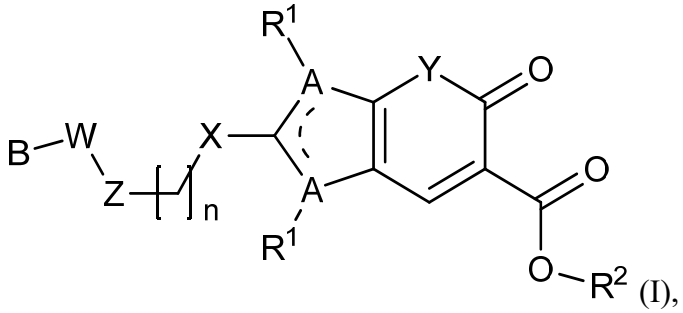
~~WHAT IS~~ CLAIM~~ED I~~S:

1. A compound represented by formula (I):



(I),

or a pharmaceutically acceptable salt thereof, wherein:

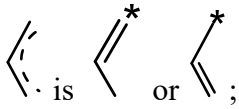
subscript n is 0, 1, or 2;

W is O, NH, or NR";

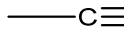
X is O or NR";

Y is O or NR";

Z is a bond, CH_2, C=O, SO_2;

 is or ;

each A is independently selected from the group consisting of N, NR", S, O, CR" and CHR";

each R^1 is independently absent or selected from the group consisting of hydrogen, halogen, C_{1-6} alkyl, CHF_2, CF_3, CN, -C(O)R", -C(O)OR", -SO_2R", -C(O)N$R"_2$, -C(O)N(OR")R" and ;

R^2 is selected from the group consisting of:

hydrogen;

-C(O)R";

-$(CH_2)_{0-4}$C(O)R";

–$(CH_2)_{0-4}$C(O)OR";

optionally substituted C_{1-6} alkyl;

an optionally substituted 3-8 membered saturated or partially unsaturated cycloalkyl ring;

an optionally substituted 3-8 membered saturated or partially unsaturated heterocycloalkyl ring having 1-2 heteroatoms independently selected from nitrogen, oxygen, and sulfur;

optionally substituted phenyl; and

an optionally substituted 5-6 membered heteroaryl ring having 1-4 heteroatoms independently selected from nitrogen, oxygen, and sulfur;

B is a ring selected from the group consisting of:

a 3-8 membered saturated or partially unsaturated monocyclic carbocyclic ring,

phenyl,

a 8-10 membered bicyclic aryl ring,

a 3-8 membered saturated or partially unsaturated monocyclic or bicyclic heterocyclic ring having 1-2 heteroatoms independently selected from nitrogen, oxygen, and sulfur,

a 5-6 membered monocyclic heteroaryl ring having 1-4 heteroatoms independently selected from nitrogen, oxygen, and sulfur, and

a 8-10 membered bicyclic heteroaryl ring having 1-4 heteroatoms independently selected from nitrogen, oxygen, and sulfur,

wherein B is optionally substituted with one or more substituents selected from R' and R";

R' is selected from the group consisting of OH, C_{1-6} haloalkyl, C_{1-6} alkoxy, C_{1-6} haloalkoxy, and O-phenyl optionally substituted with halogen, C_{1-6} alkyl, or C_{1-6} alkoxy;

R" is selected from the group consisting of:

R^1;

a 3-8 membered saturated or partially unsaturated cycloalkyl ring, optionally substituted with halogen or C_{1-6} alkyl;

a 3-8 membered saturated or partially unsaturated heterocycloalkyl ring having 1-2 heteroatoms independently selected from nitrogen, oxygen, and sulfur, said ring optionally substituted with halogen or C_{1-6} alkyl;

phenyl optionally substituted with halogen, C_{1-6} alkyl, or C_{1-6} alkoxy; and

a 5-6 membered heteroaryl ring having 1-4 heteroatoms independently selected from nitrogen, oxygen, and sulfur, said ring optionally substituted with halogen or C_{1-6} alkyl.

