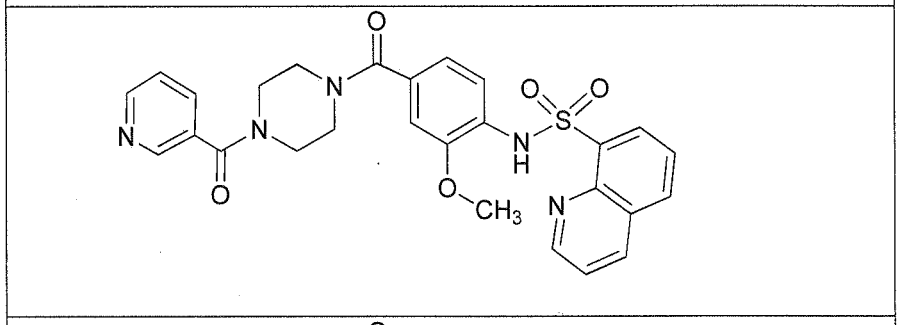


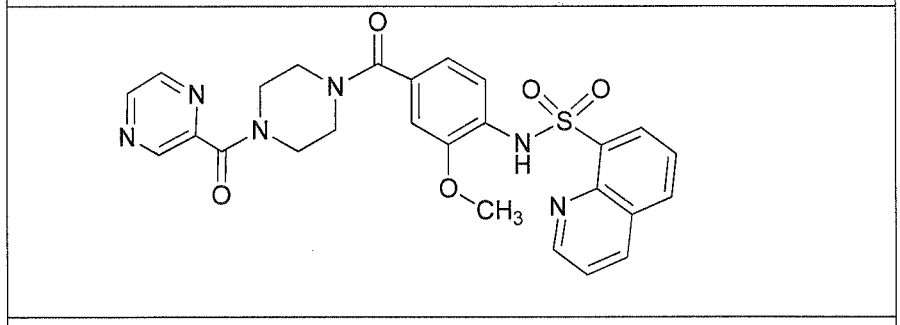


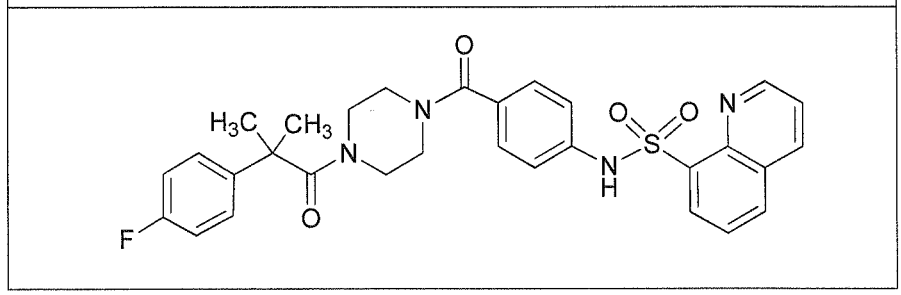


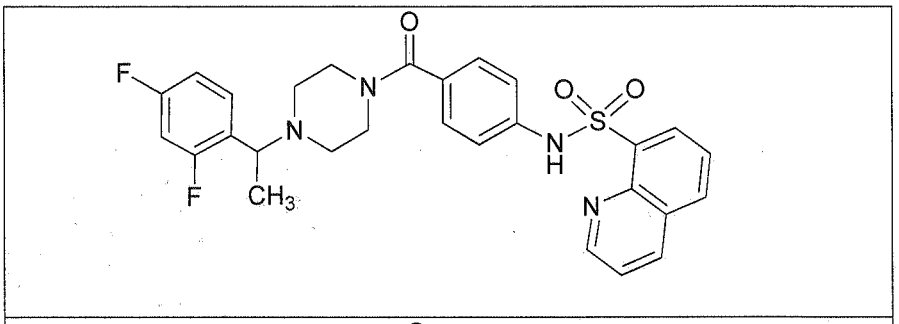


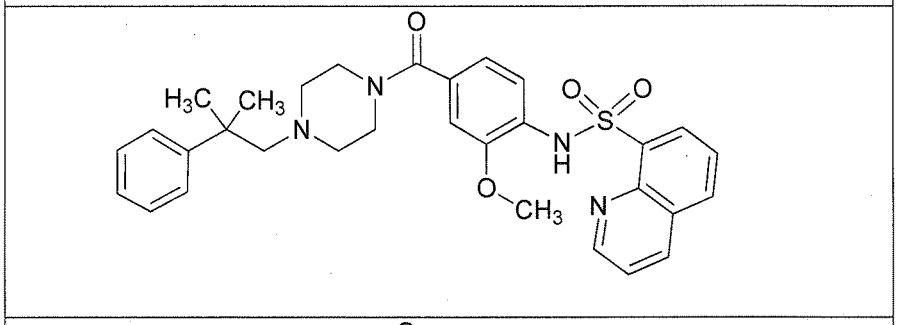


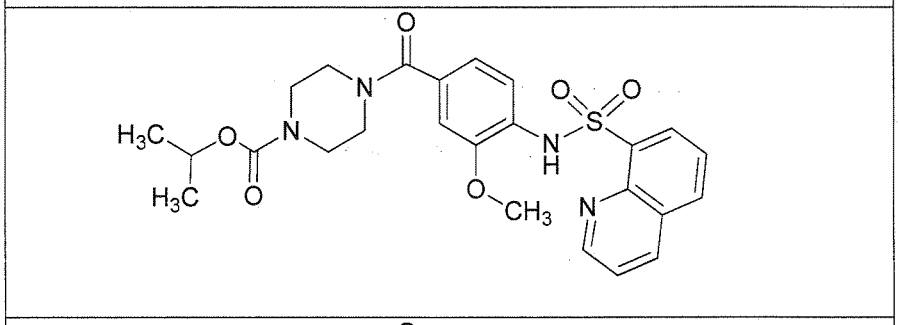


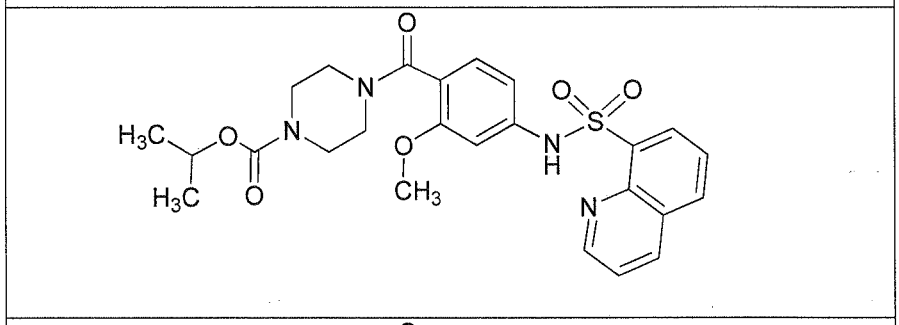


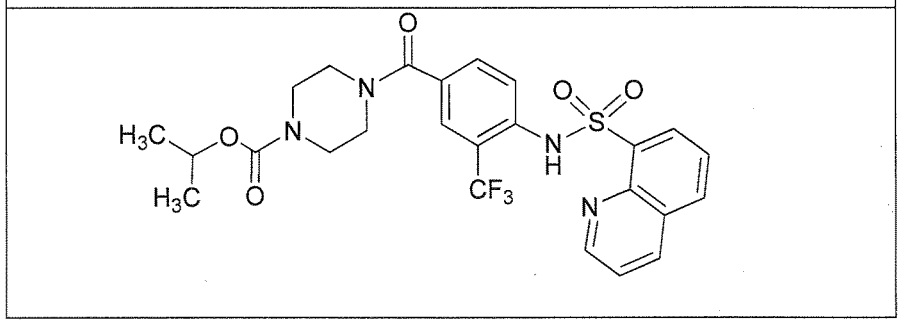


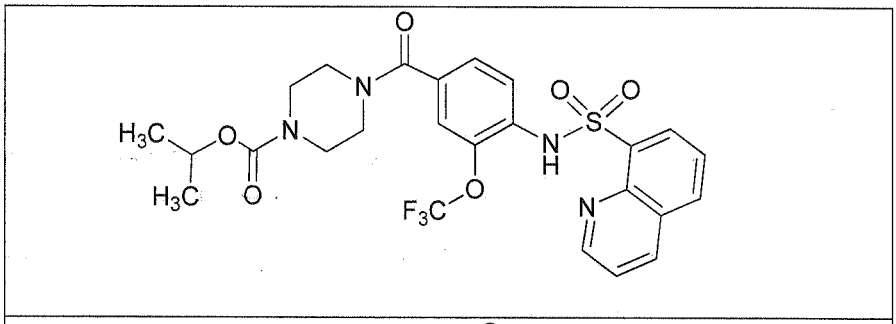


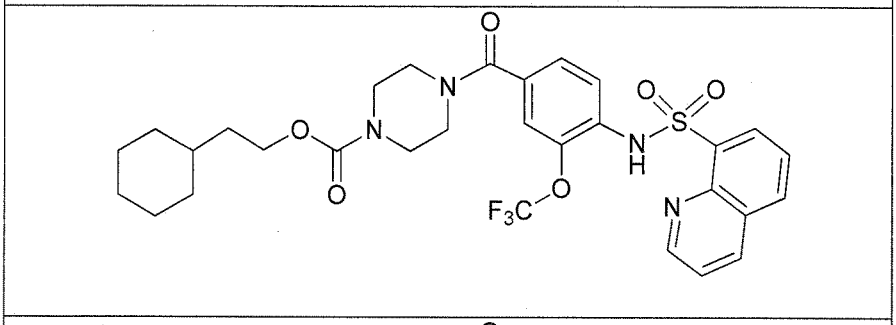


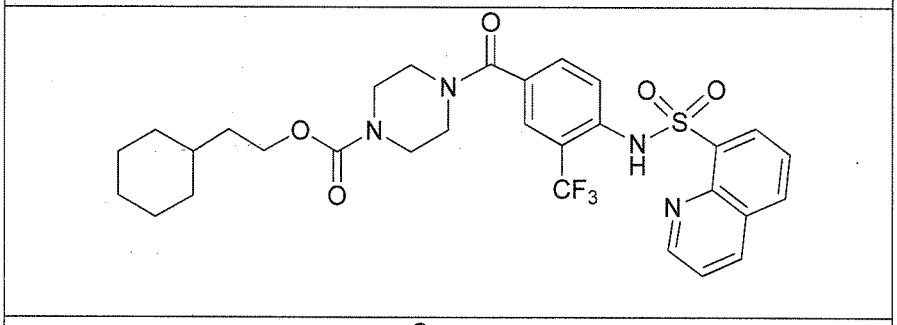


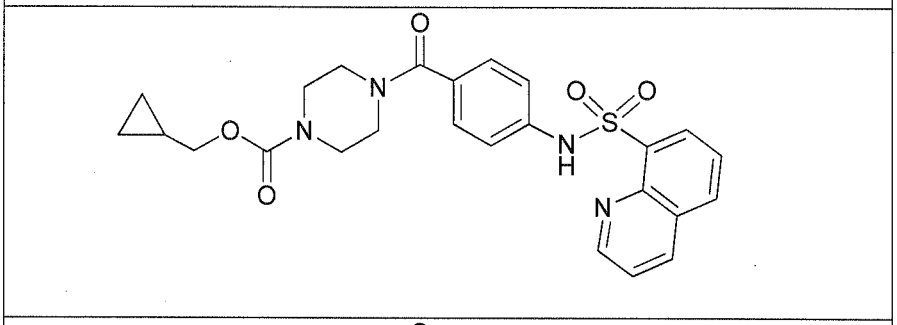


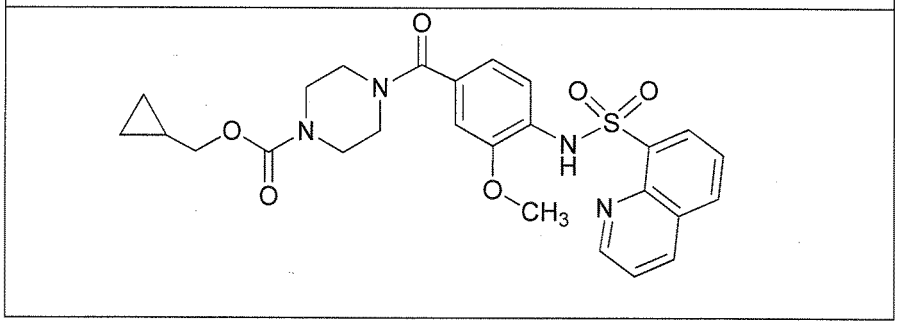


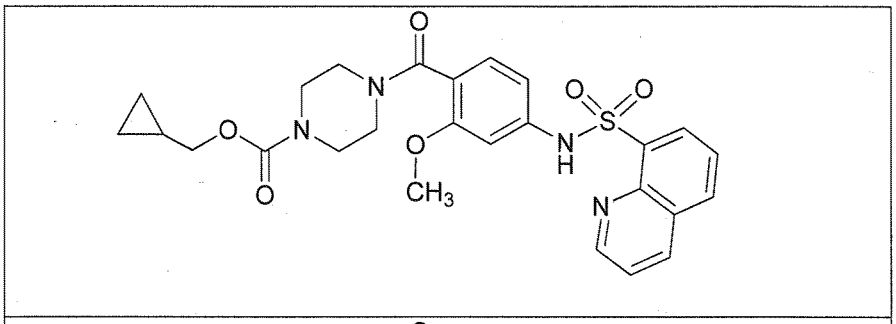


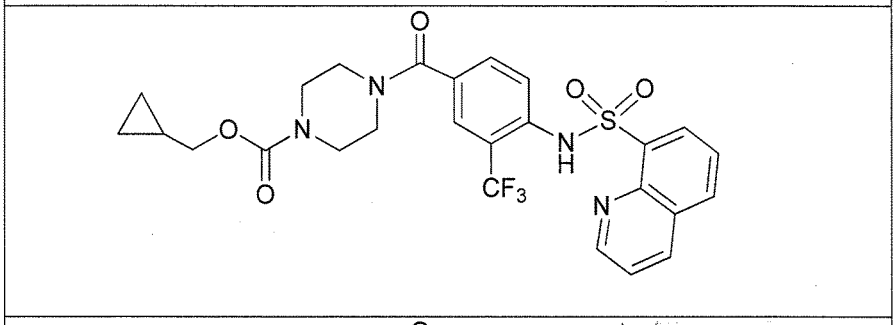


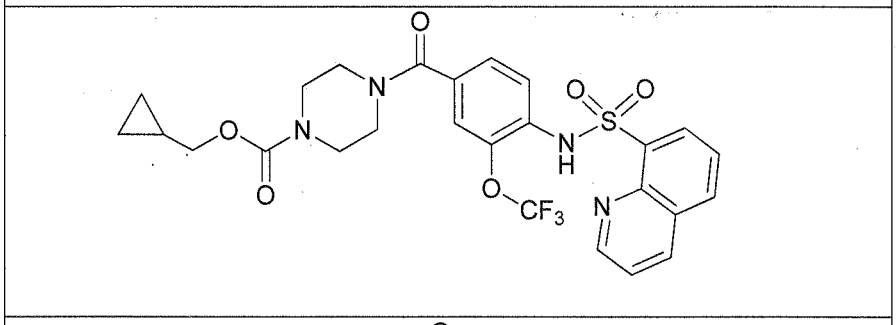


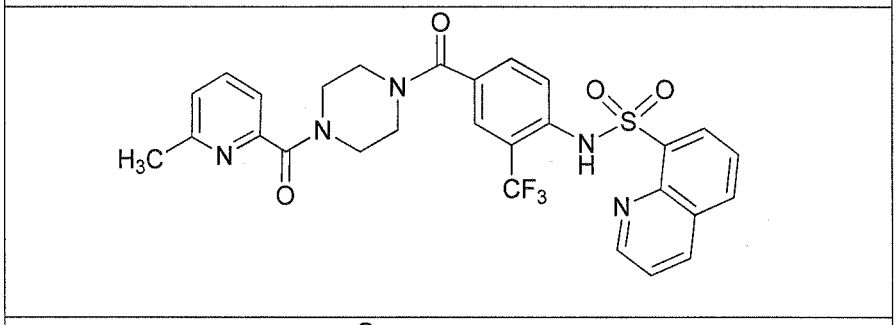


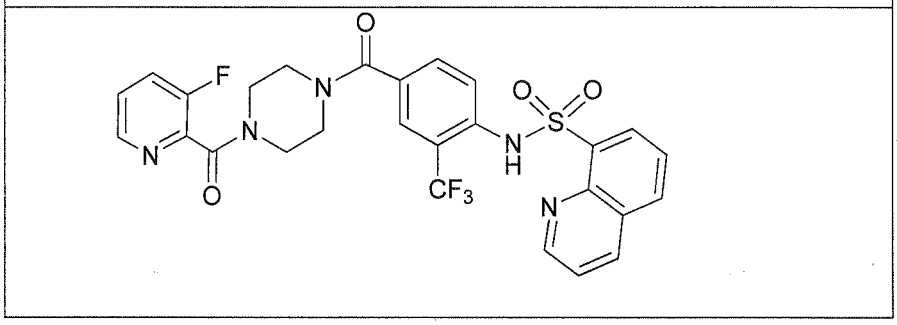


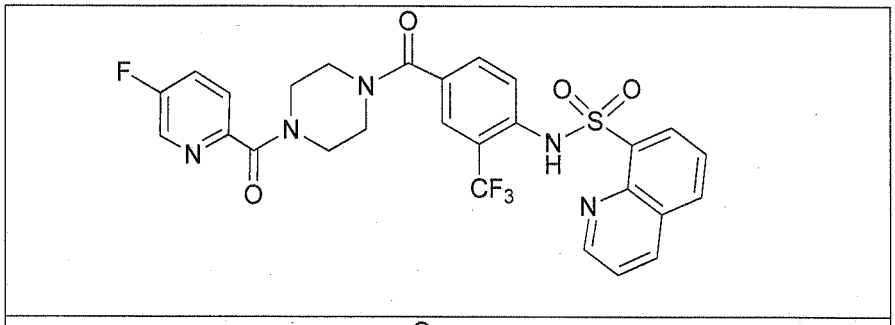


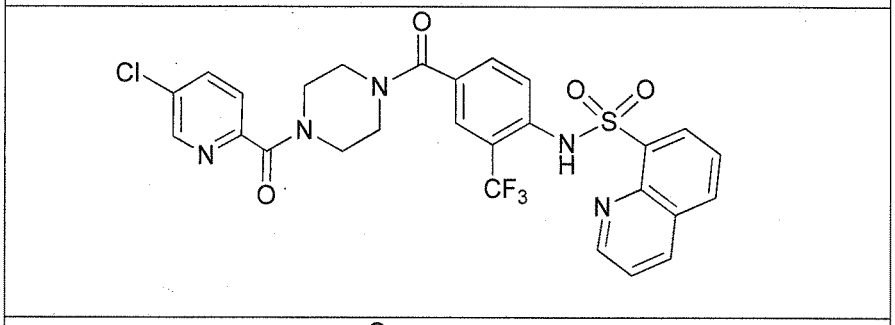


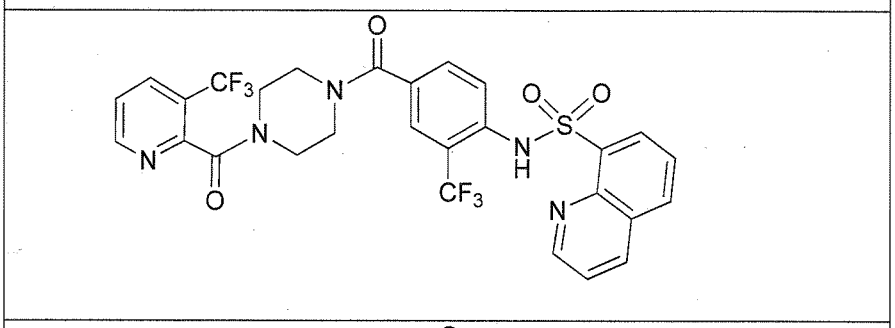


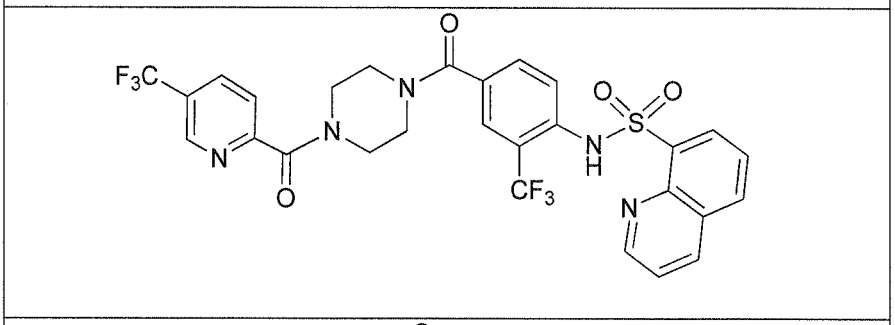


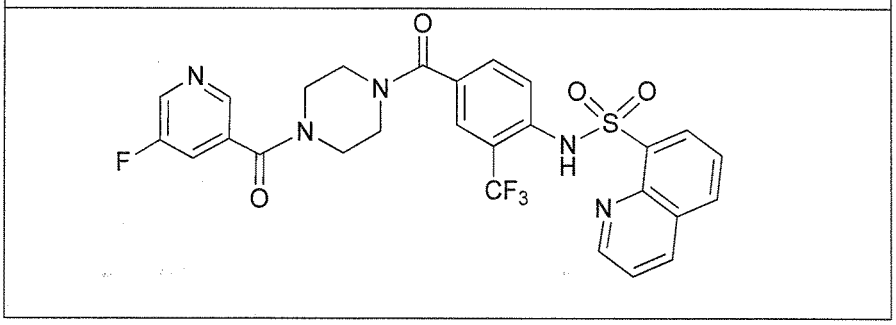


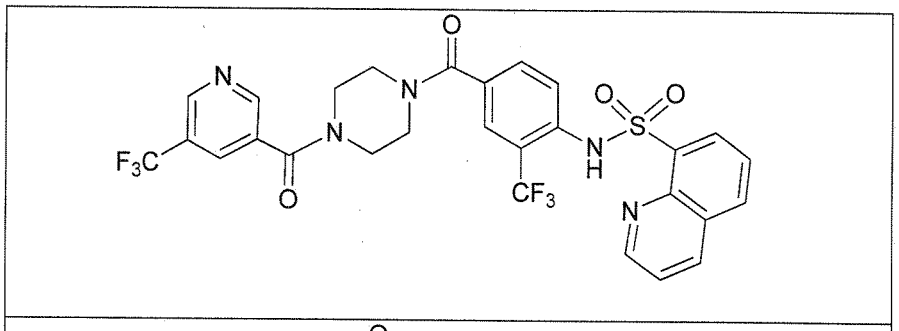


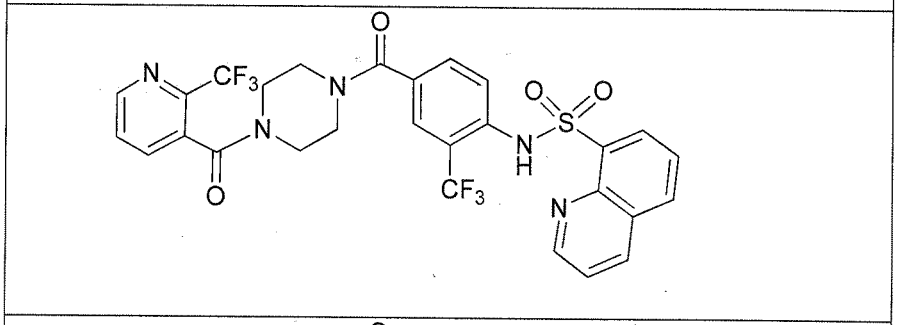


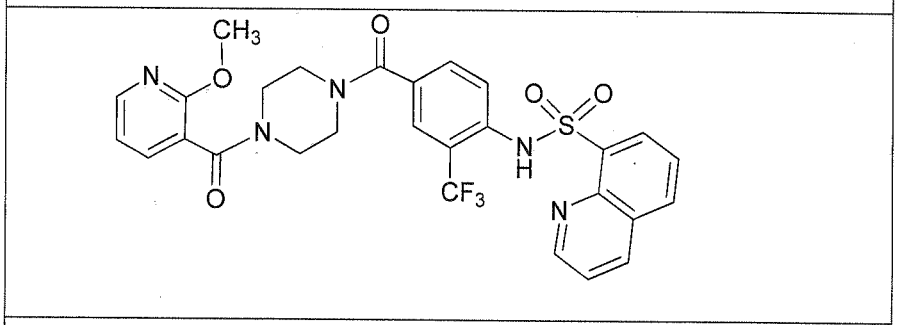


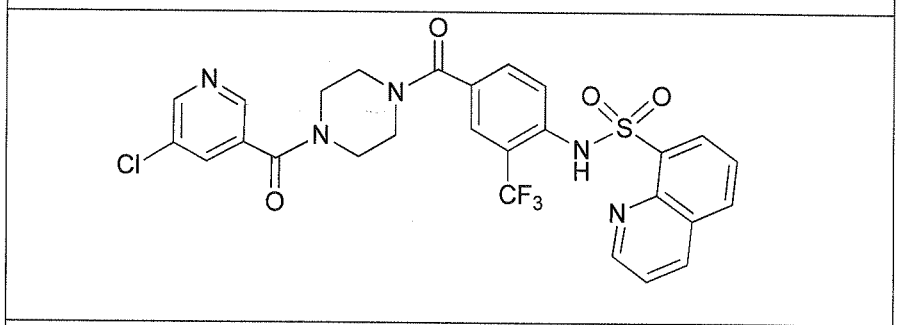