2. The compound of claim **1**, wherein:

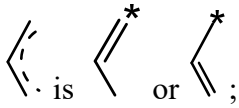
subscript n is 0, 1, or 2;

W is O, NH, or NR";

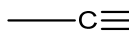
X is O or NR";

Y is O or NR";

Z is a bond, CH_2, C=O, SO_2;

 is or ;

each A is independently selected from the group consisting of N, NR", S, O, CR" and CHR";

R^1, when present, is selected from the group consisting of hydrogen, halogen, $C_{1\text{-}6}$ alkyl, CHF_2, CF_3, CN, -C(O)R", -C(O)OR", $-SO_2R$", -C(O)NR"$_2$, -C(O)N(OR")R" and ;

R^2 is selected from the group consisting of:

hydrogen;

-C(O)R";

$-(CH_2)_{0\text{–}4}C(O)R$";

$–(CH_2)_{0\text{–}4}C(O)OR$";

optionally substituted $C_{1\text{-}6}$ alkyl;

an optionally substituted 3-8 membered saturated or partially unsaturated cycloalkyl ring;

an optionally substituted 3-8 membered saturated or partially unsaturated heterocycloalkyl ring having 1-2 heteroatoms independently selected from nitrogen, oxygen, and sulfur;

optionally substituted phenyl; and

an optionally substituted 5-6 membered heteroaryl ring having 1-4 heteroatoms independently selected from nitrogen, oxygen, and sulfur;

B is a ring selected from the group consisting of:

a 3-8 membered saturated or partially unsaturated monocyclic carbocyclic ring;

phenyl;

a 8-10 membered bicyclic aryl ring;

a 3-8 membered saturated or partially unsaturated monocyclic or bicyclic heterocyclic ring having 1-2 heteroatoms independently selected from nitrogen, oxygen, and sulfur;

a 5-6 membered monocyclic heteroaryl ring having 1-4 heteroatoms independently selected from nitrogen, oxygen, and sulfur; and

a 8-10 membered bicyclic heteroaryl ring having 1-4 heteroatoms independently selected from nitrogen, oxygen, and sulfur,

wherein B is optionally substituted with one or more R" substituents;

R" is selected from the group consisting of:

R^1;

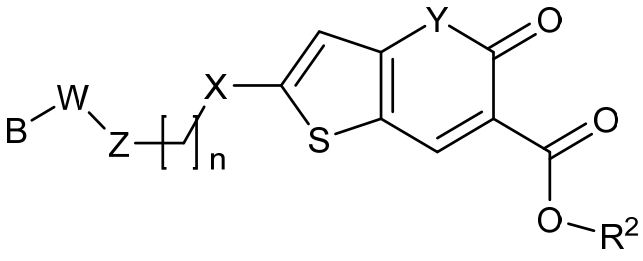
a 3-8 membered saturated or partially unsaturated cycloalkyl ring, optionally substituted with halogen or C_{1-6} alkyl;

a 3-8 membered saturated or partially unsaturated heterocycloalkyl ring having 1-2 heteroatoms independently selected from nitrogen, oxygen, and sulfur, said ring optionally substituted with halogen or C_{1-6} alkyl;

phenyl optionally substituted with halogen or C_{1-6} alkyl; and

a 5-6 membered heteroaryl ring having 1-4 heteroatoms independently selected from nitrogen, oxygen, and sulfur, said ring optionally substituted with halogen or C_{1-6} alkyl.

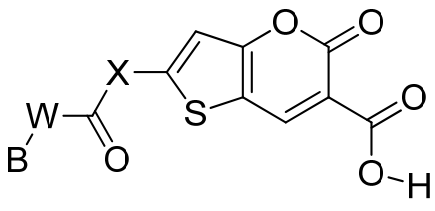
3. The compound of claims **1** or **2**, wherein the compound of formula (I) is represented by formula (Ia):



(Ia).

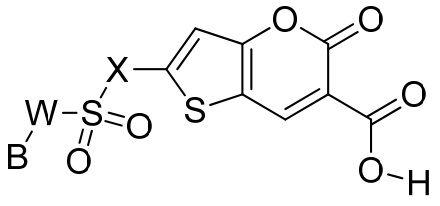
4. The compound of any one of claims **1** to **3**, wherein subscript n is 0; Y is O; and R^2 is hydrogen.

5. The compound of any one of claims **1** to **4**, wherein the compound of formula (I) is represented by formula (II):



(II).

6. The compound of any one of claims **1** to **4**, wherein the compound of formula (I) is represented by formula (III):



(III).