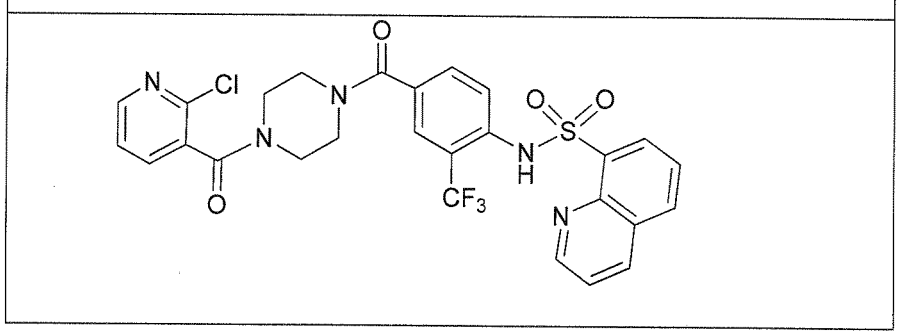


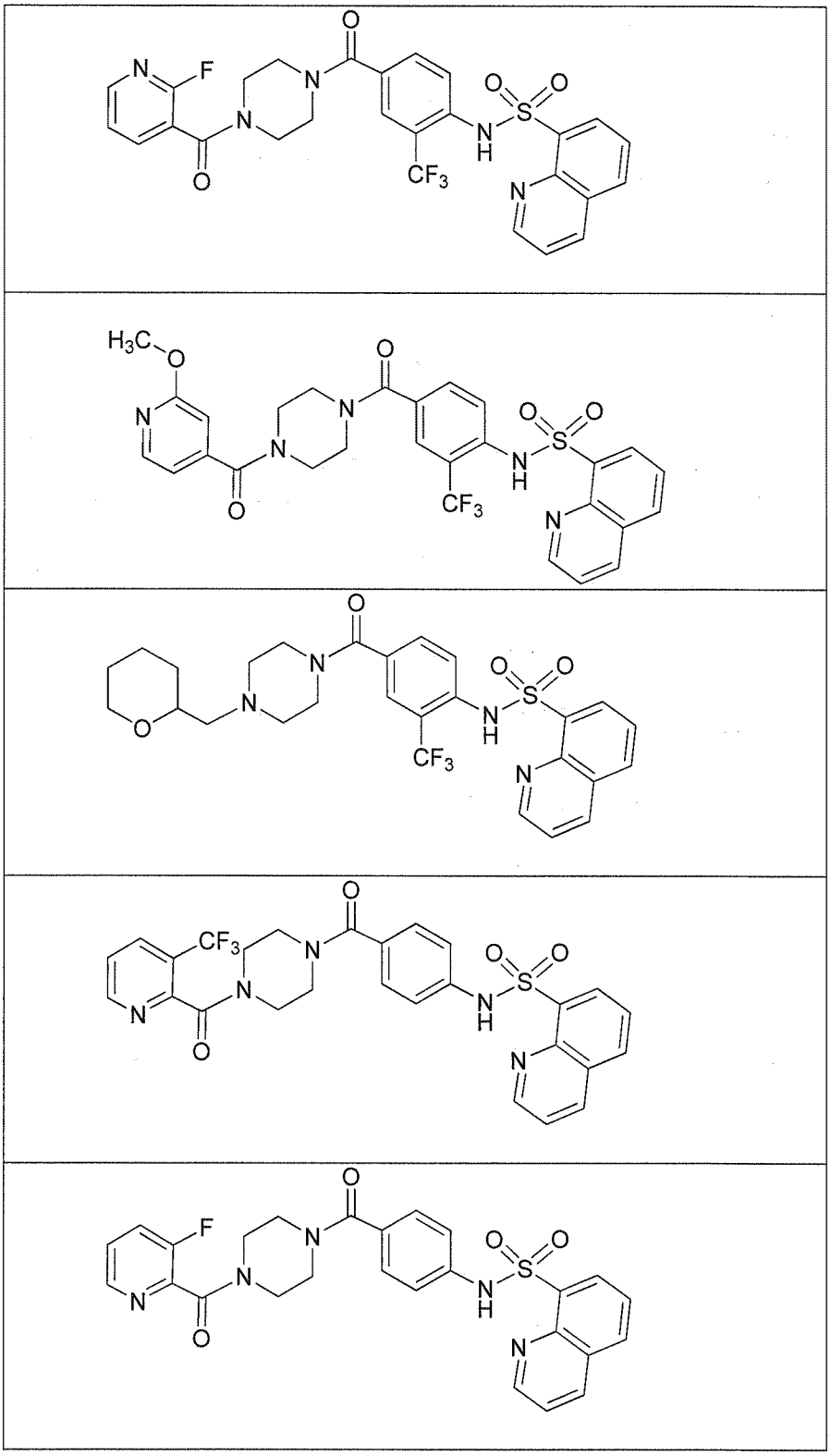


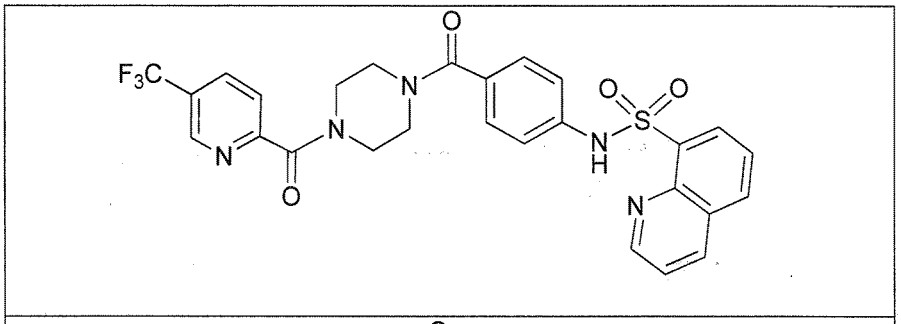


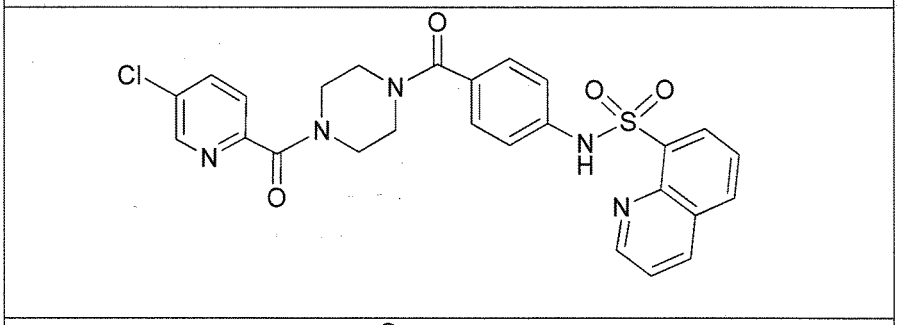


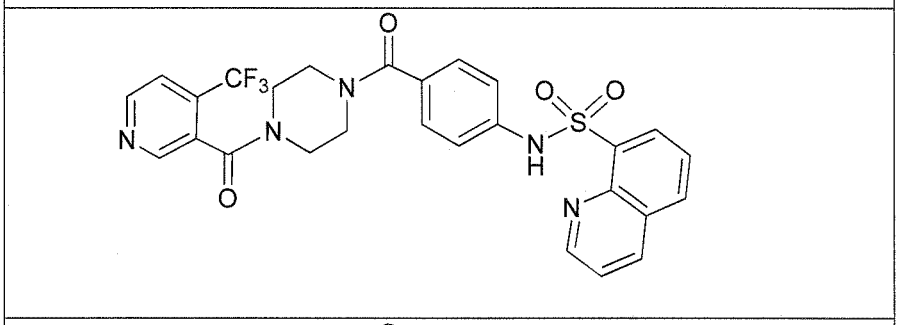


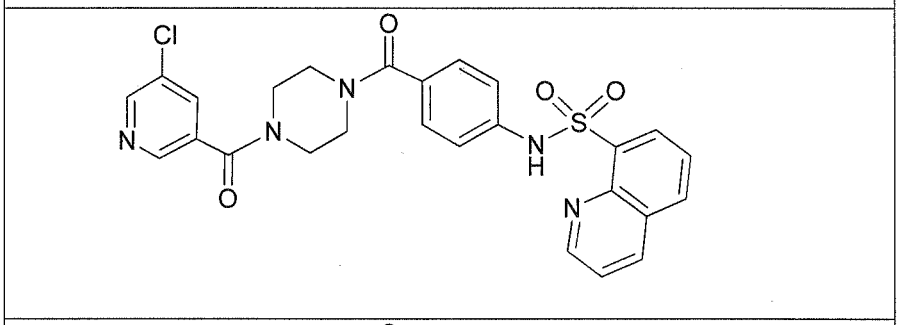


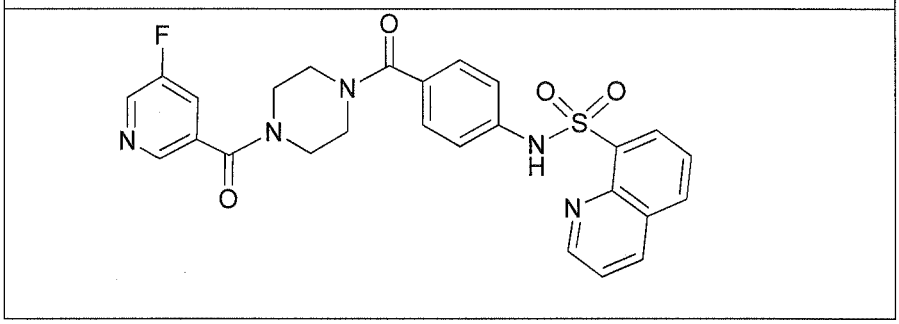


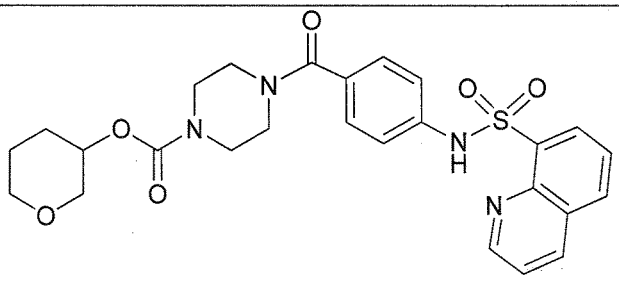


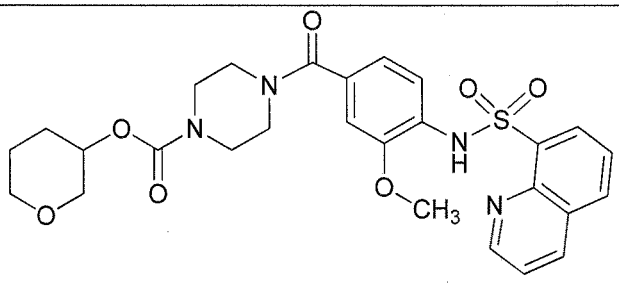


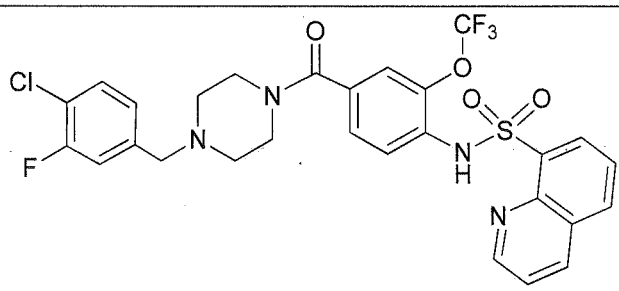


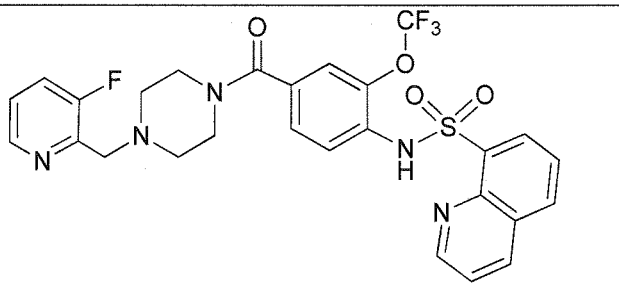


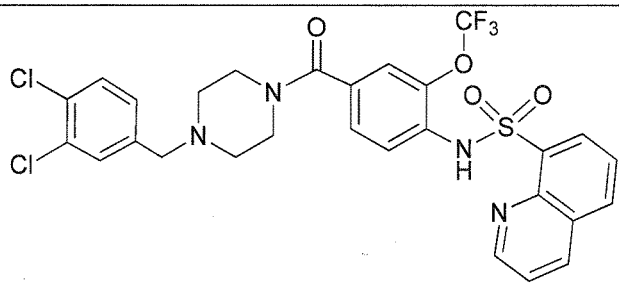


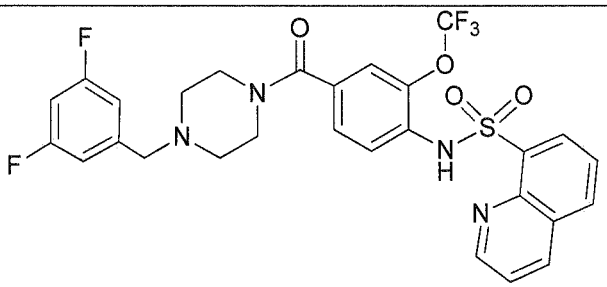


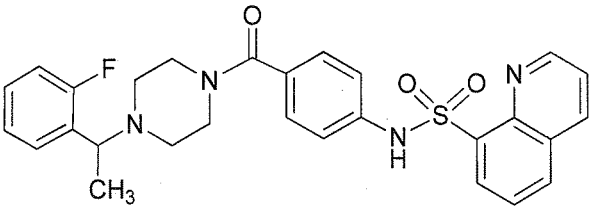


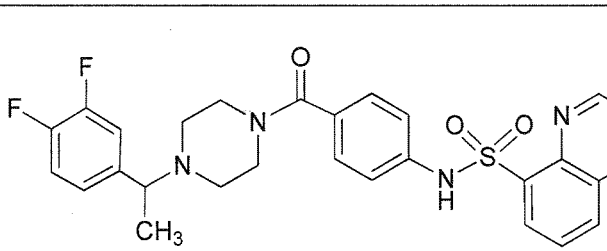


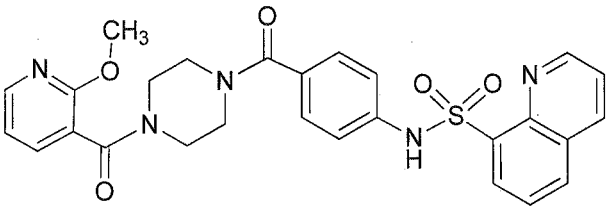


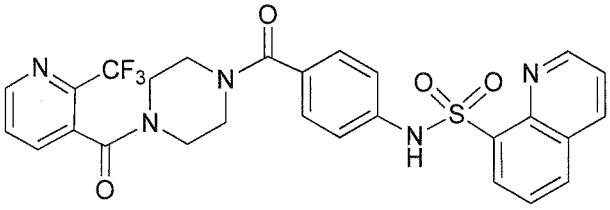


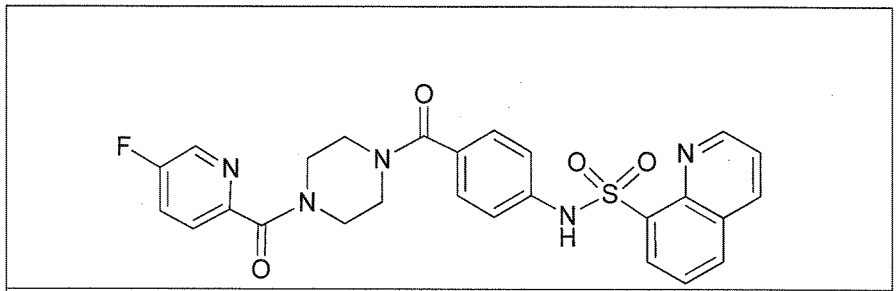


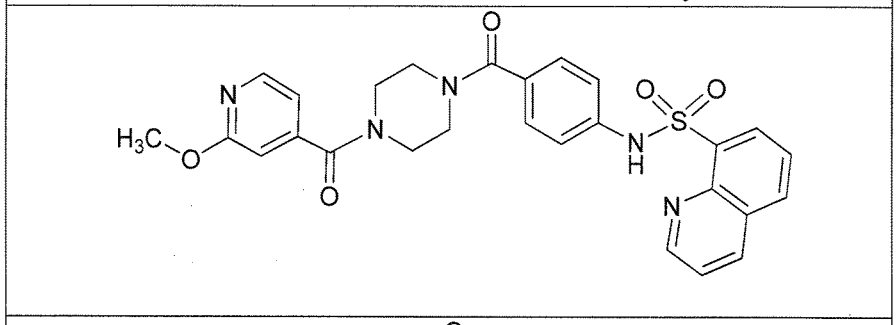


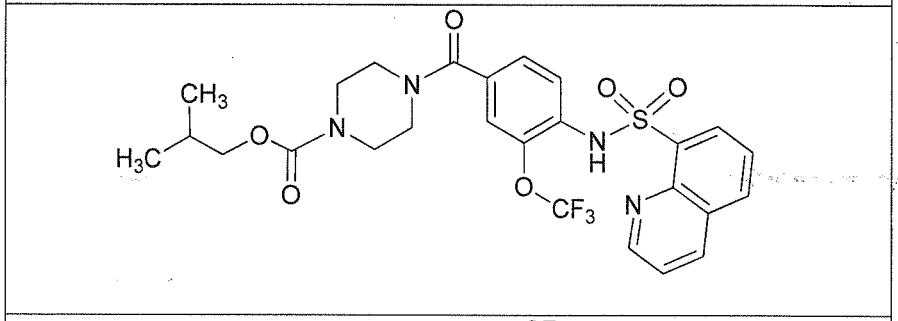


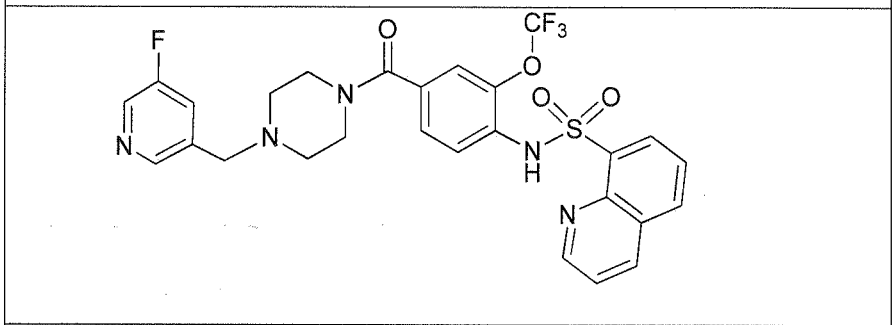


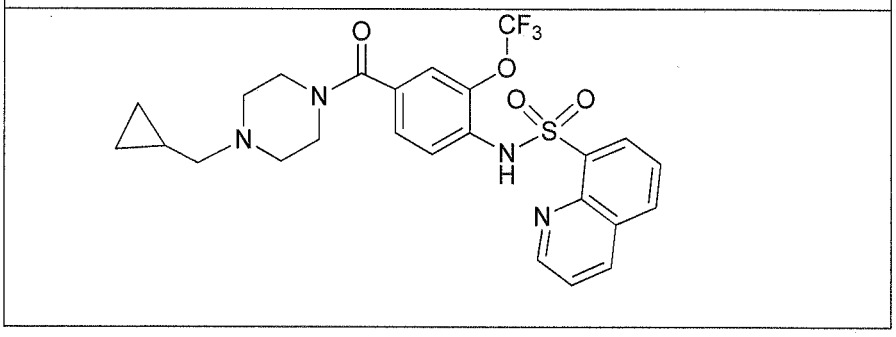


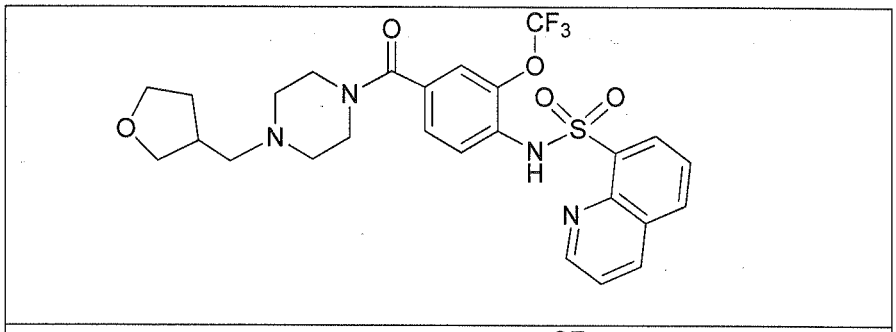


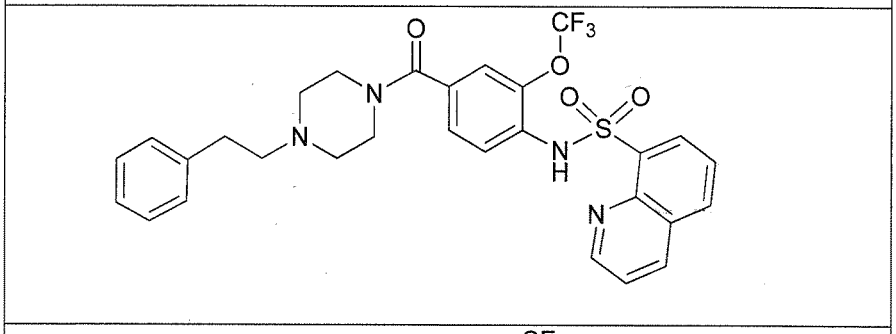


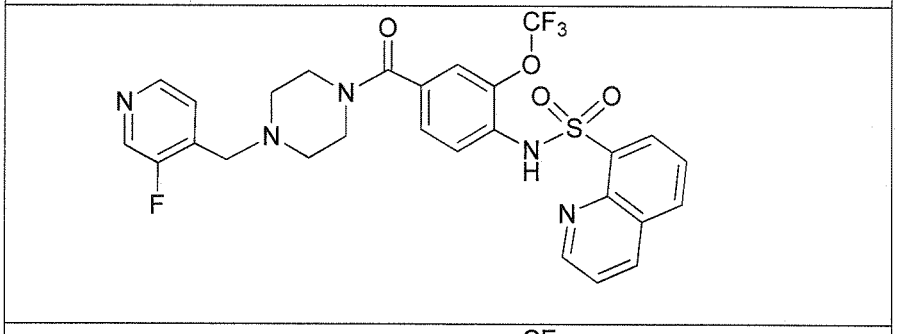


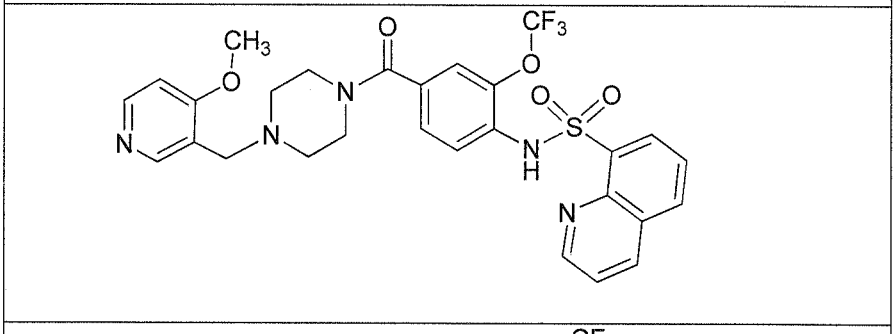


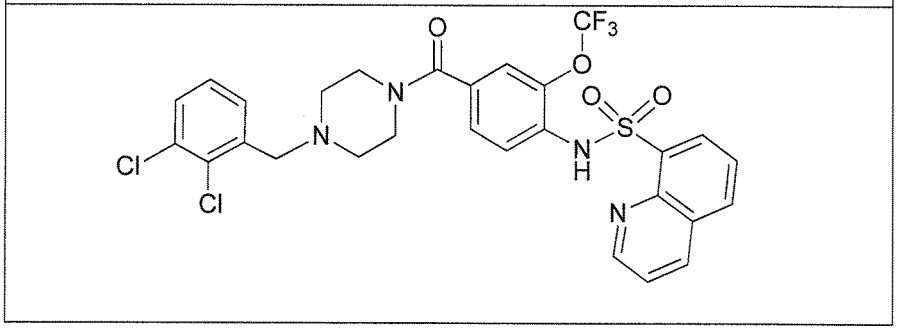


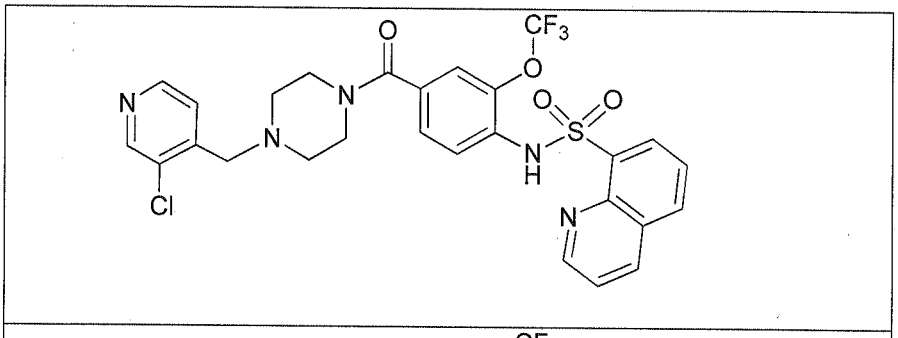


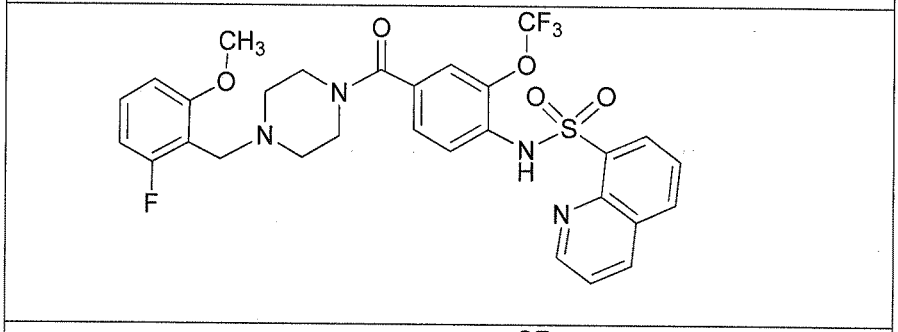


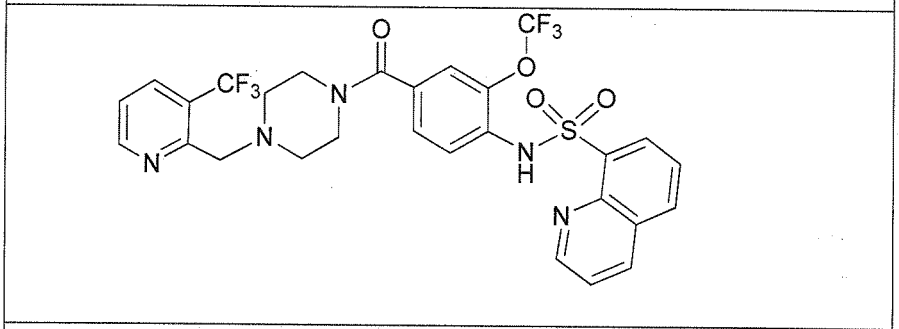


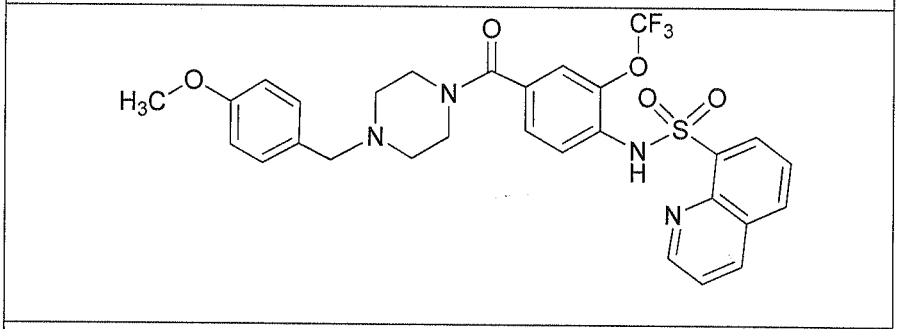


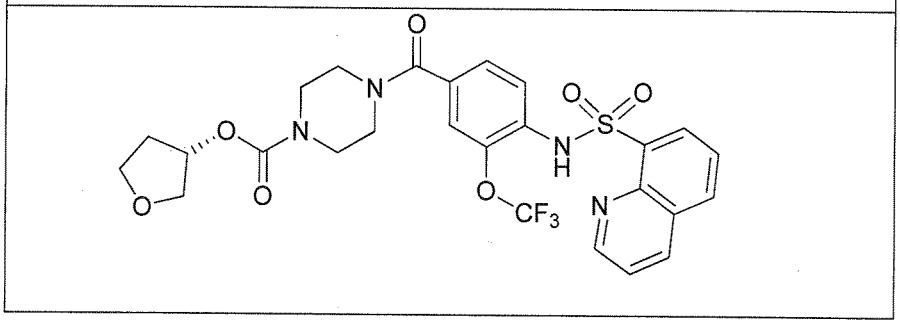


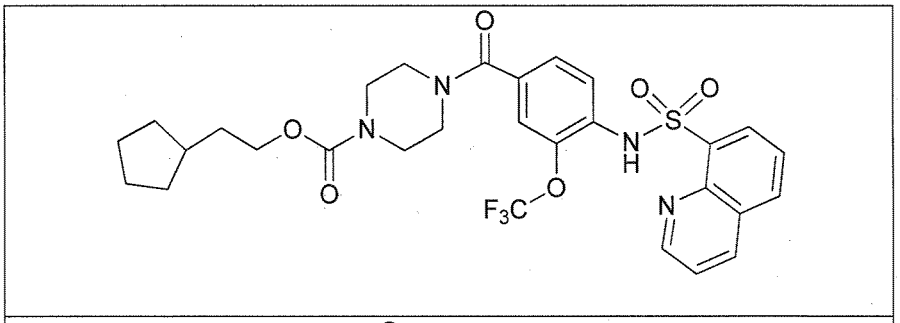


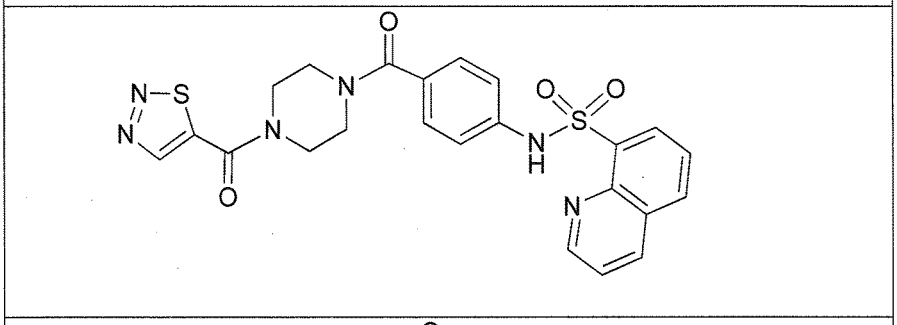


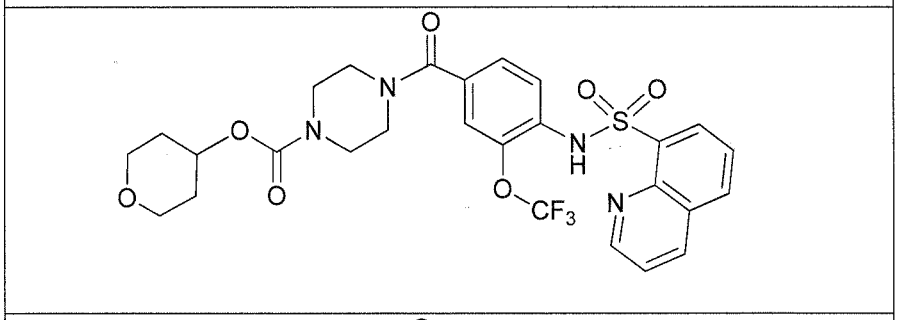


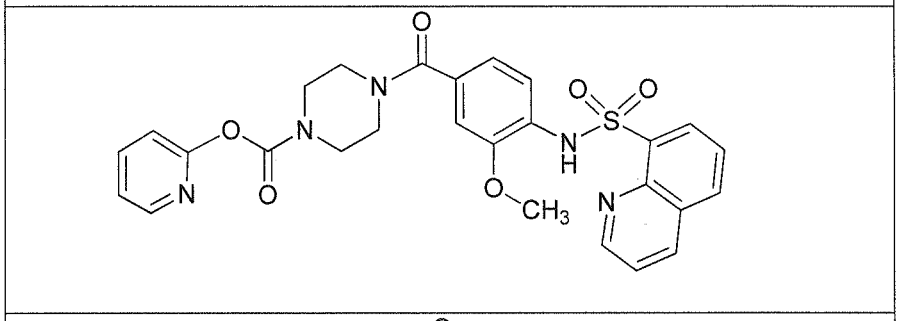


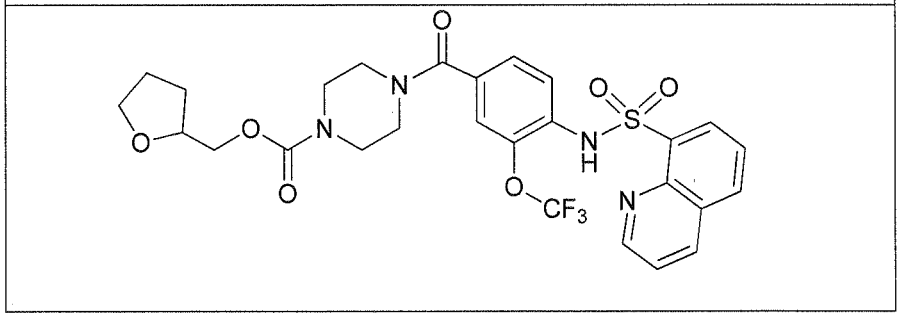


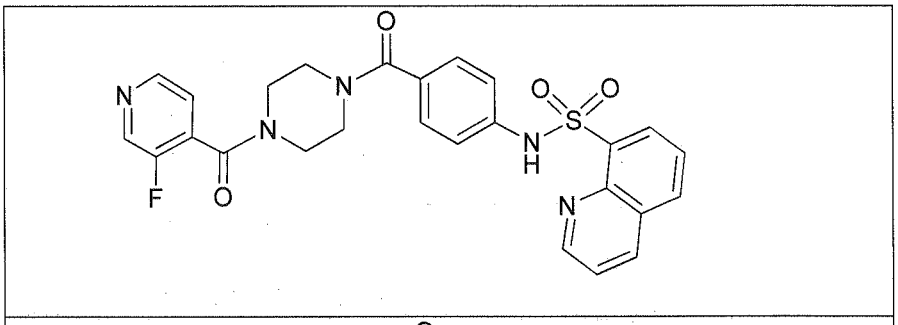


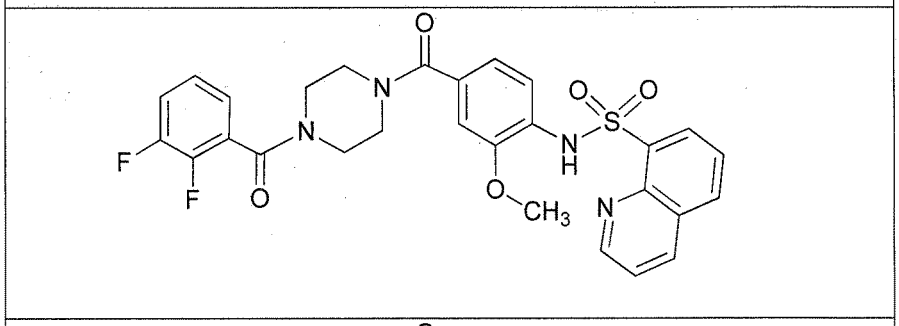


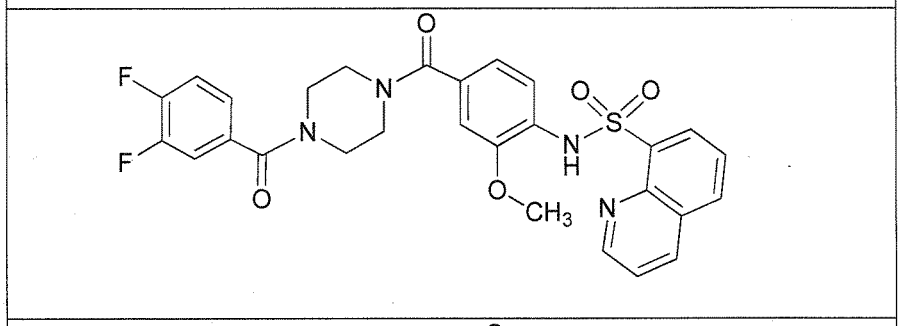


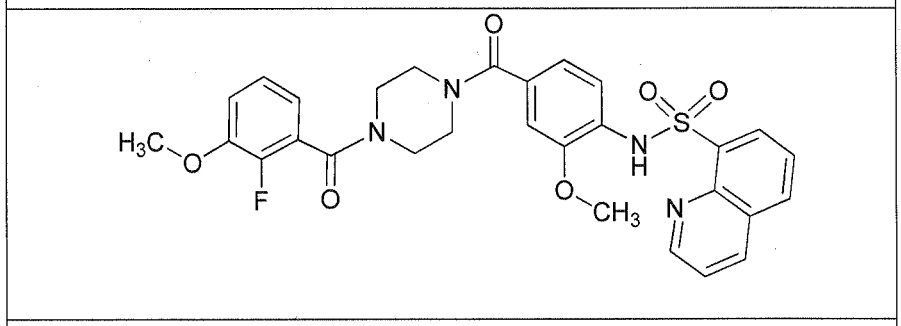


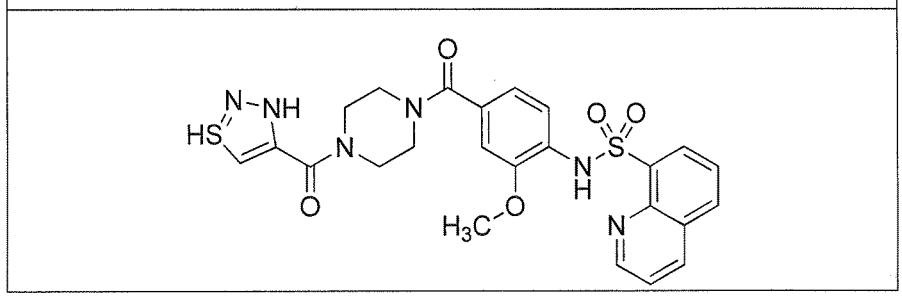


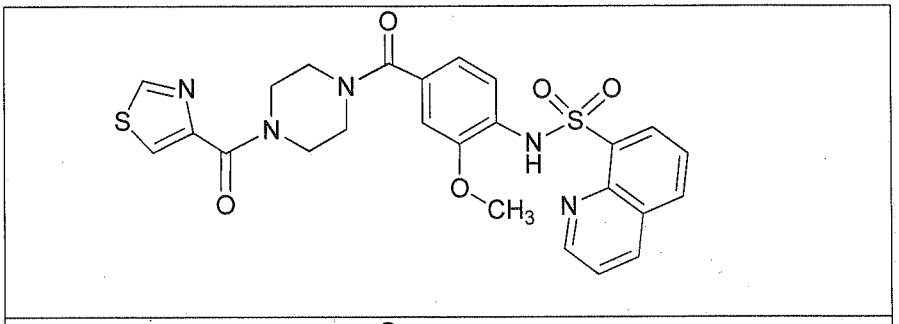


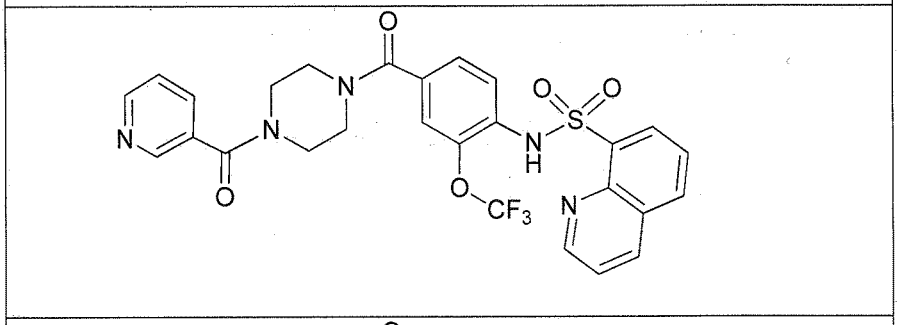


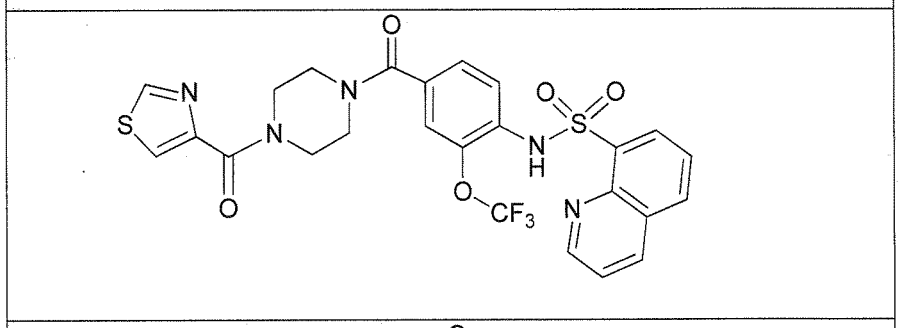


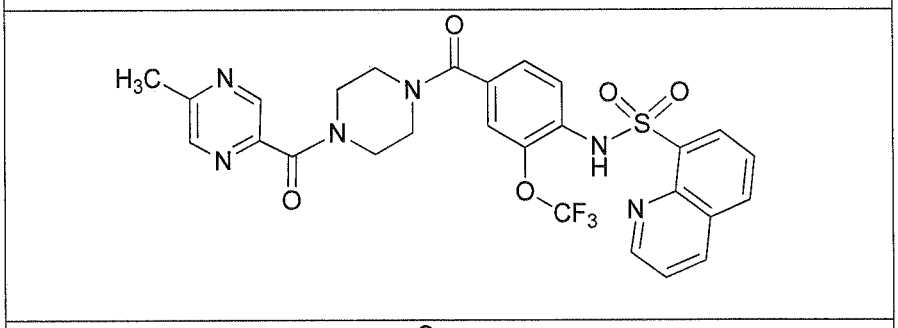


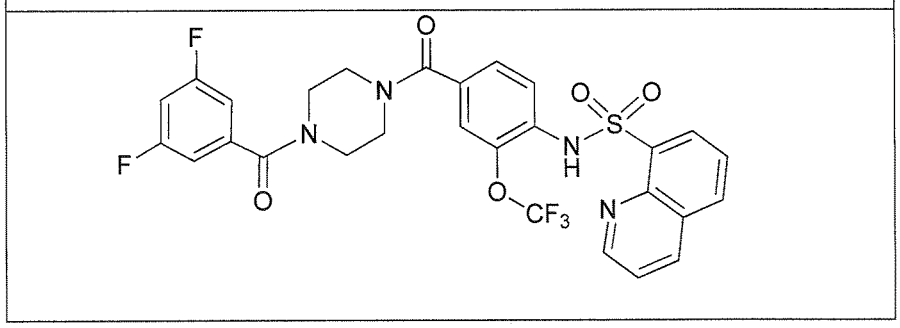


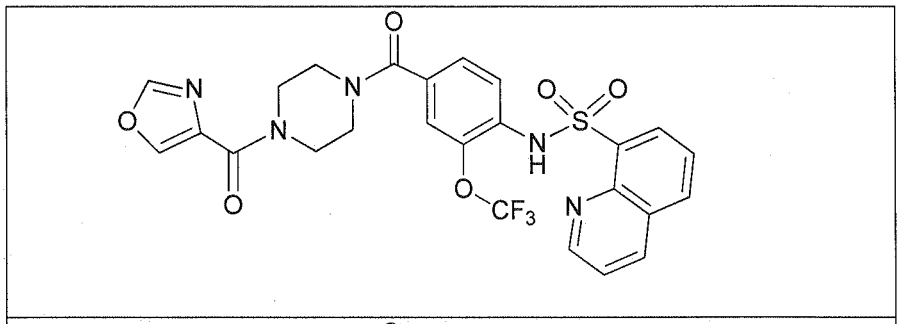


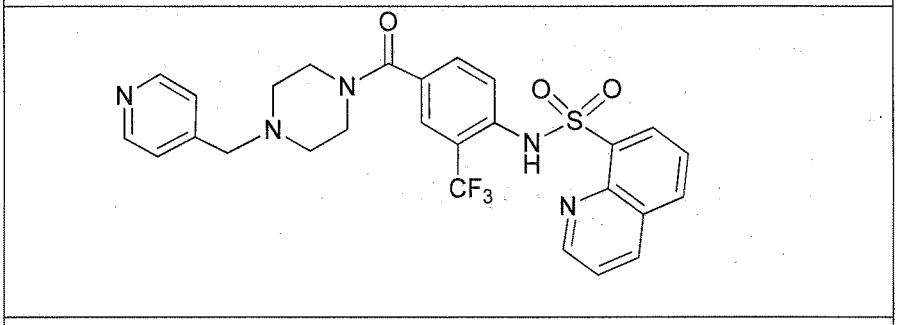


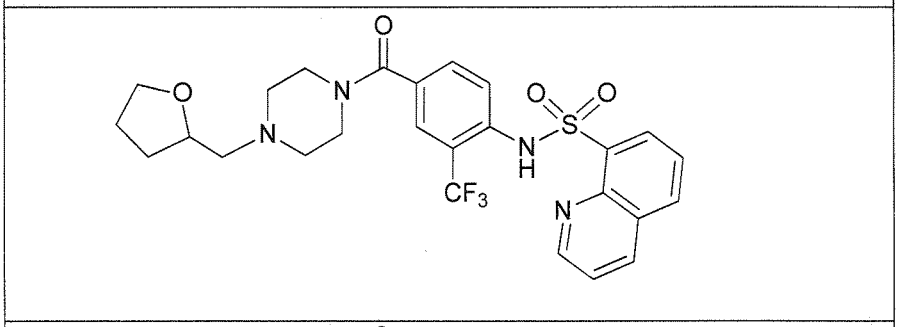


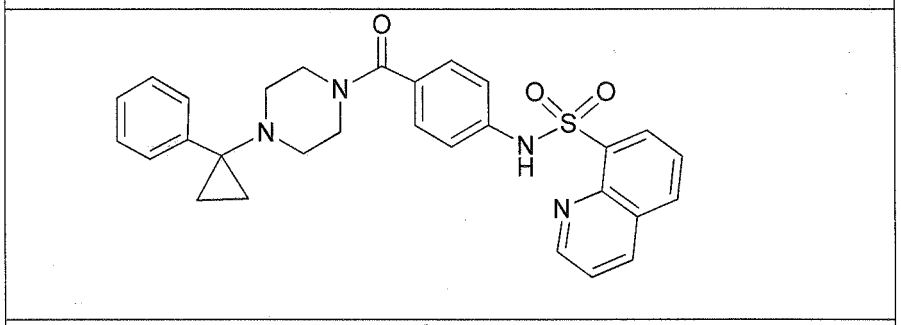


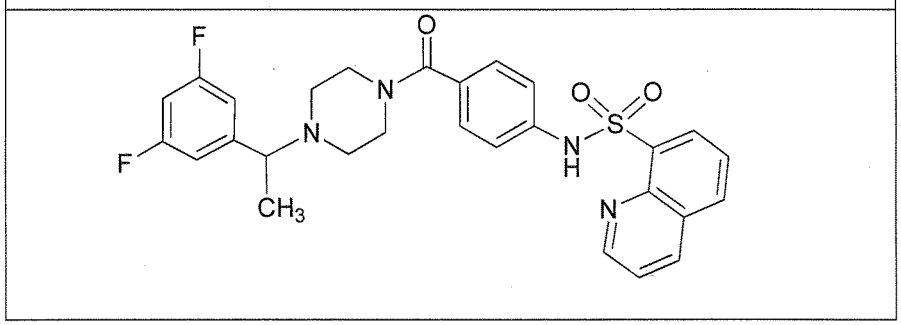


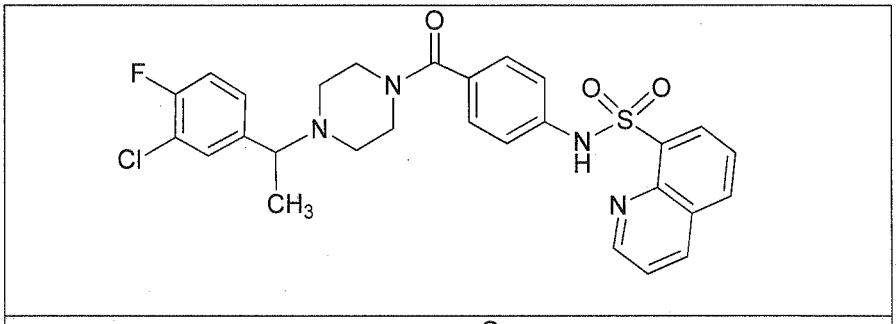