7. The compound of any one of claims **1** to **6**, wherein X is O, NH or NMe.

8. The compound of any one of claims **1** to **7**, wherein W is NH or NMe.

9. The compound of any one of claims **1**, and **3** to **8**, wherein B is a ring selected from the group consisting of:

a 5-6 membered saturated or partially unsaturated monocyclic carbocyclic ring,

phenyl,

a 8-10 membered bicyclic aryl ring,

a 5-8 membered saturated or partially unsaturated monocyclic or bicyclic heterocyclic ring having 1-2 heteroatoms independently selected from nitrogen, oxygen, and sulfur,

a 5-6 membered monocyclic heteroaryl ring having 1-4 heteroatoms independently selected from nitrogen, oxygen, and sulfur, and

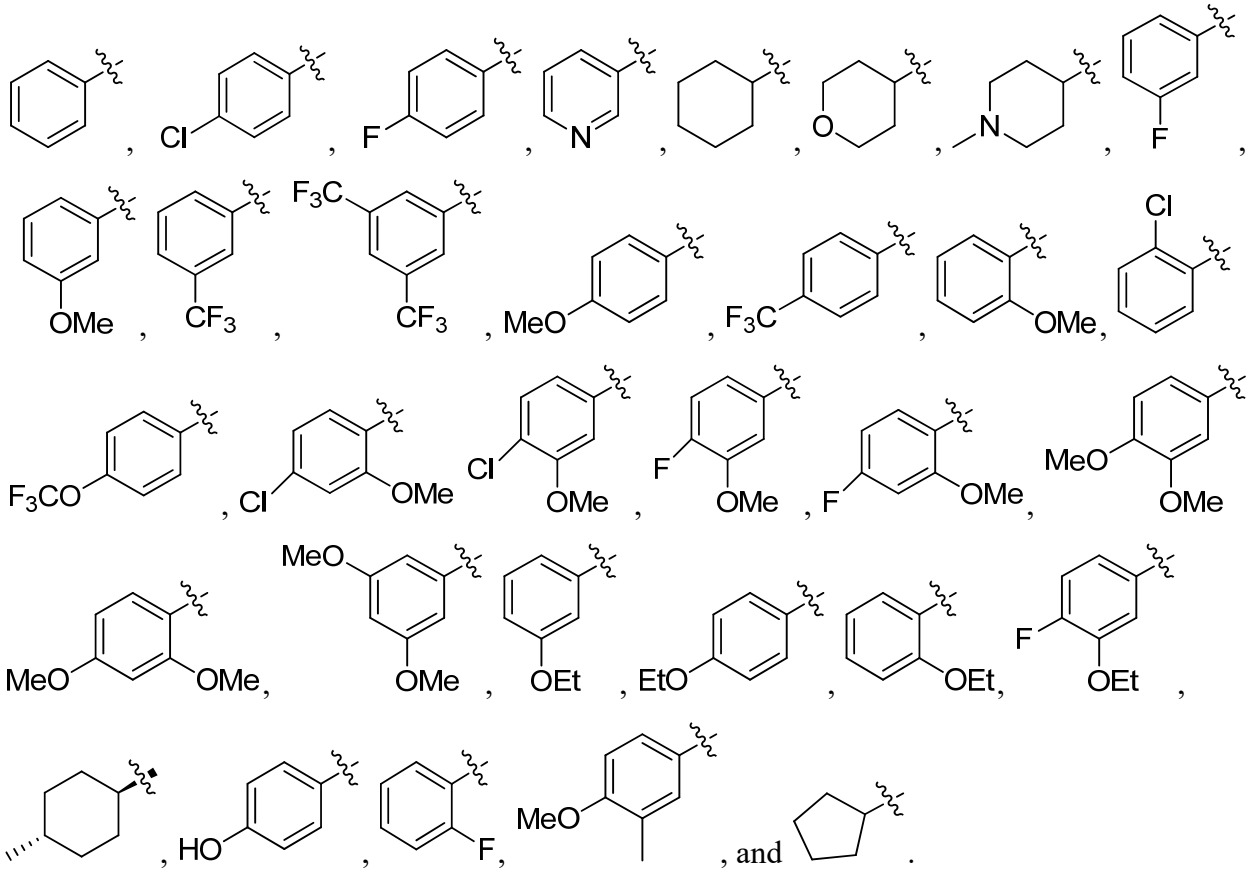
a 8-10 membered bicyclic heteroaryl ring having 1-4 heteroatoms independently selected from nitrogen, oxygen, and sulfur,

wherein B is optionally substituted with one or more substituents selected from R' and R".