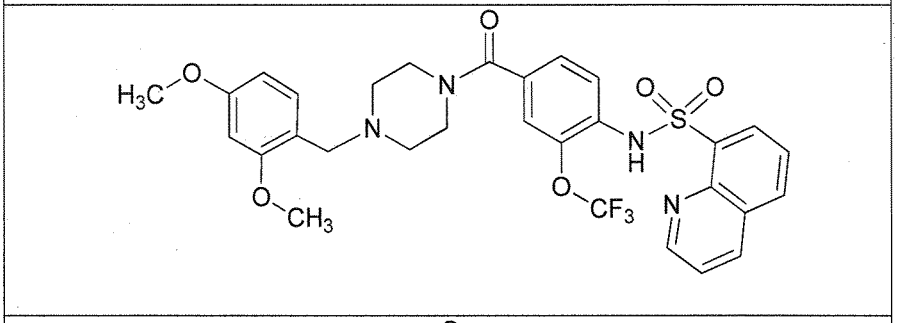


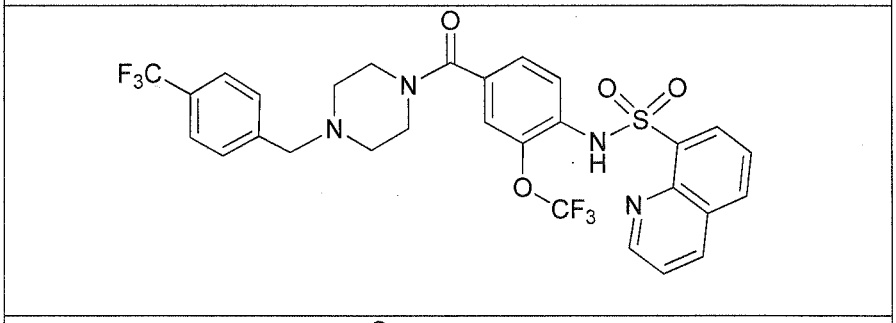


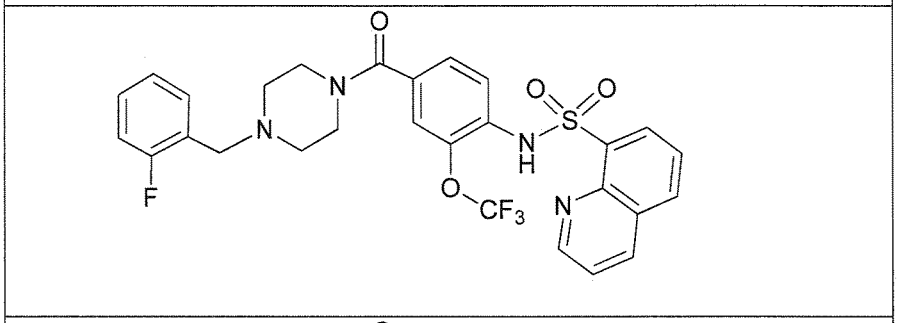


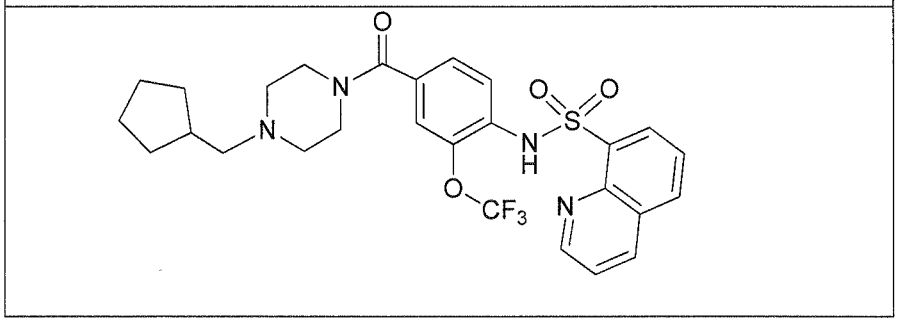


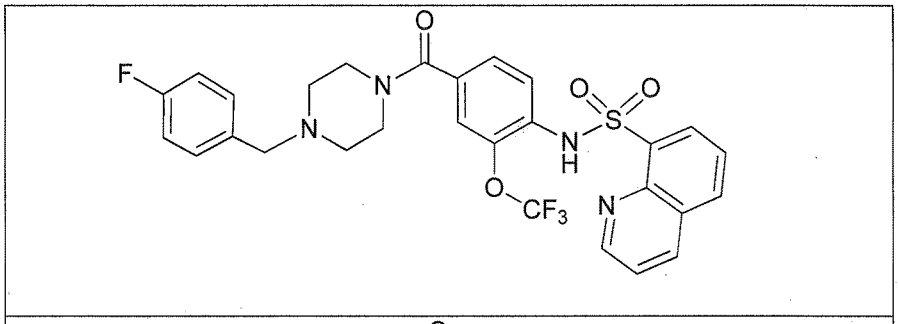


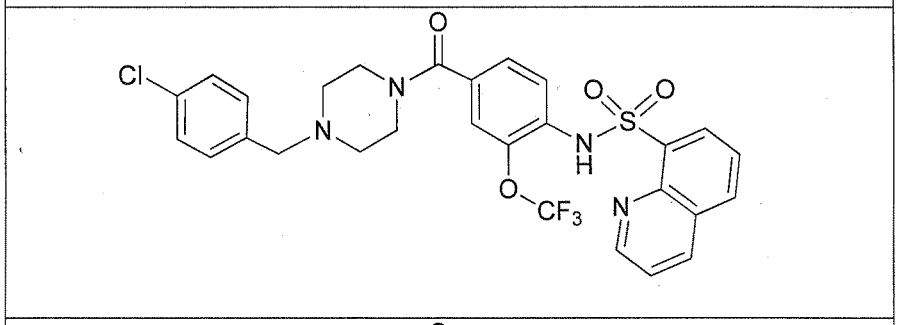


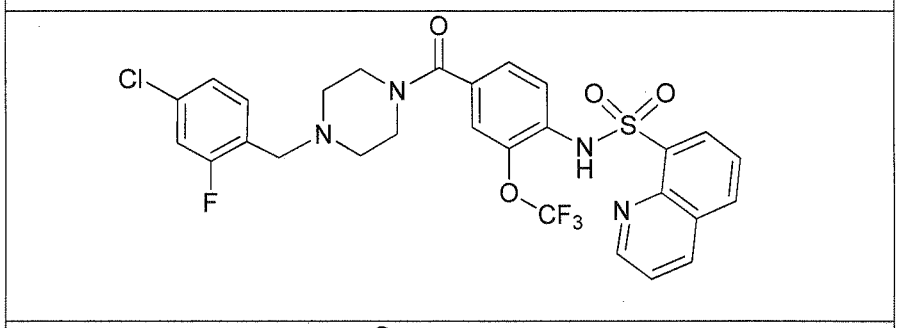


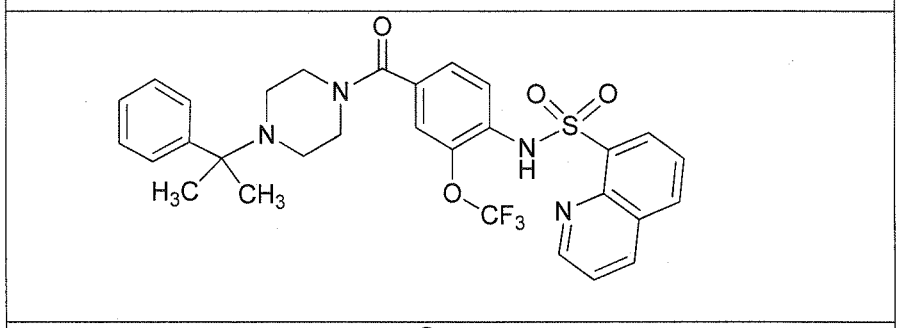


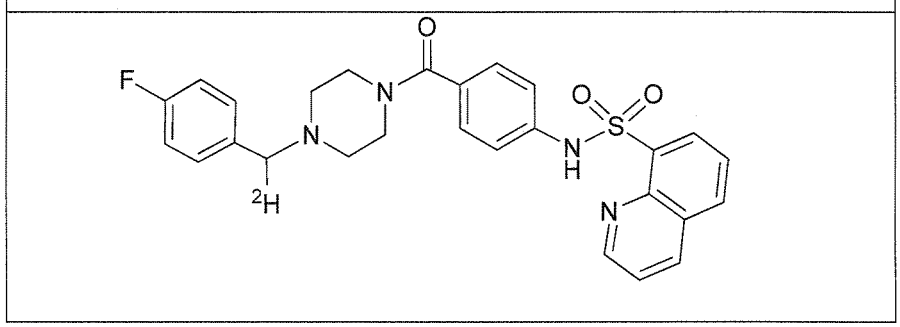


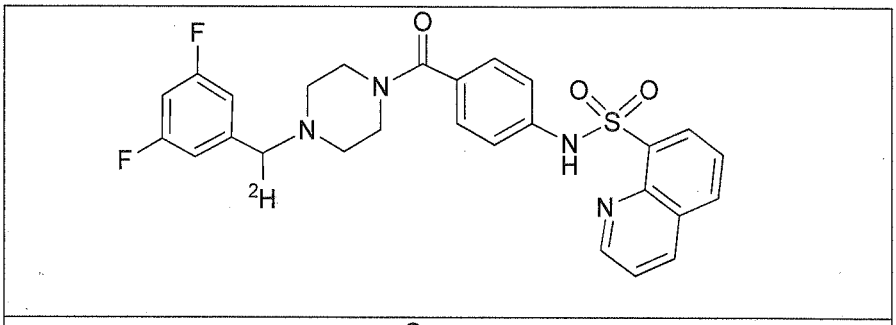


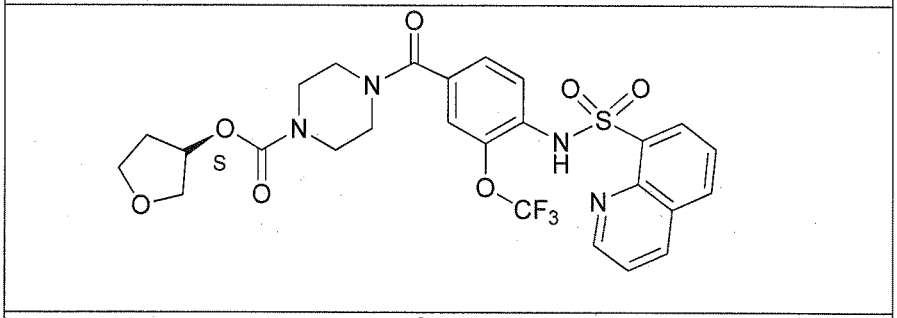


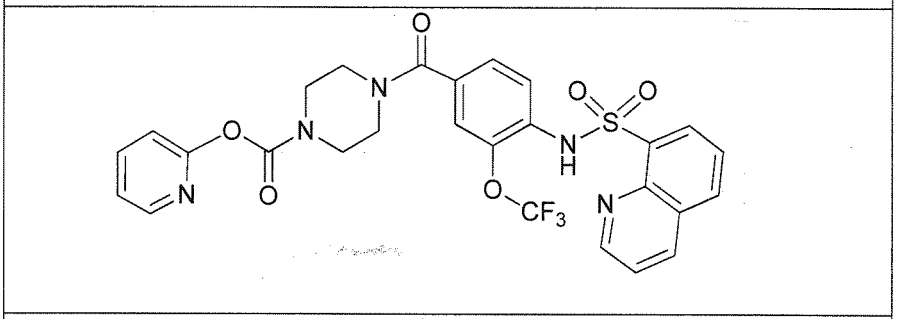


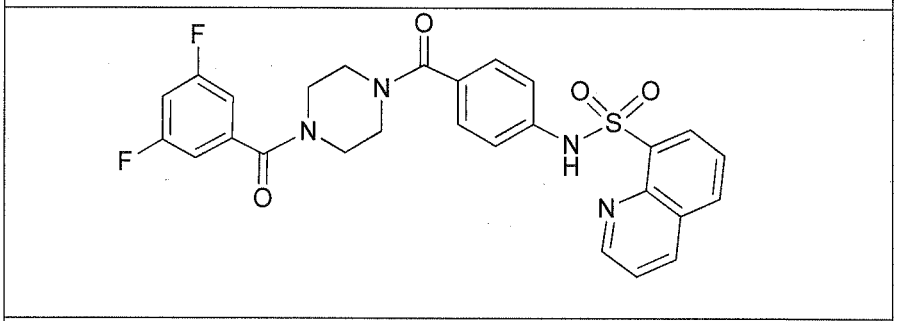


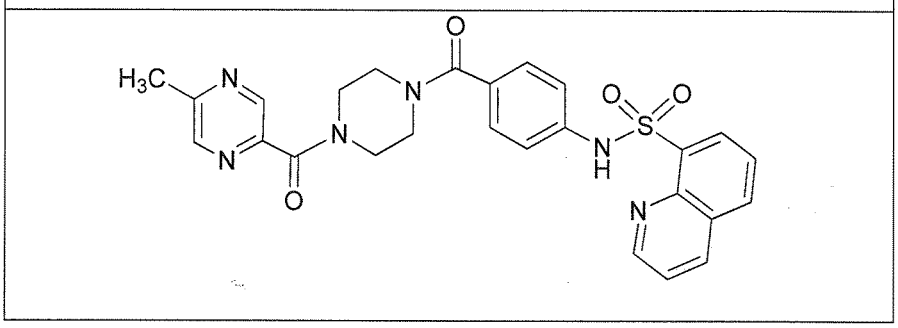


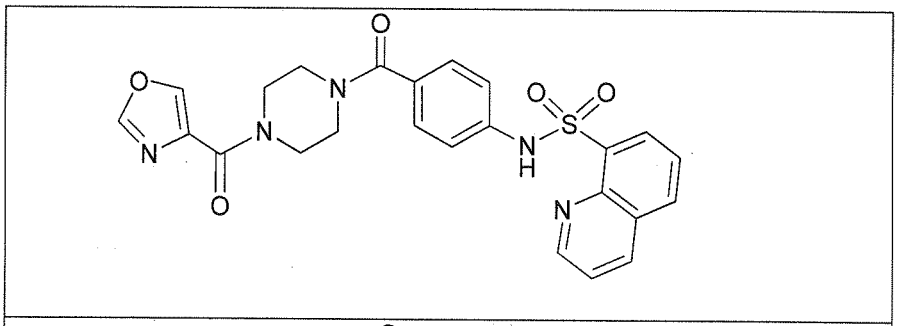


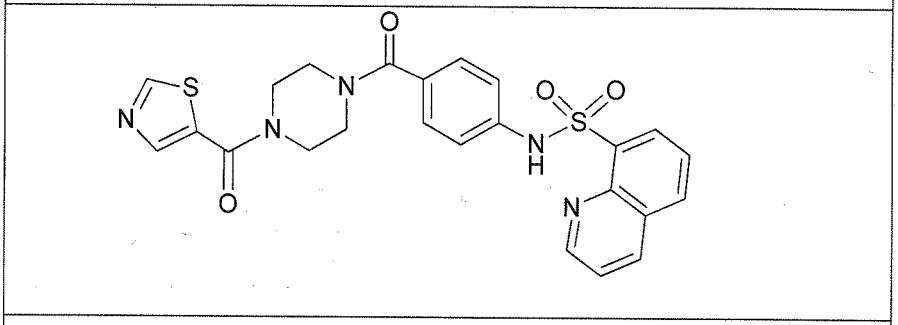


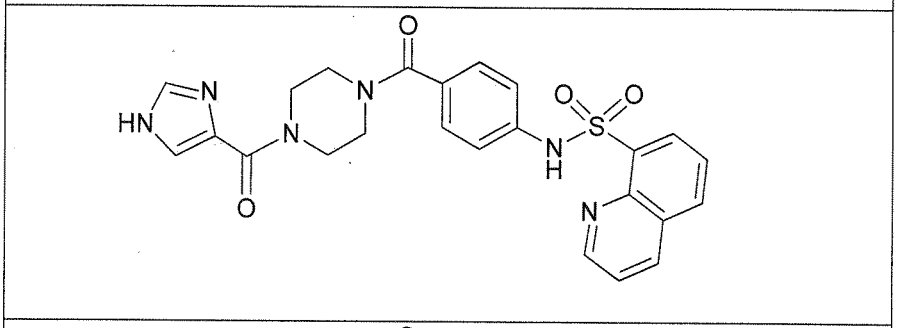


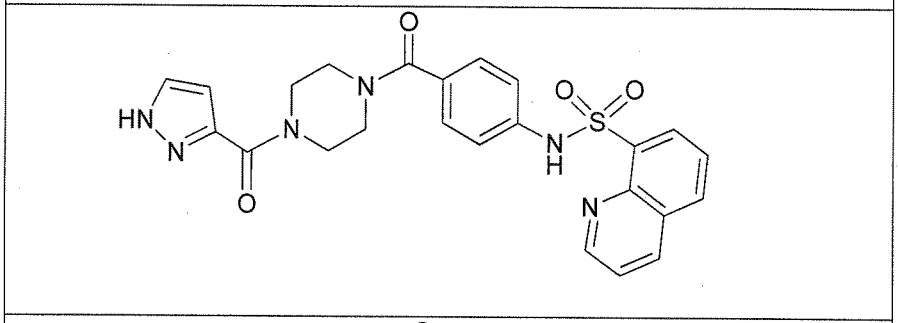


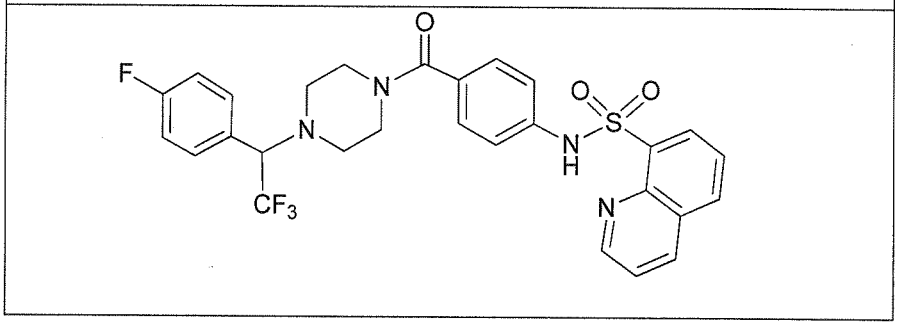


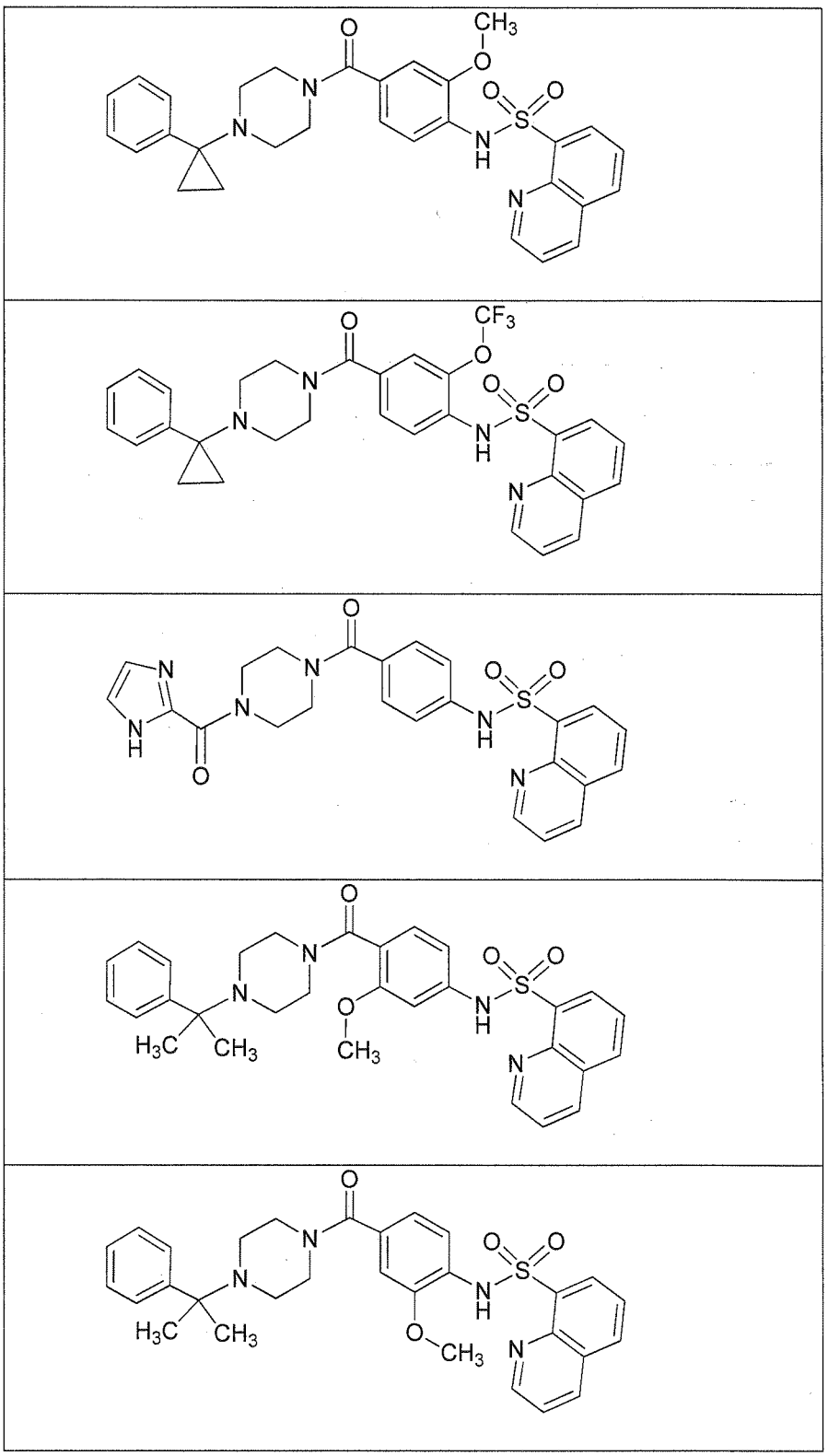


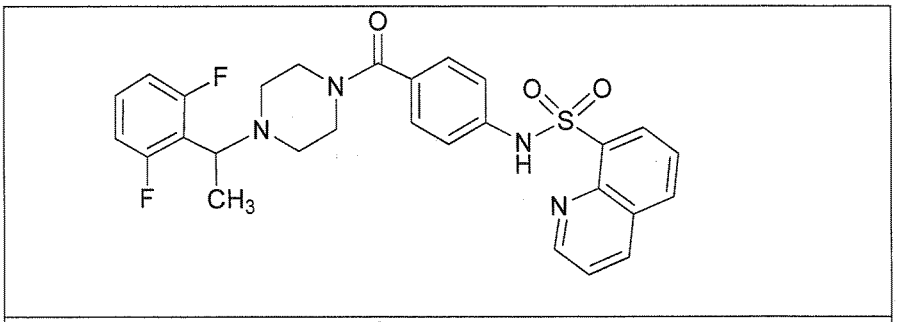


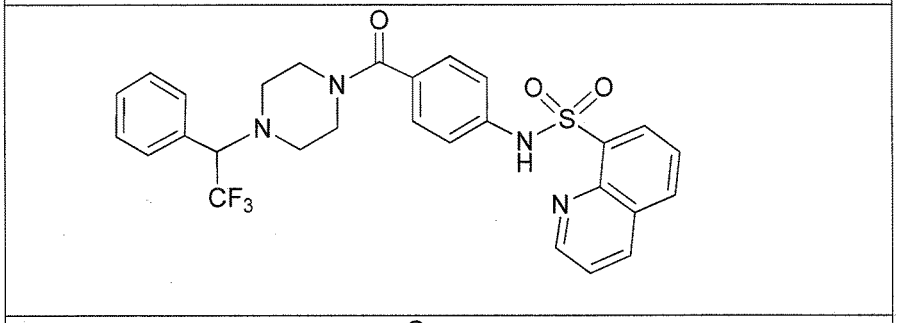


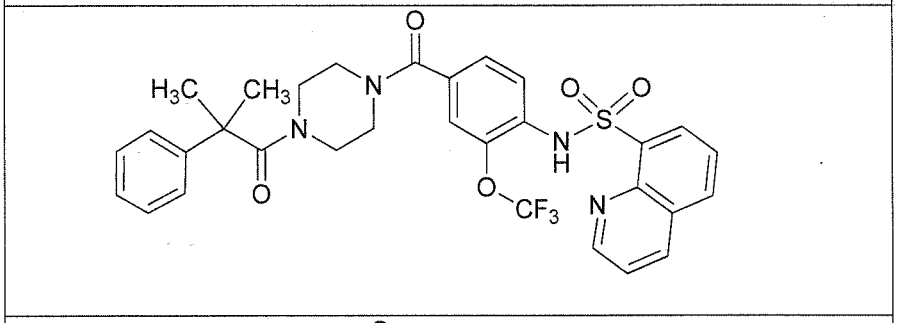


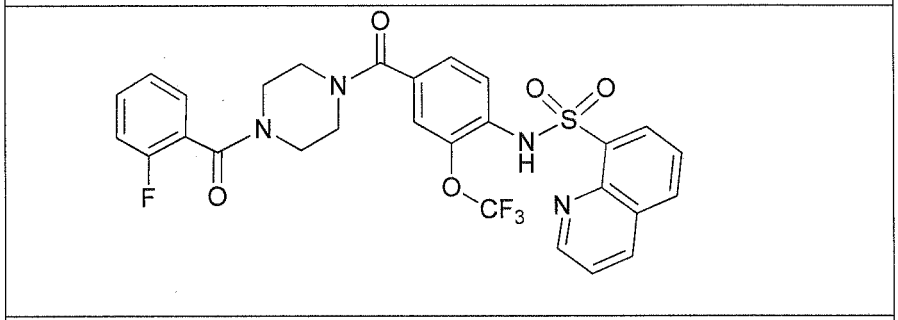


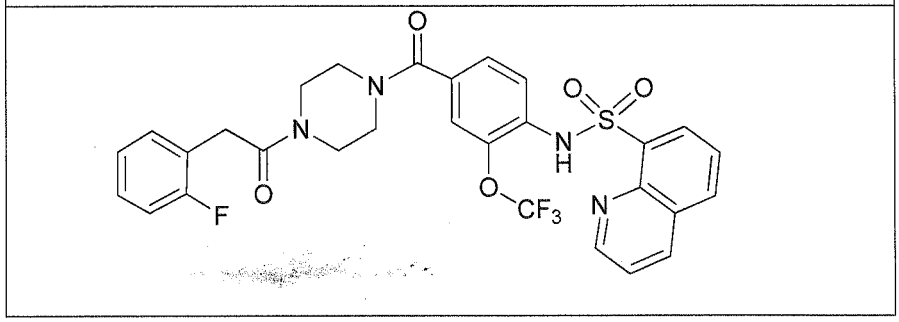


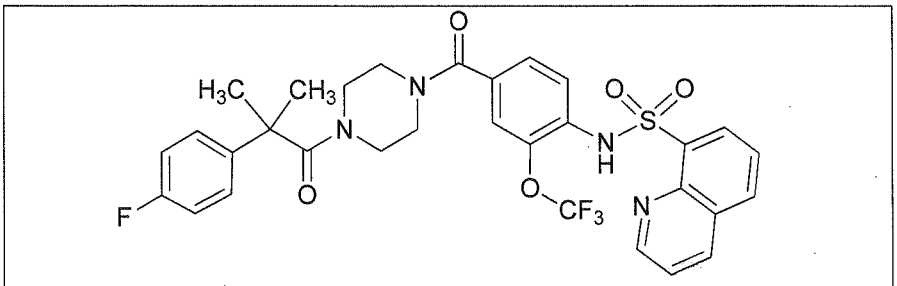


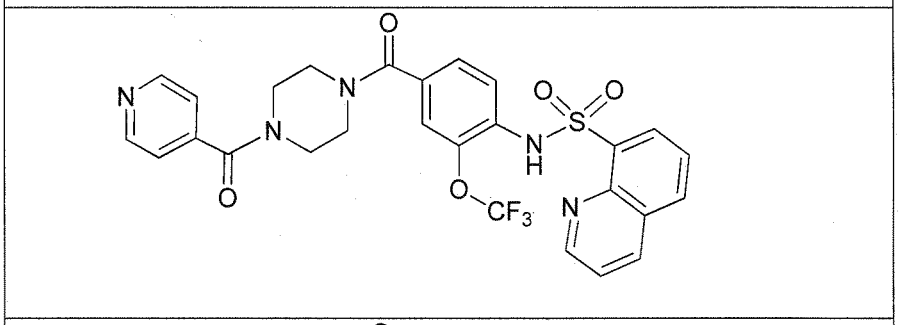


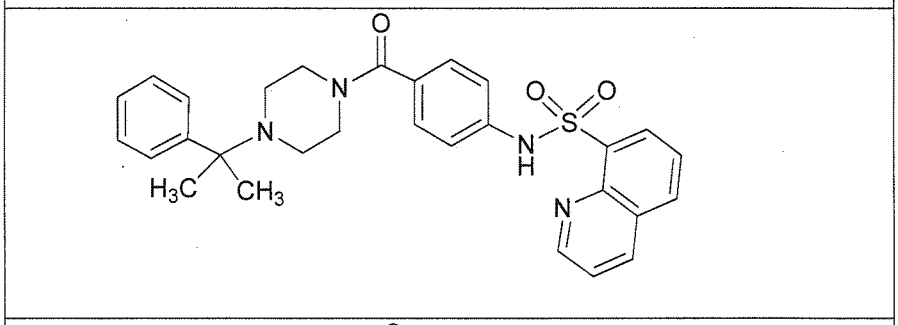


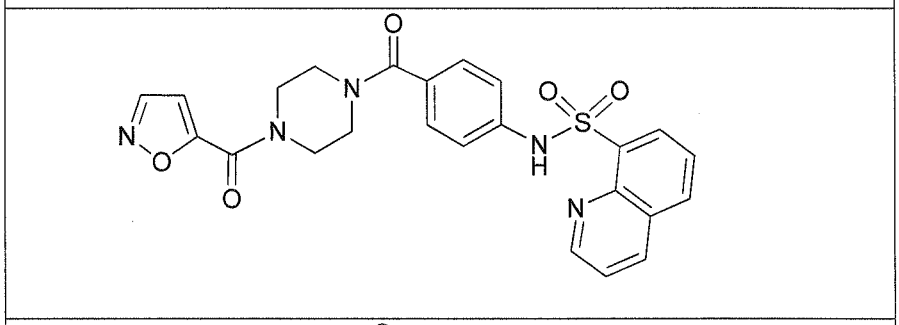


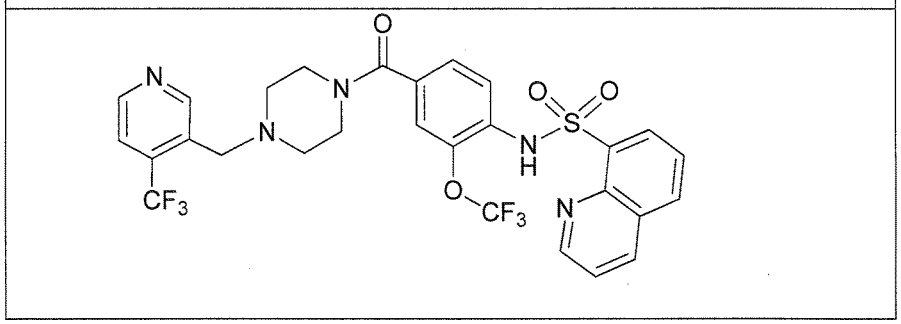


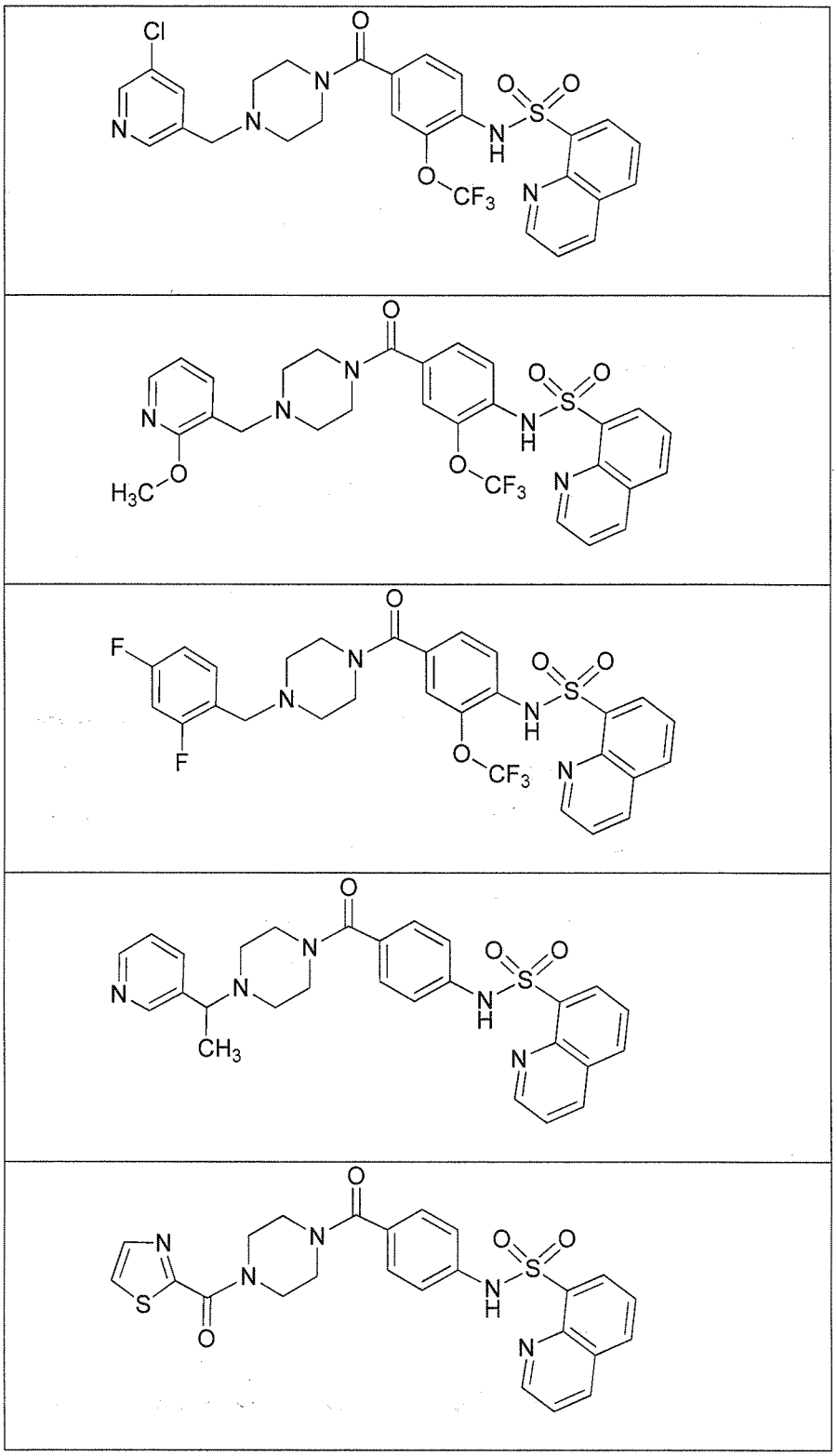


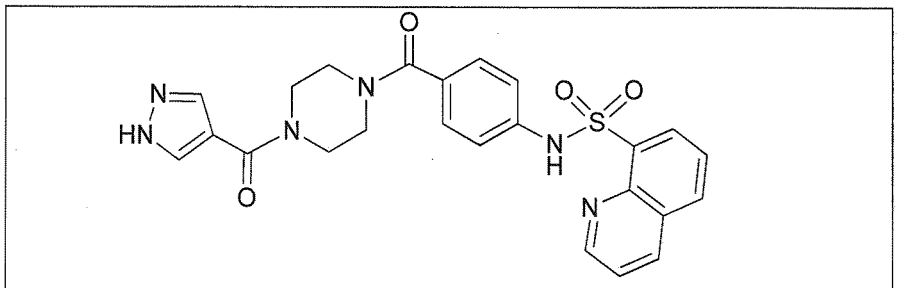


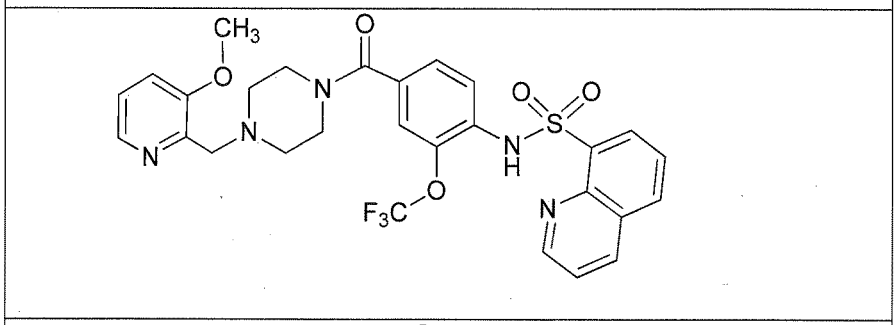


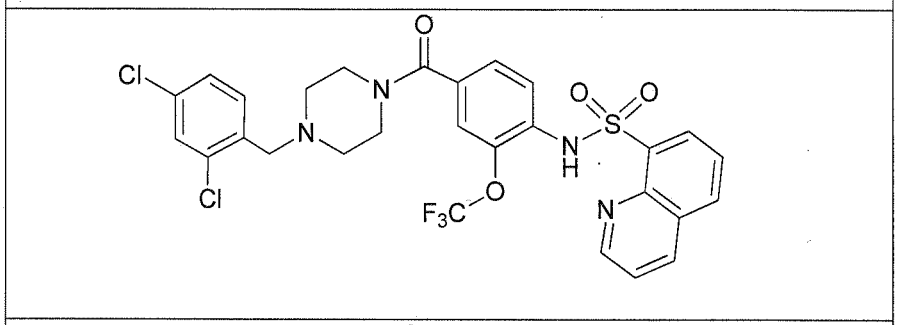


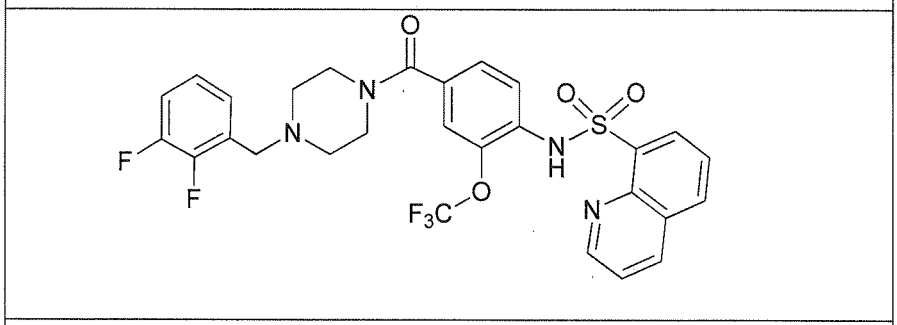


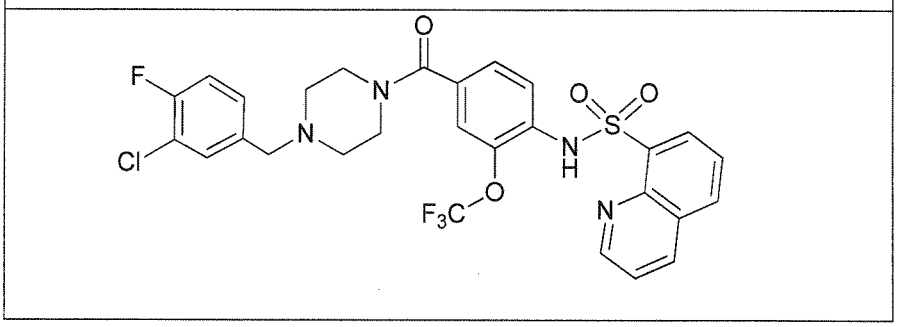


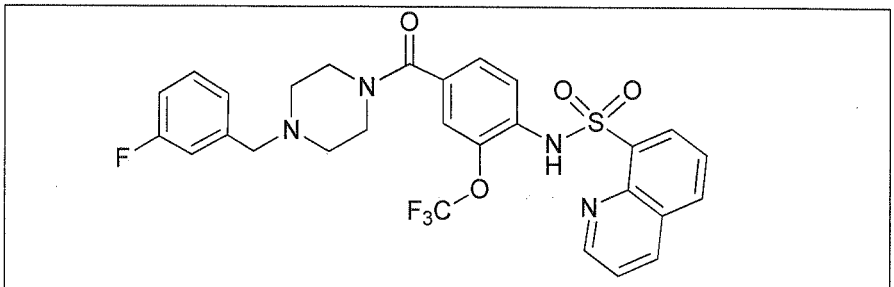


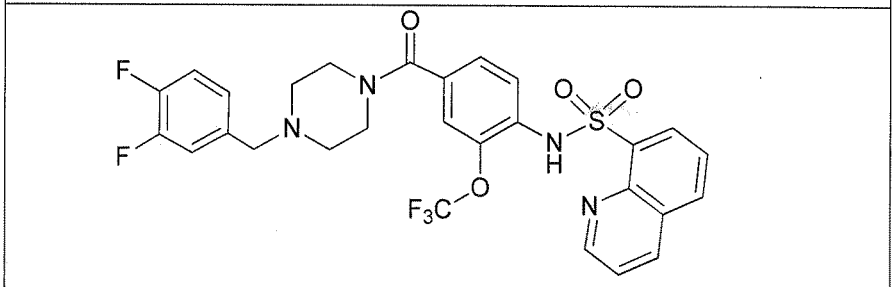


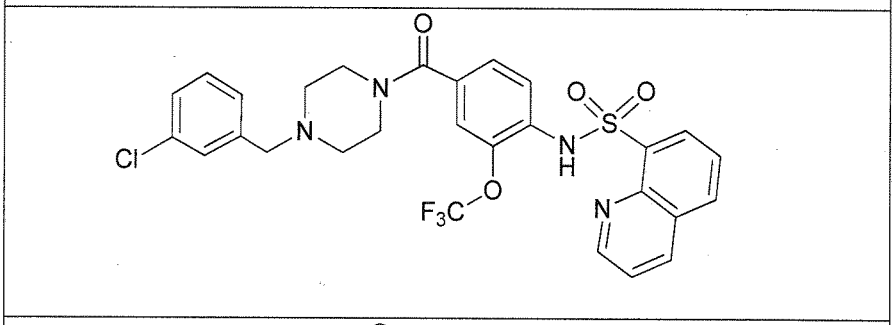


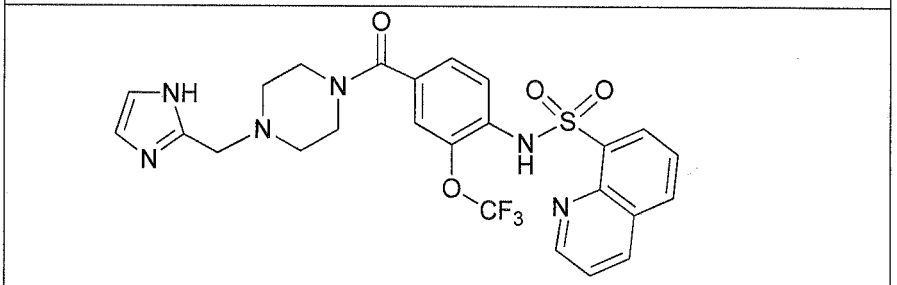


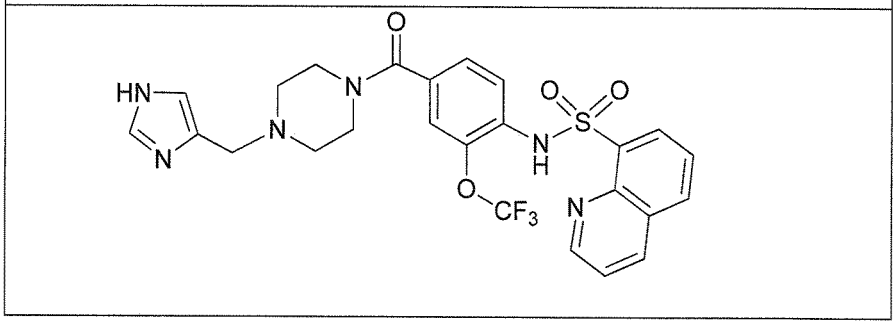


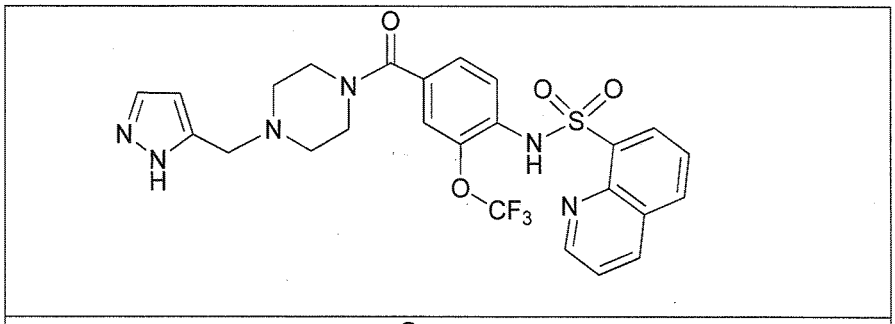


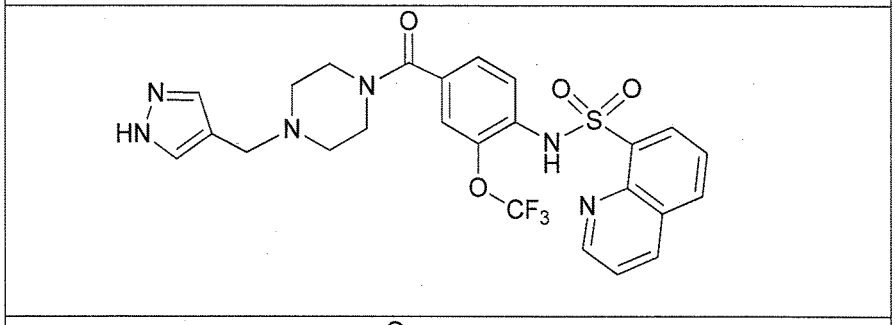


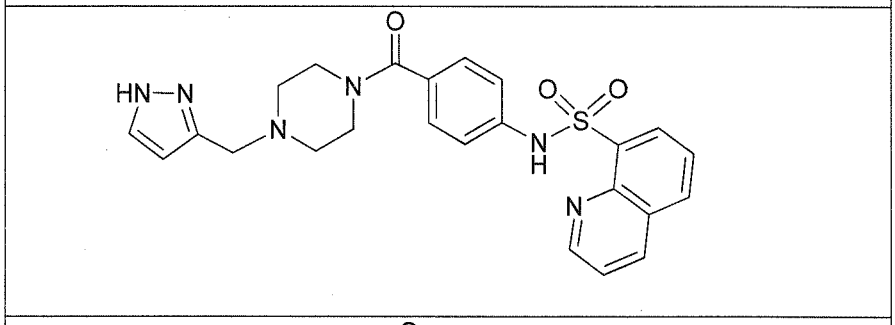


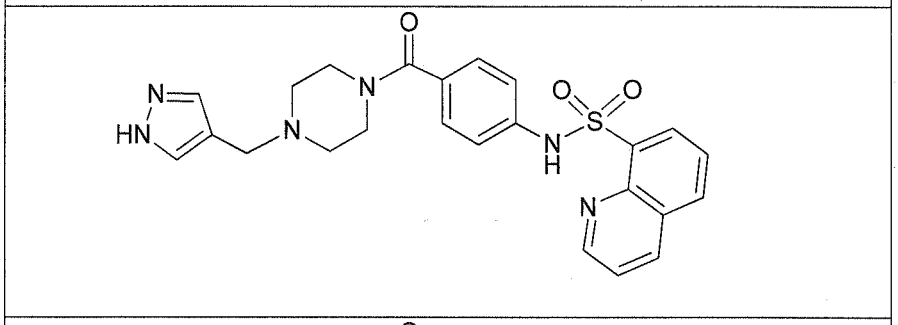


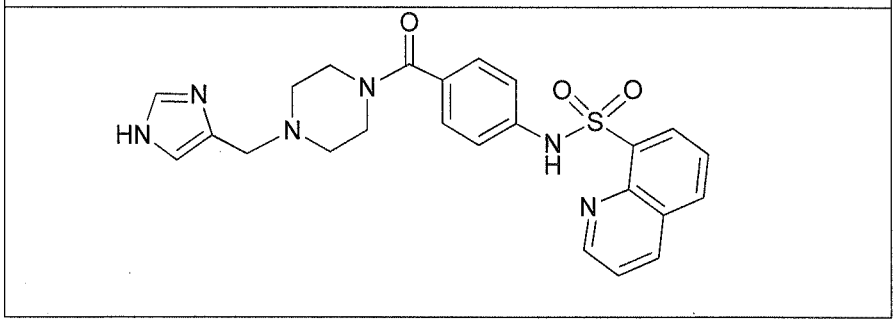


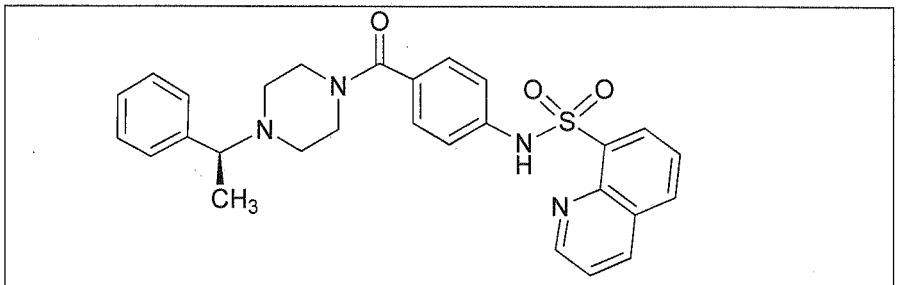


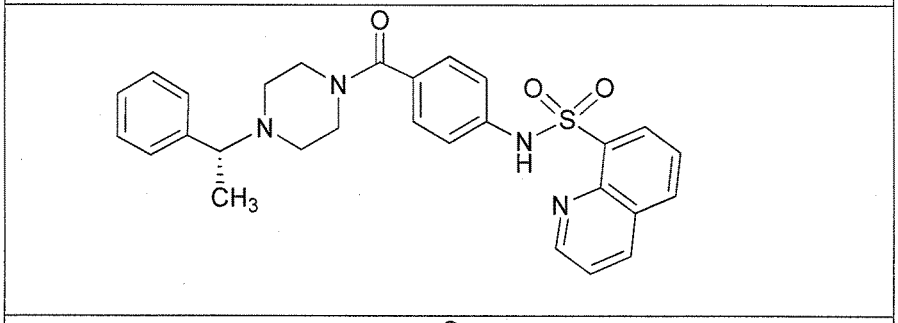


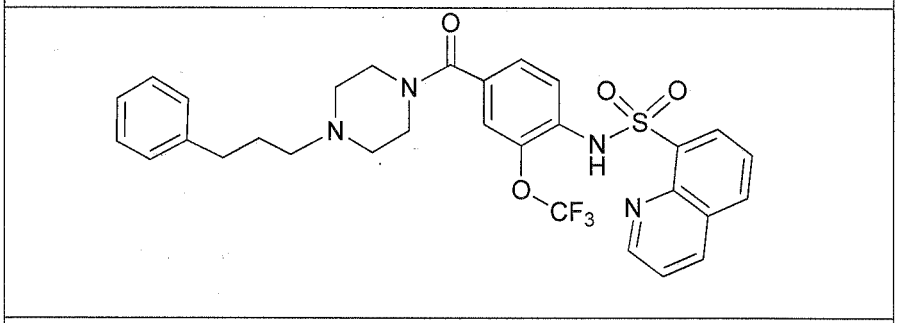


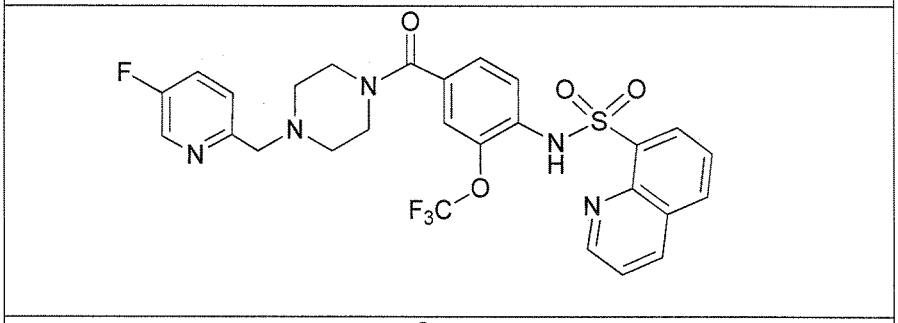


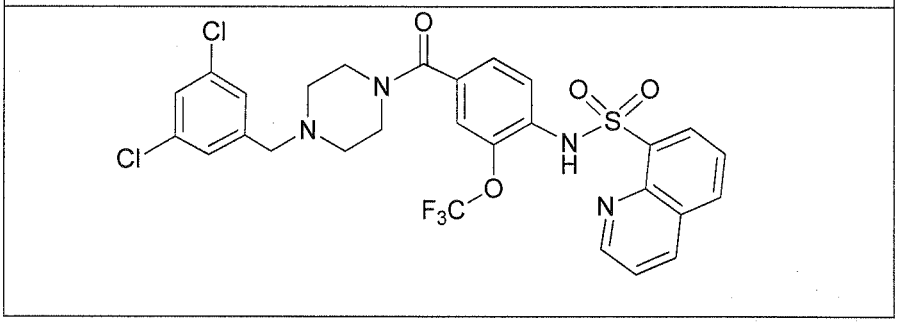


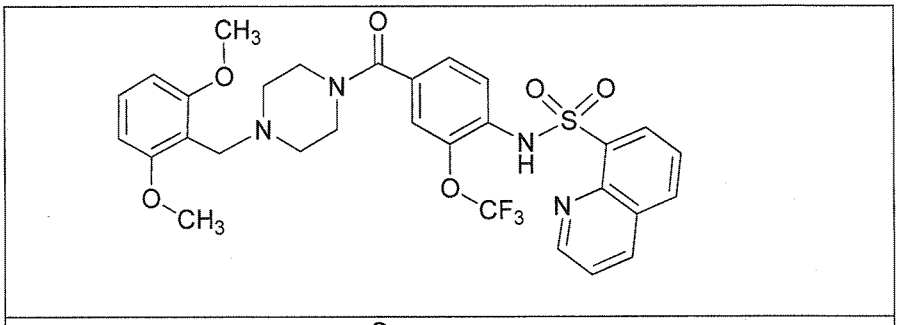


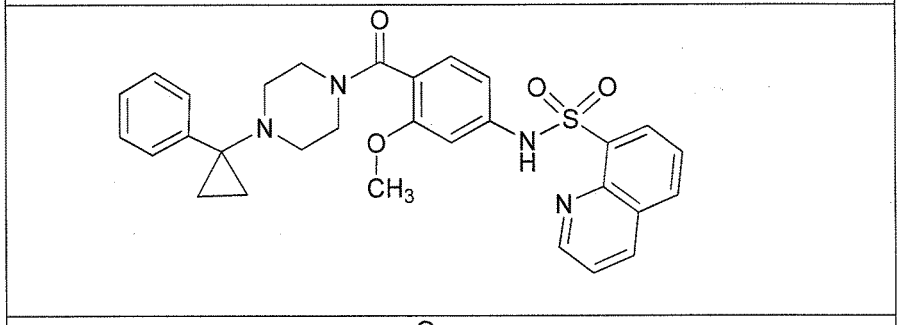