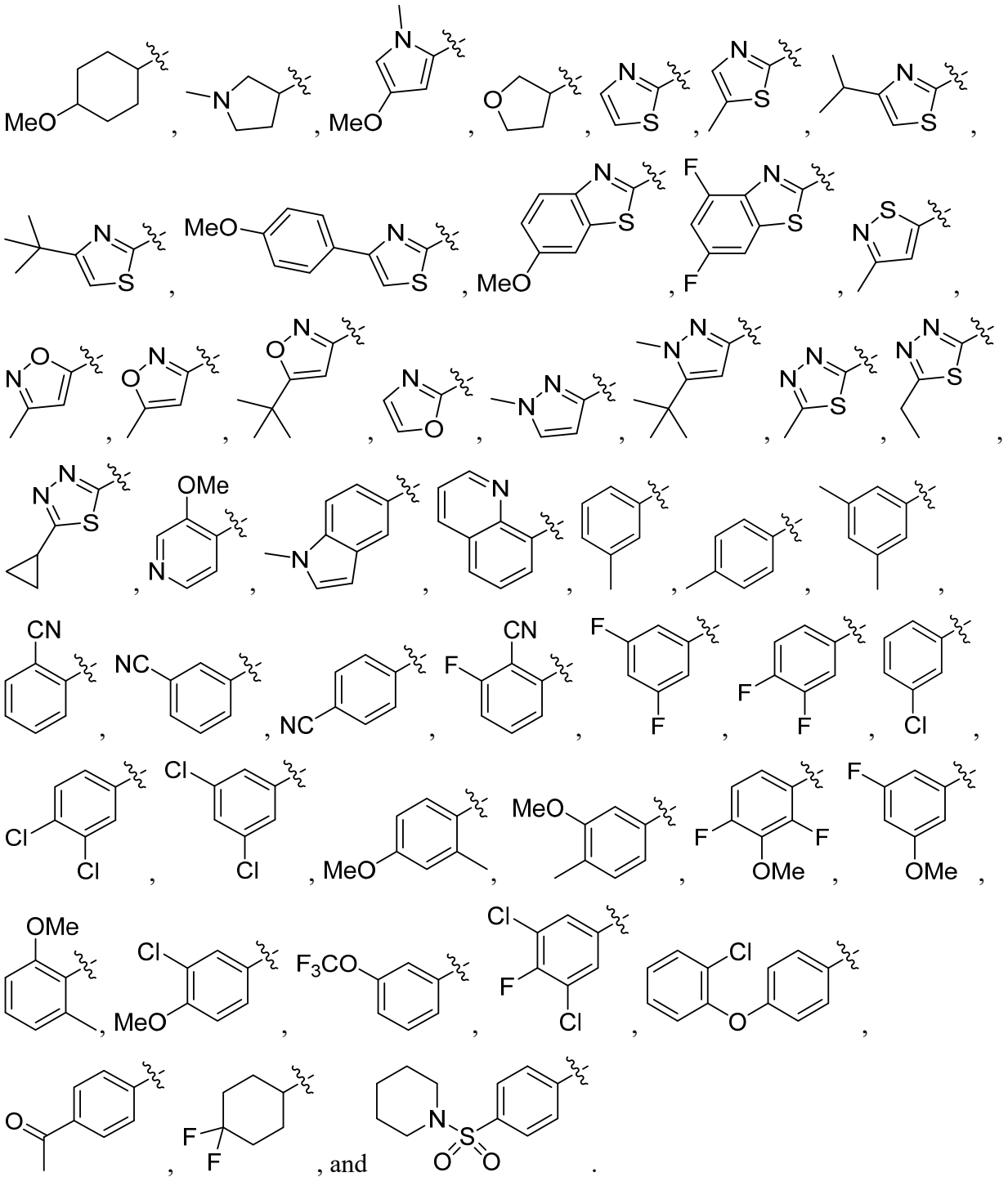
10. The compound of claim **9**, wherein B is optionally substituted with one or more substituents selected from the group consisting of halogen, OH, CN, C_{1-6} alkyl, C_{1-6} haloalkyl, C_{1-6} alkoxy, and C_{1-6} haloalkoxy.

11. The compound of claim **9**, wherein B is optionally substituted with one or more substituents selected from the group consisting of F, Cl, OH, CN, methyl, ethyl, isopropyl, tert-butyl, cyclopropyl, CF_3, OMe, OEt, OCF_3, and C(O)Me.