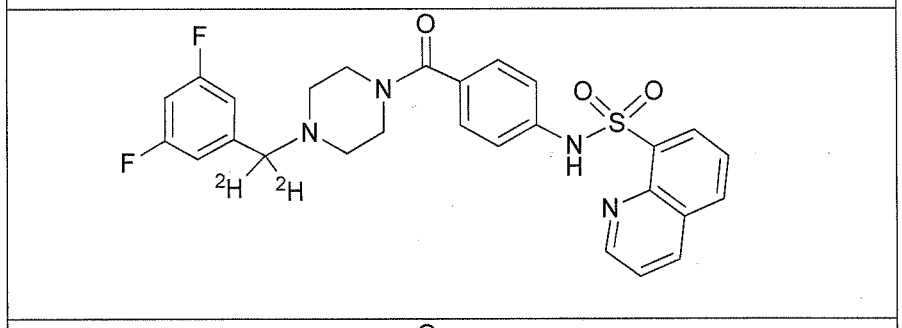


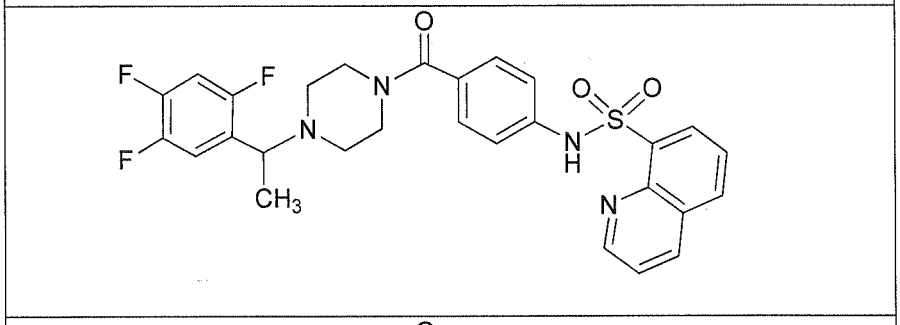


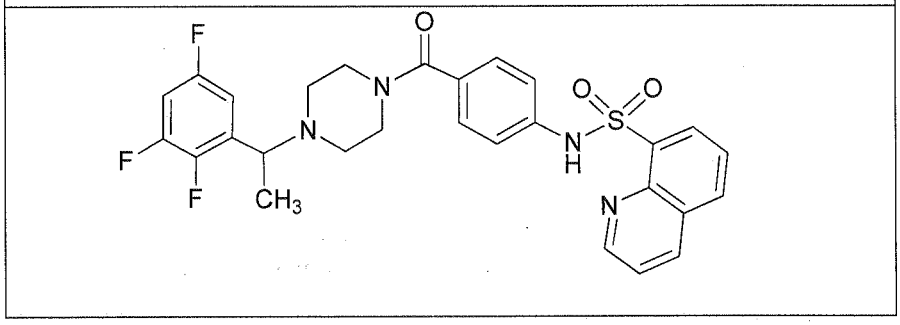


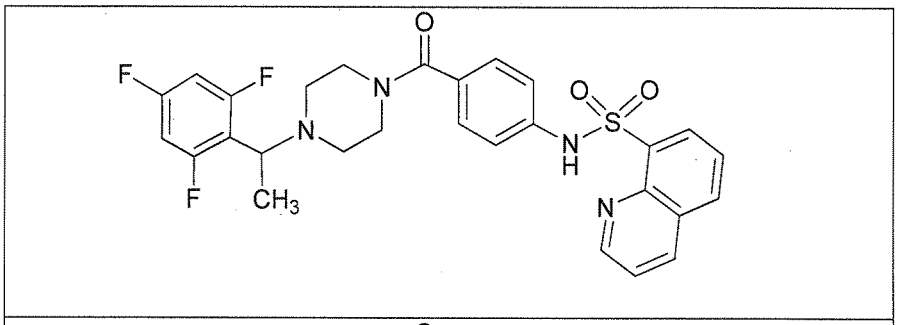


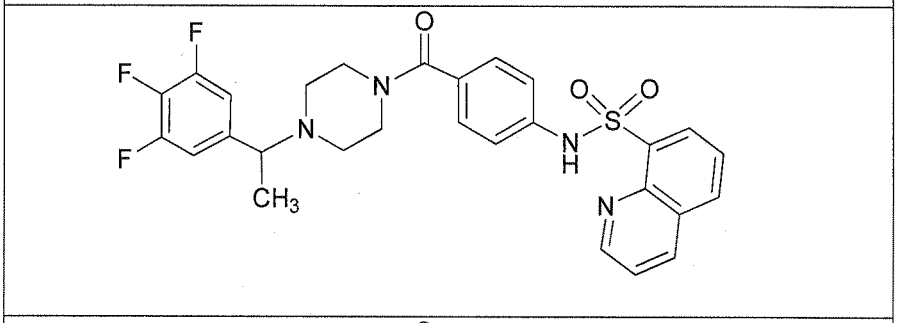


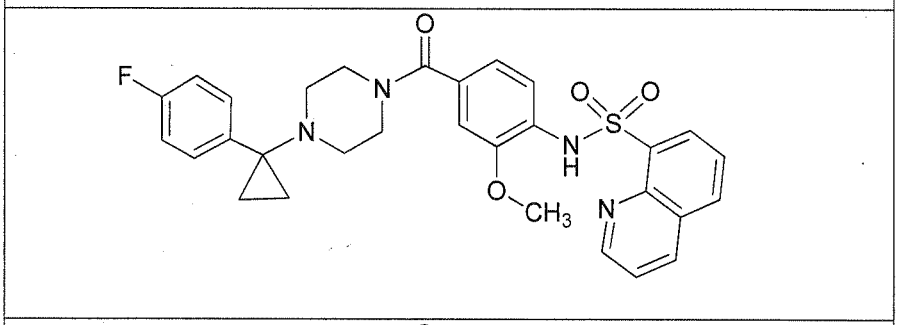


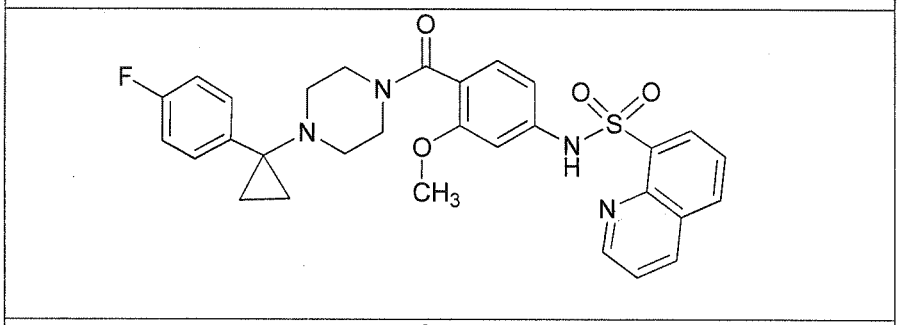


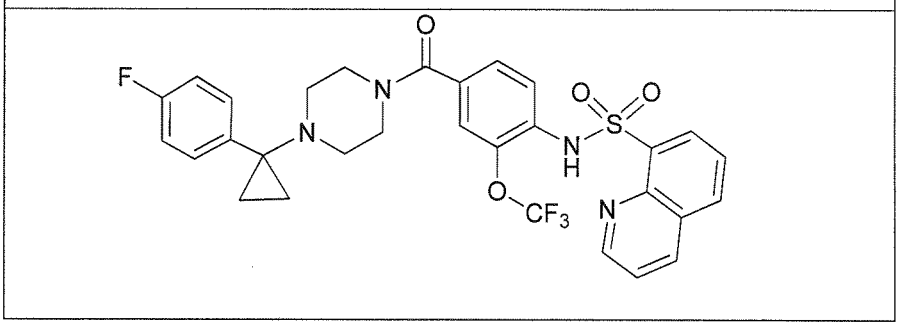


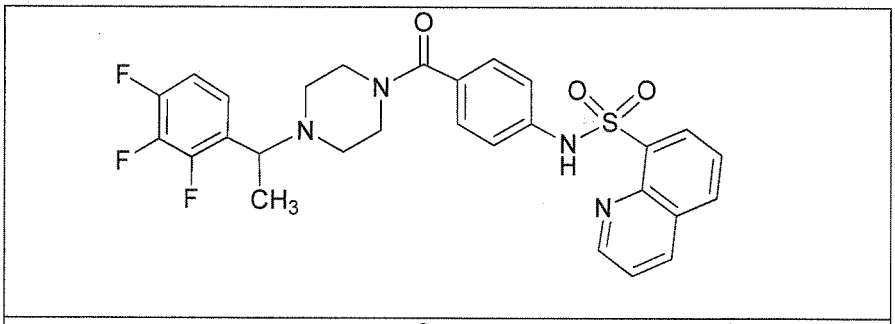


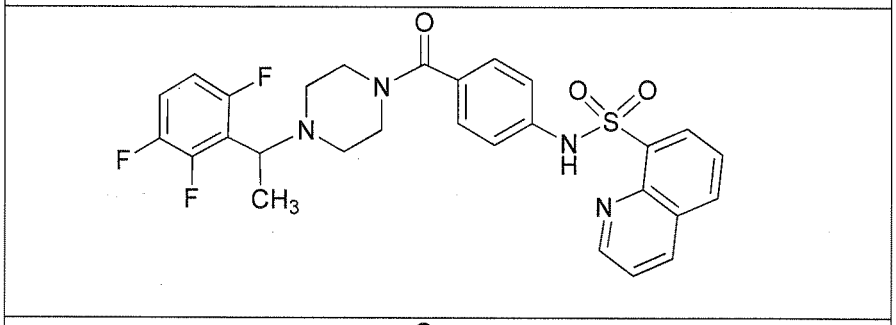


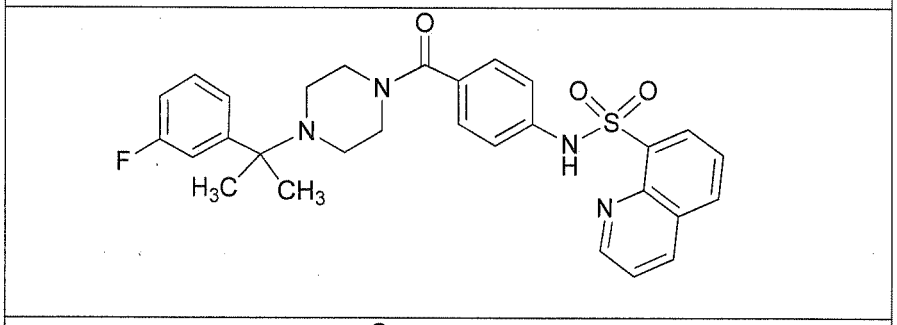


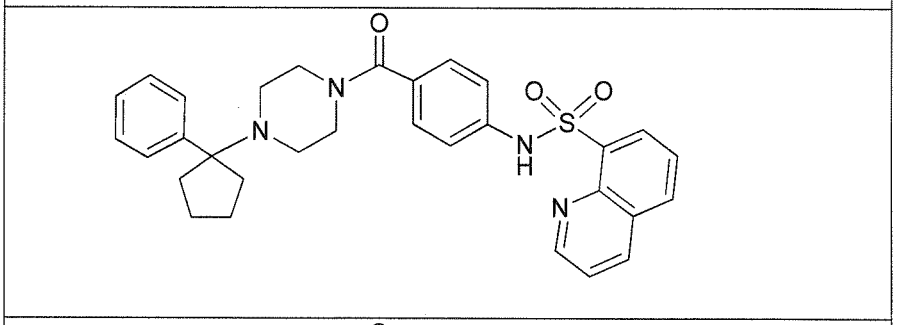


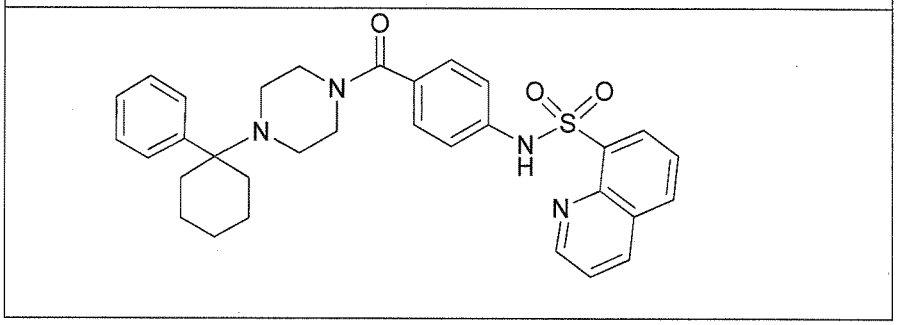


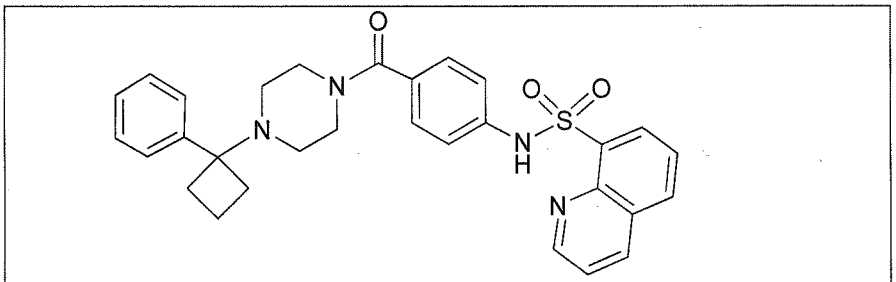


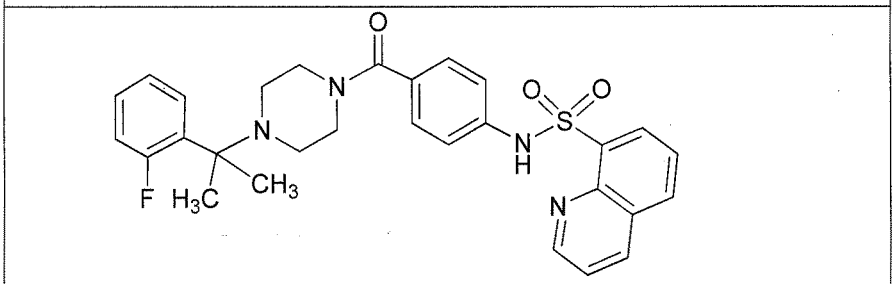


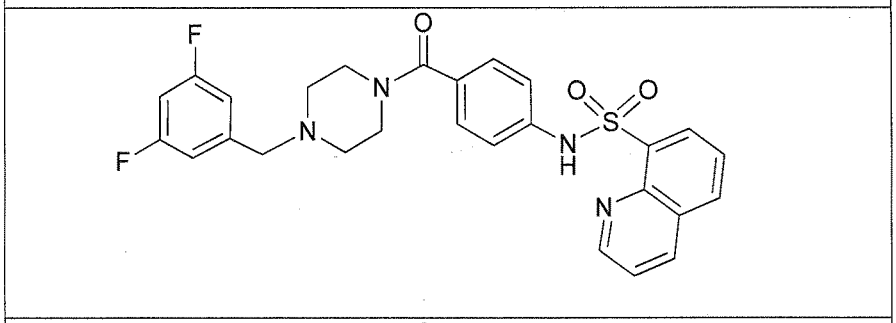


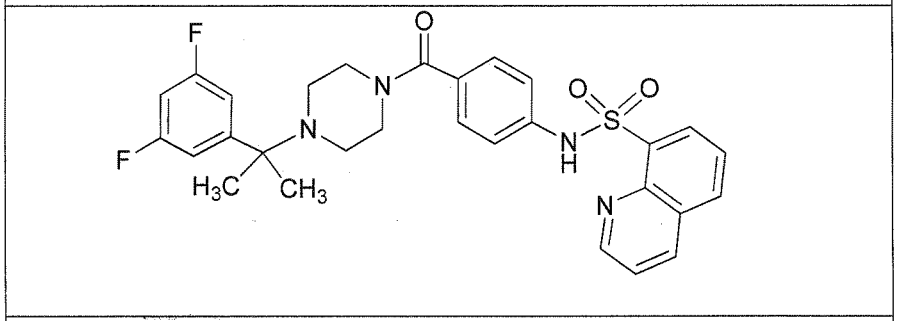


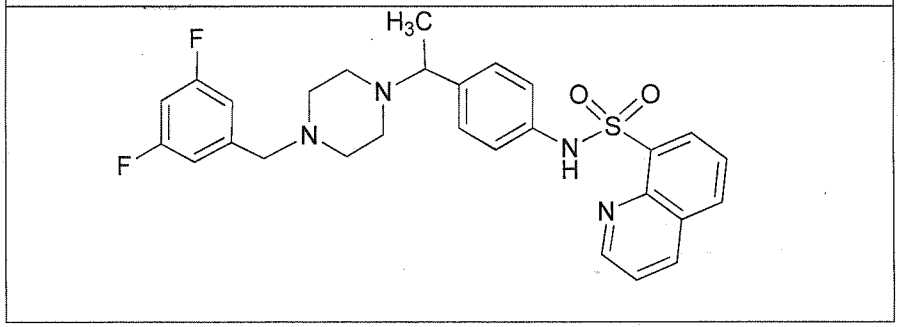


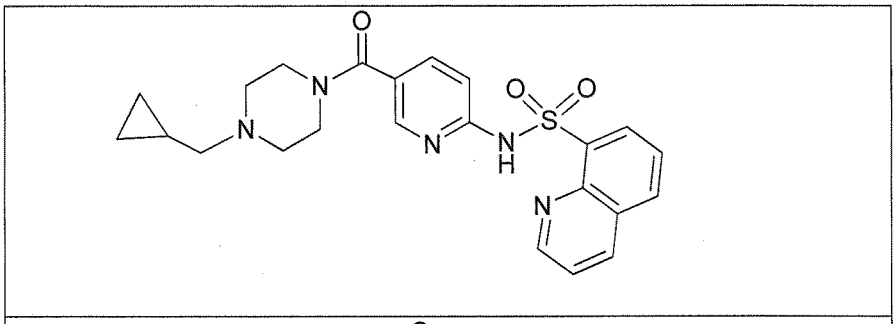


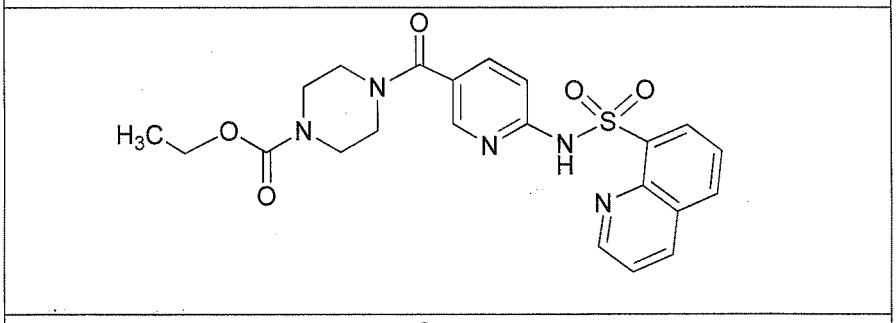


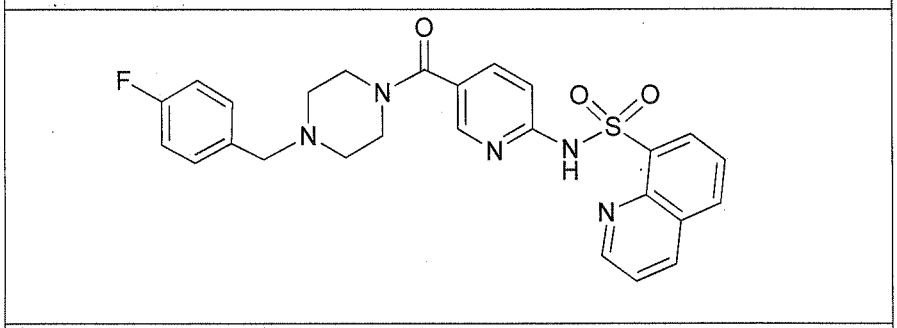


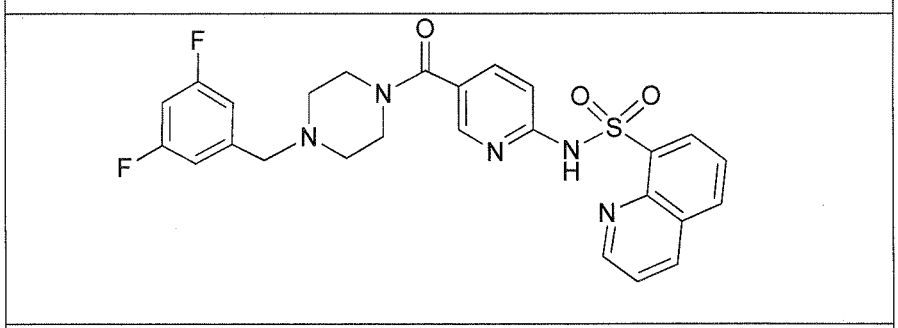


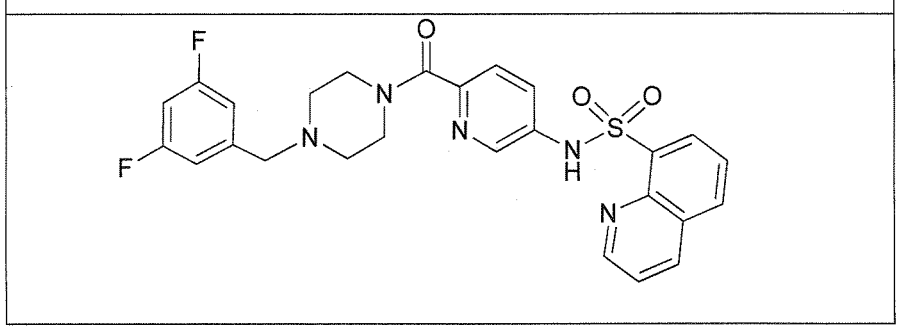


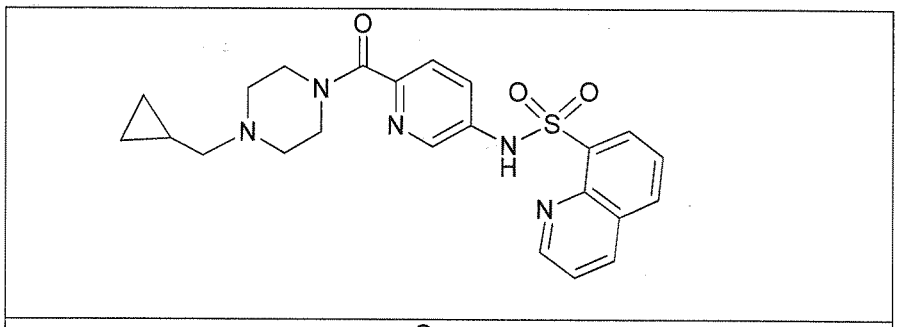


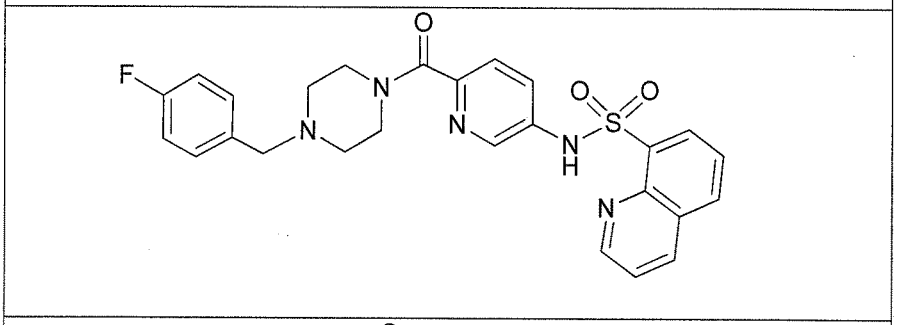


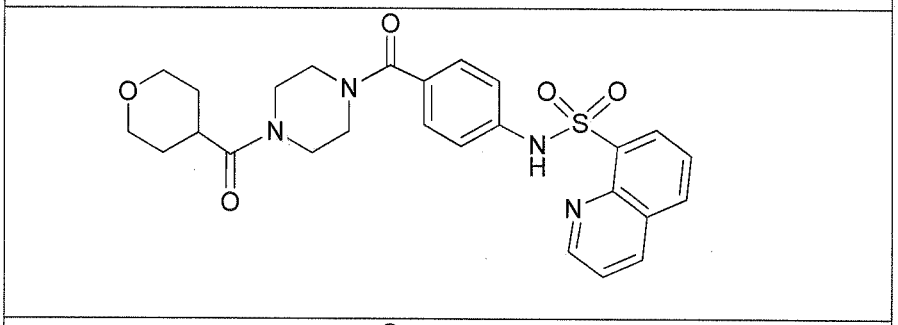


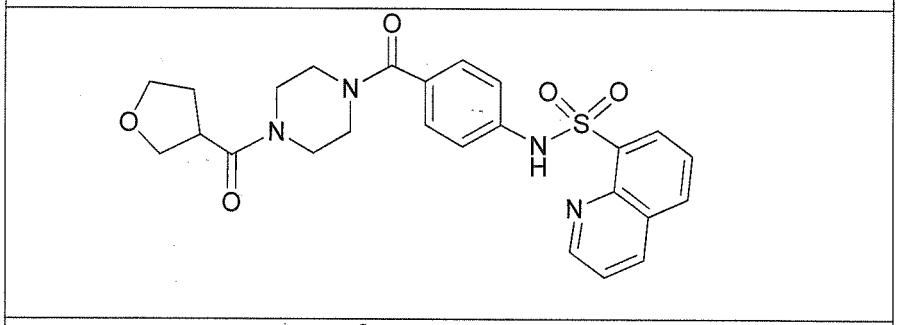


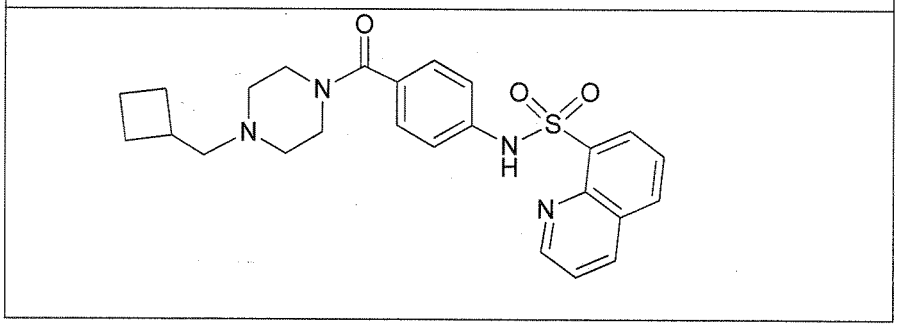


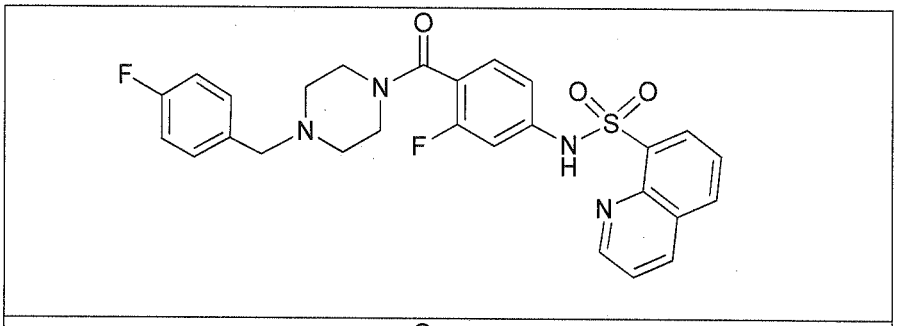


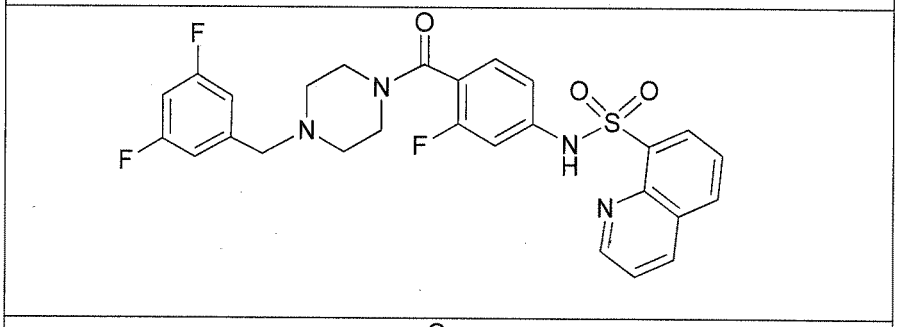


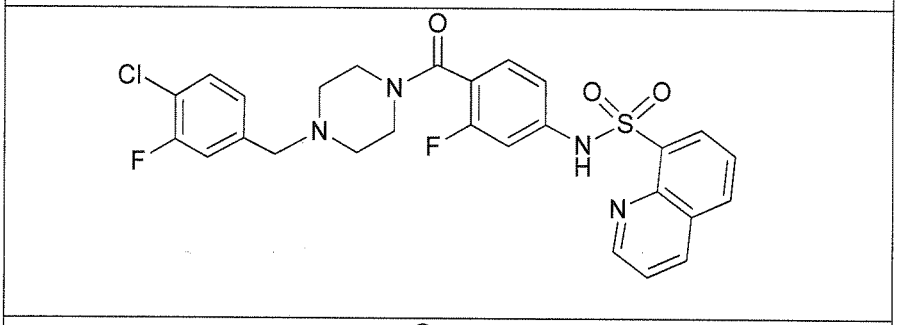


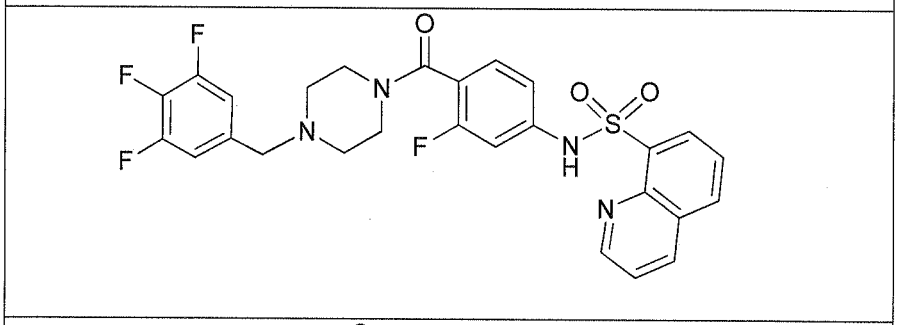


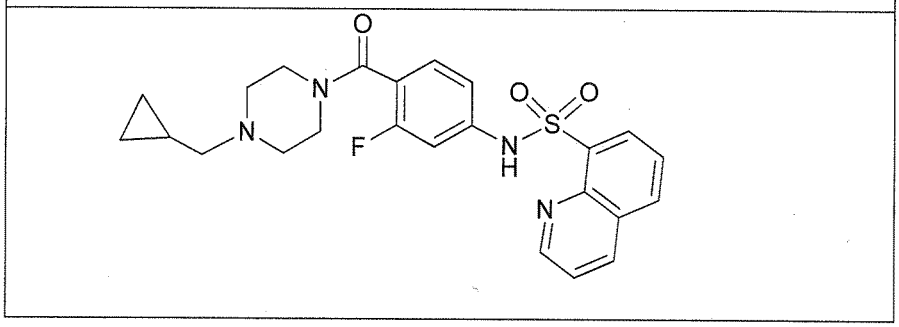


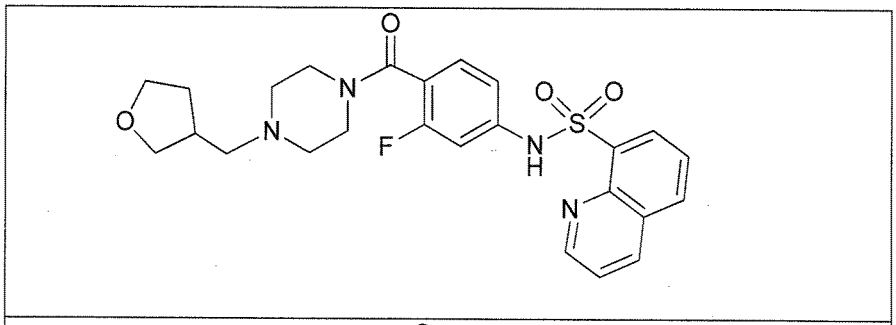


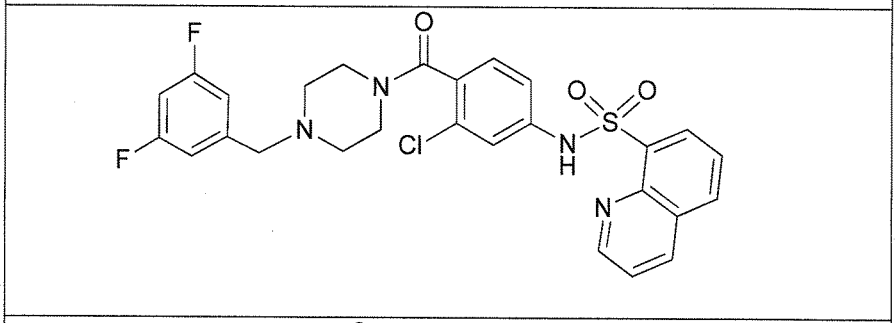


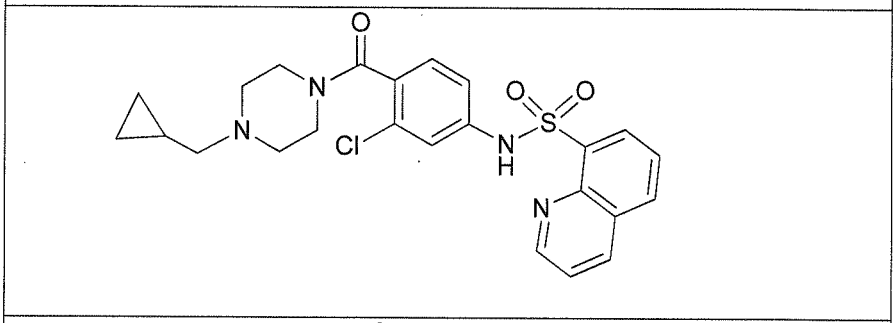


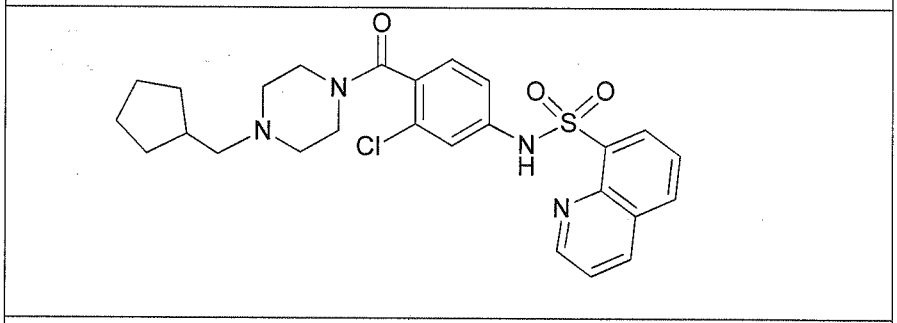


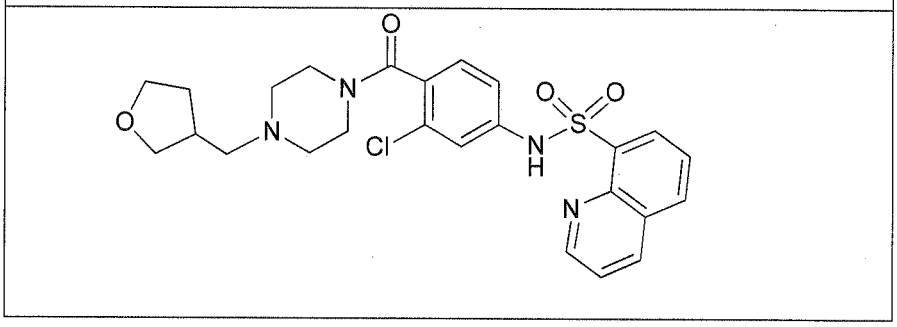


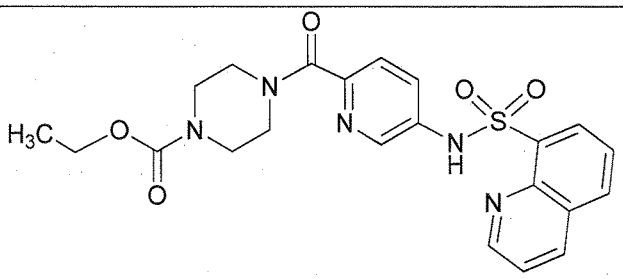


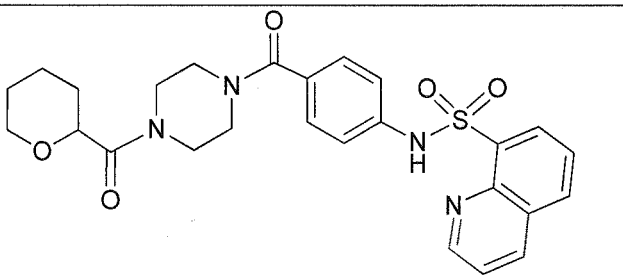


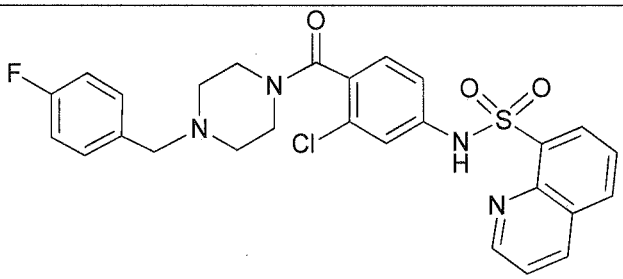


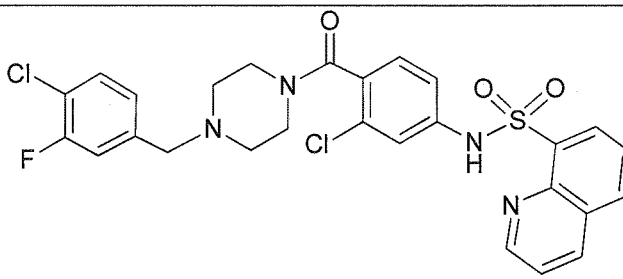


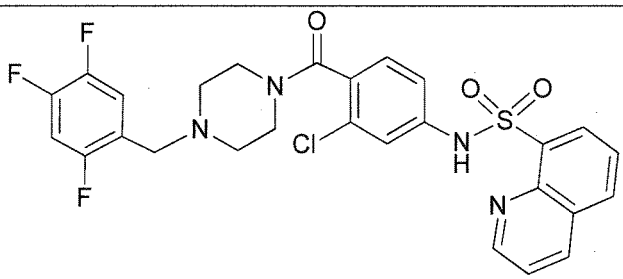


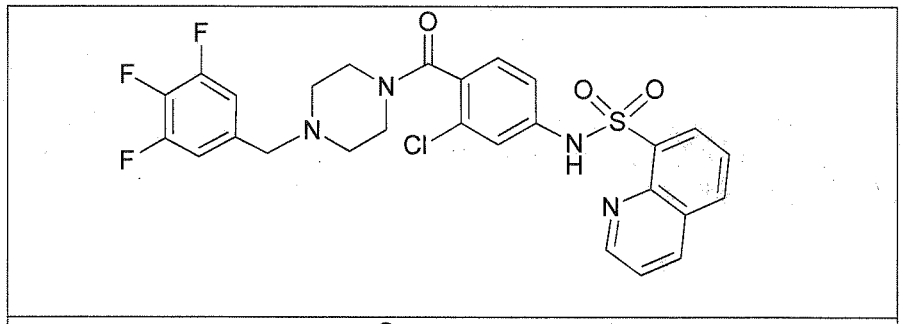


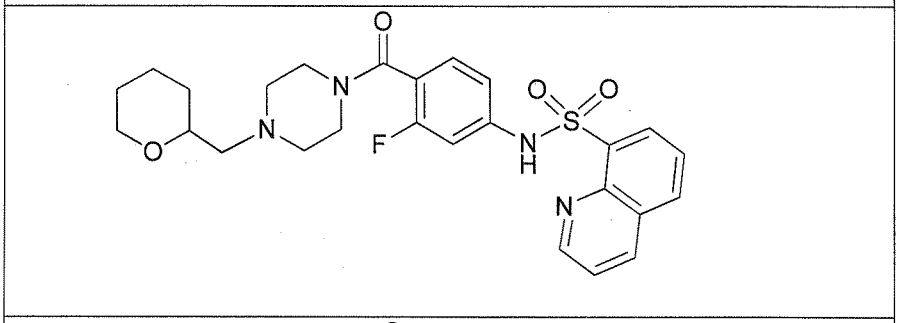


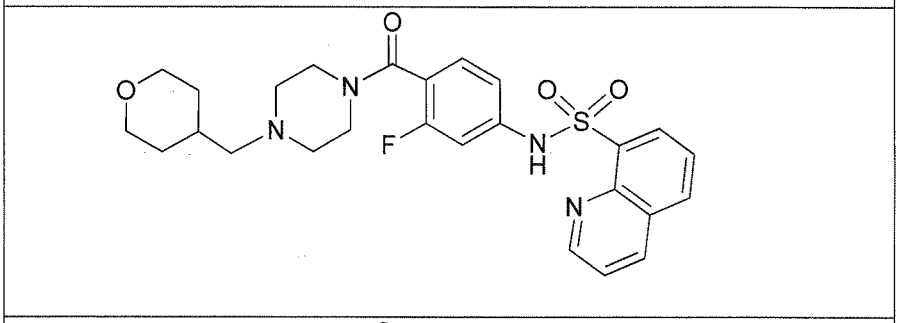


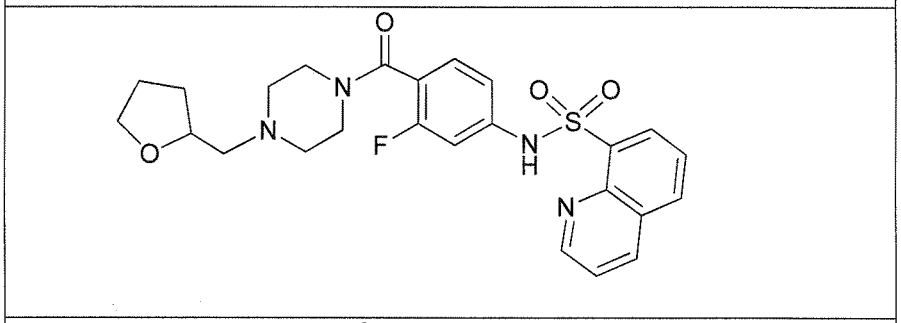


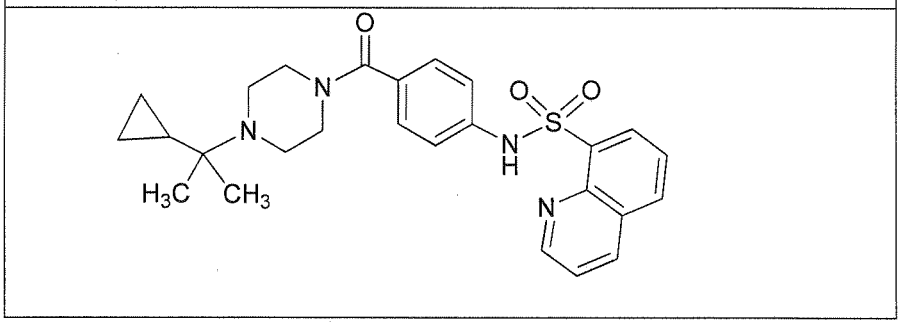


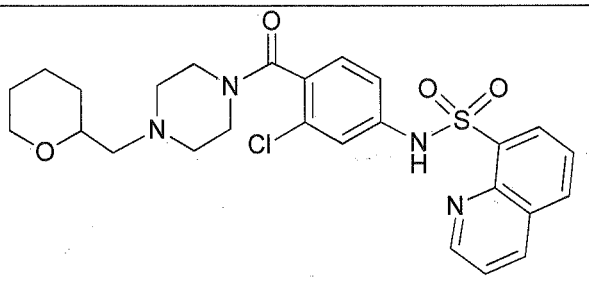


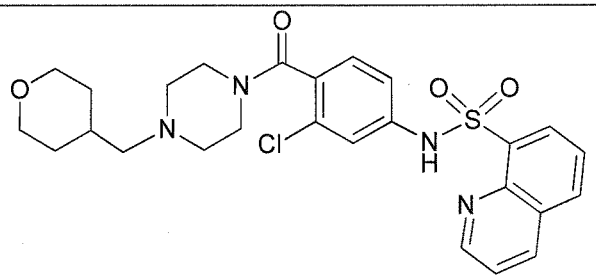


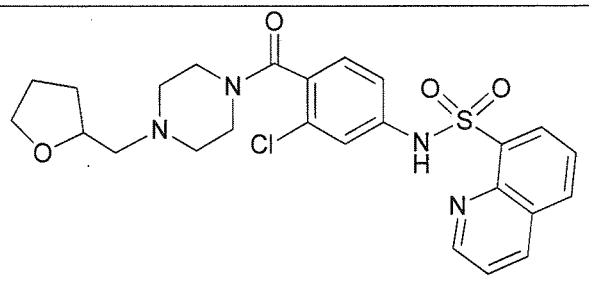


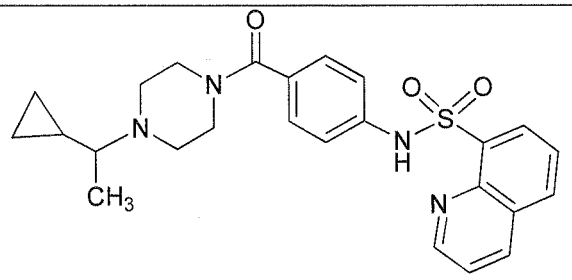




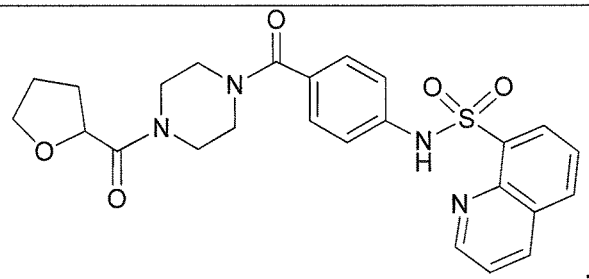




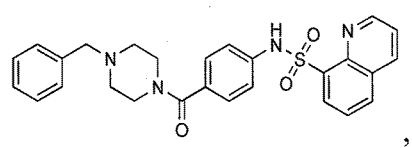