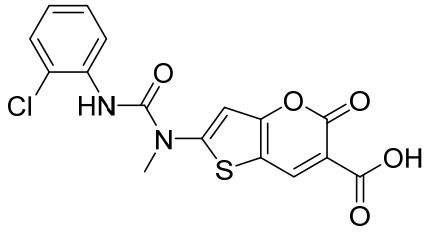
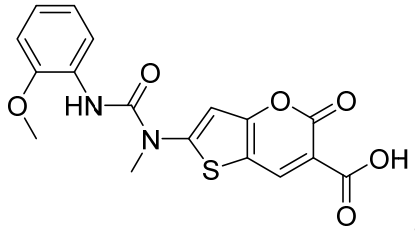
12. The compound of any one of claims **9** to **11**, wherein B is selected from the group consisting of:

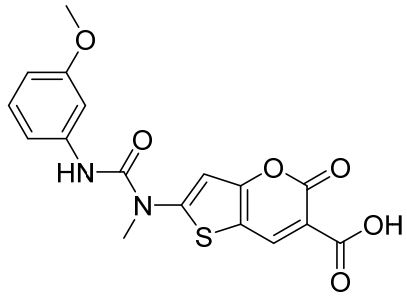
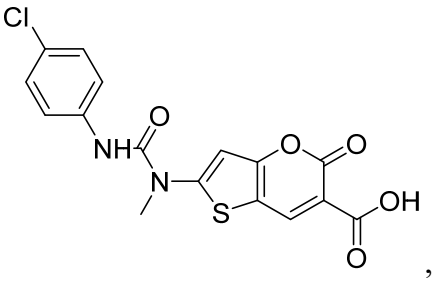


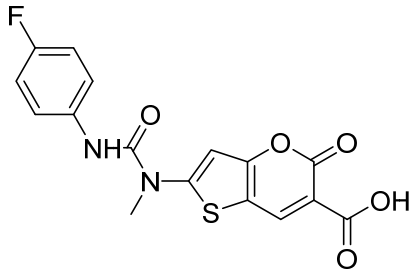
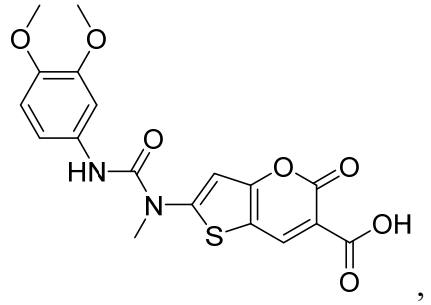
13. The compound of claim **9**, wherein B is selected from the group consisting of:

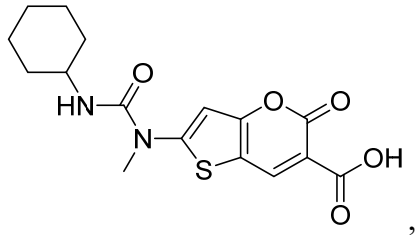
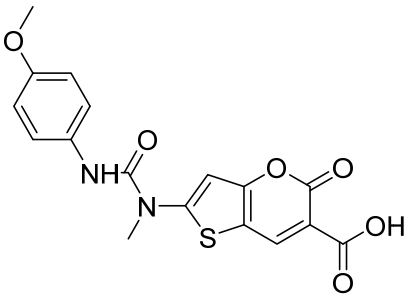
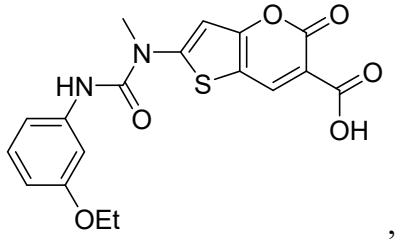


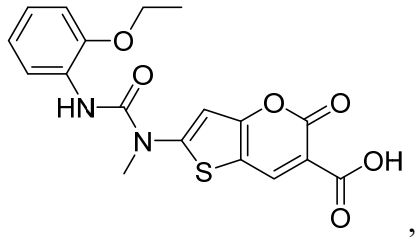
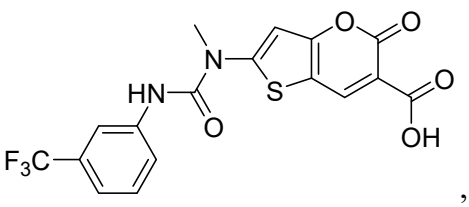
14. The compound of claim **1**, selected from the group consisting of:

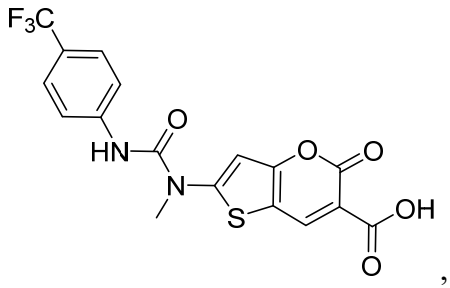
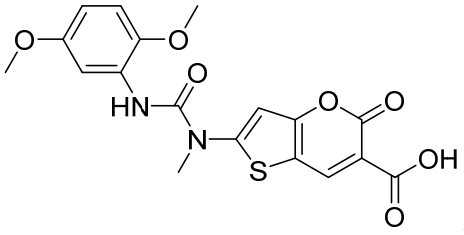



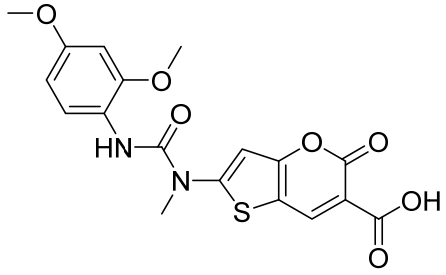
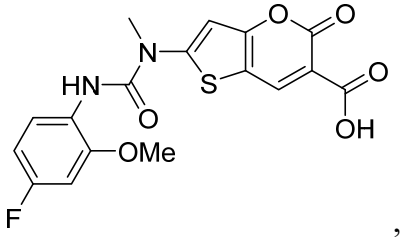



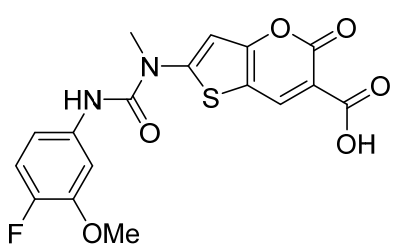
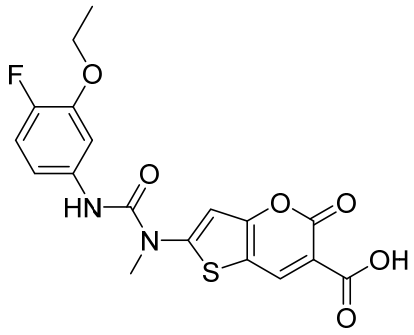



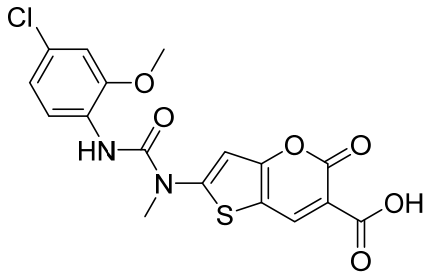
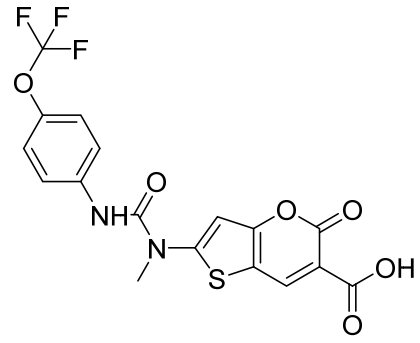




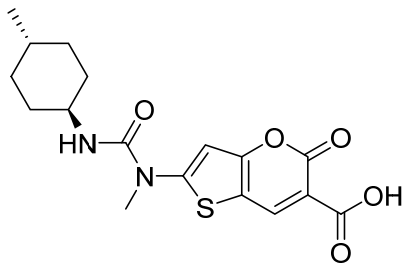
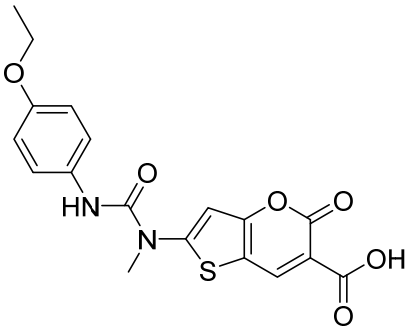