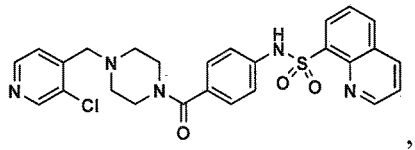
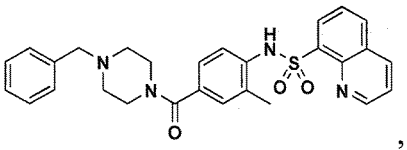
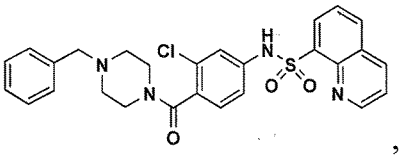
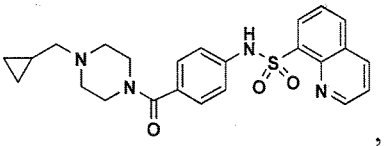
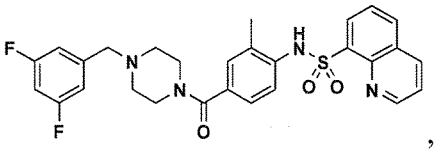
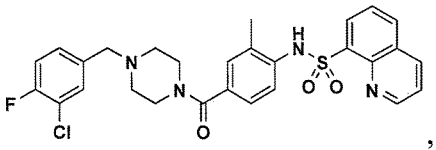
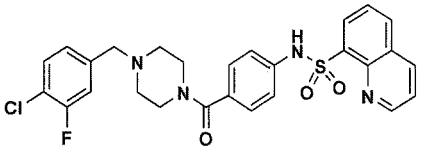
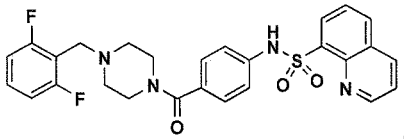
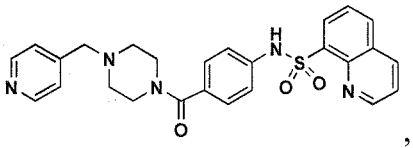
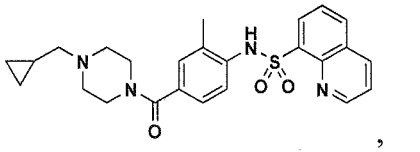
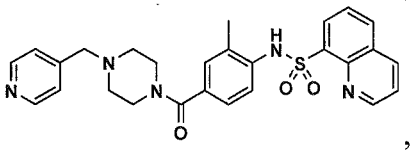
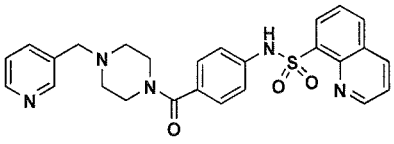
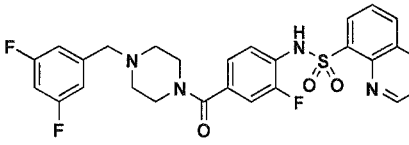
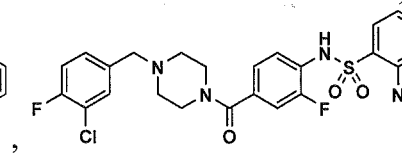
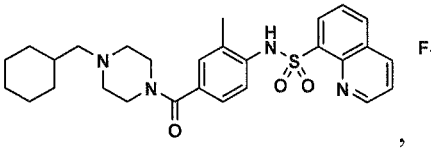
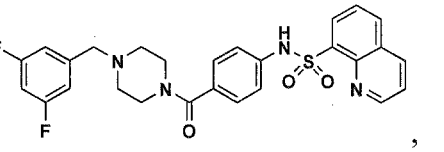
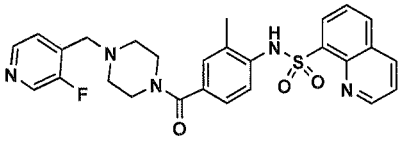
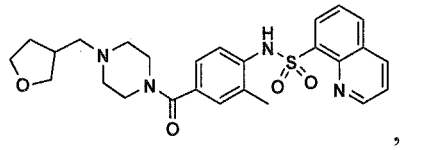




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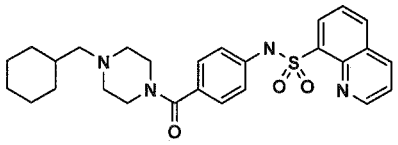
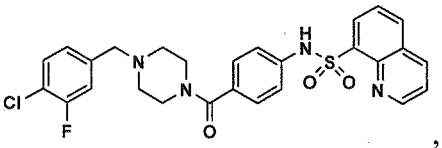
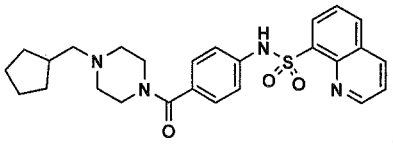
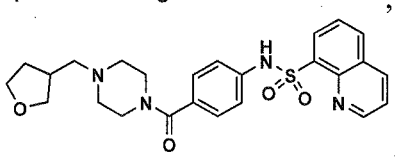


27. The use of any one of claims 1-7 or a pharmaceutically acceptable salt thereof, wherein the compound is selected from:


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