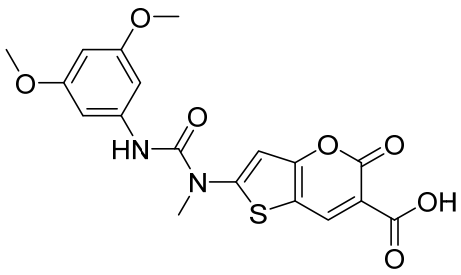
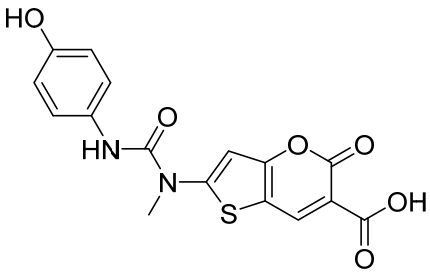
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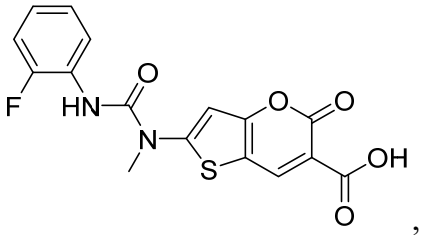
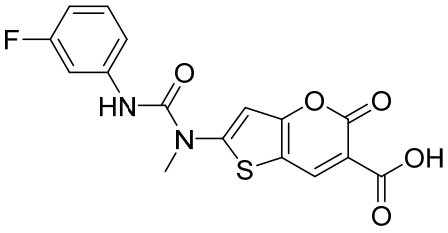
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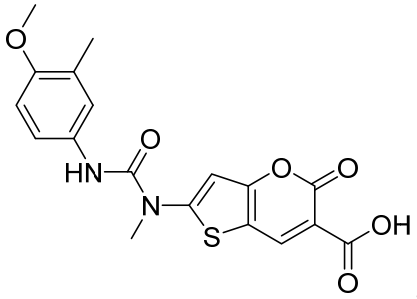
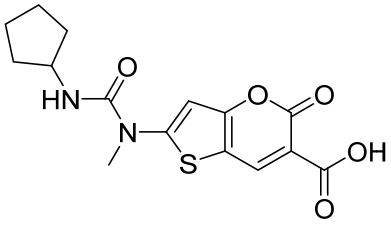
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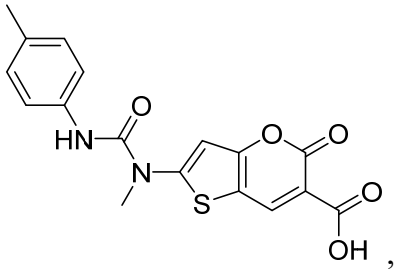
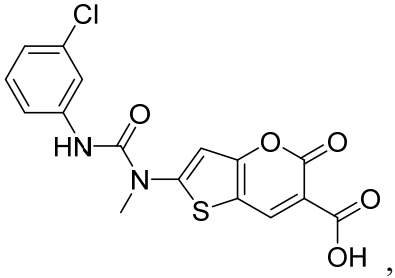
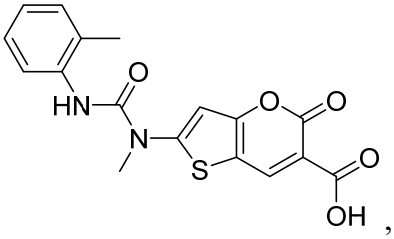



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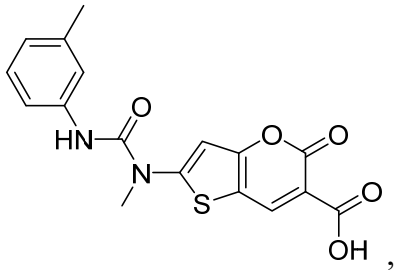
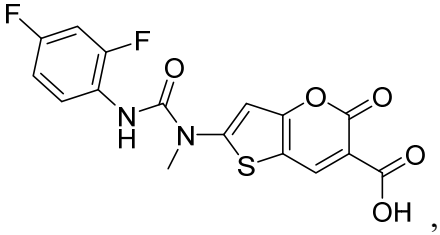



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15. The compound of claim **1**, selected from the group consisting of:

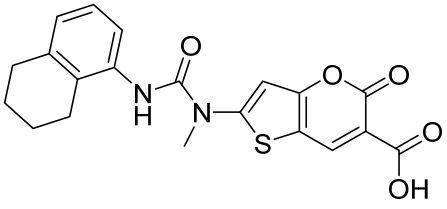
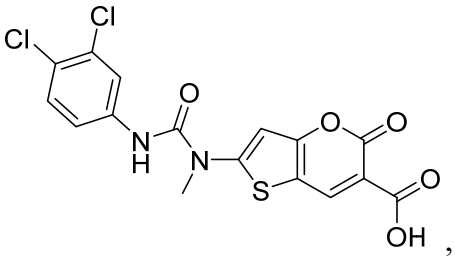




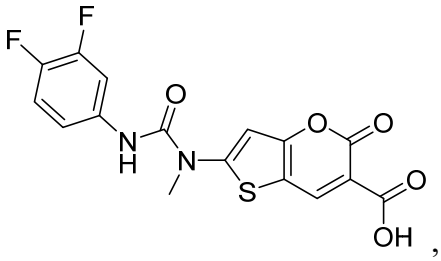
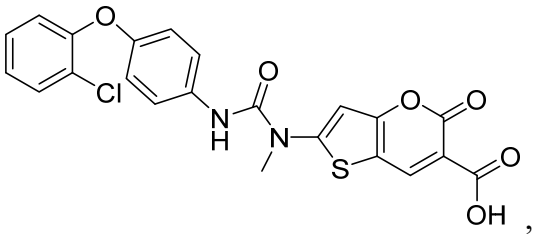
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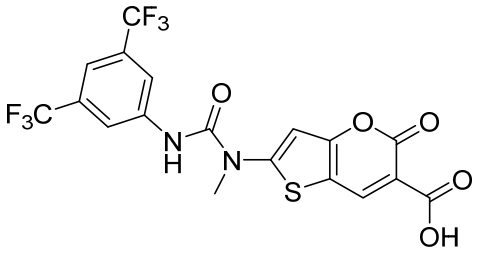
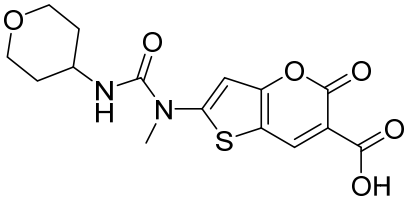



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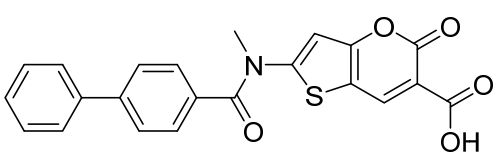
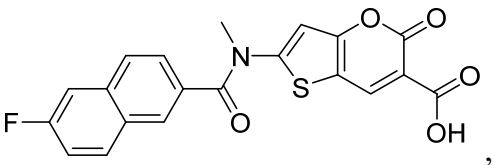
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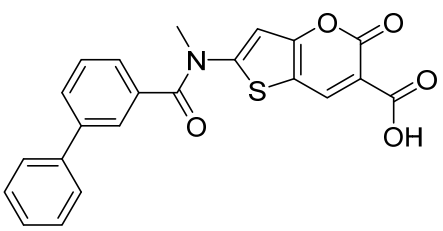
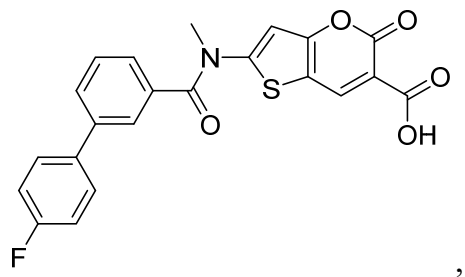



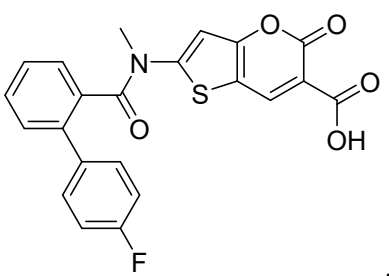
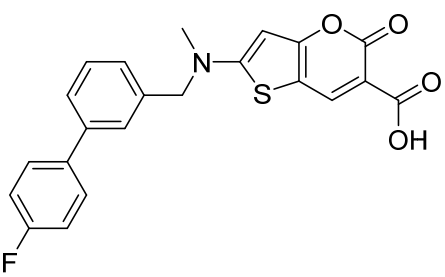



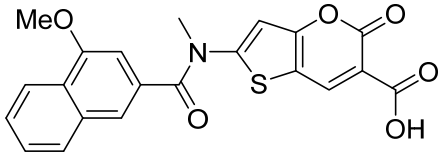



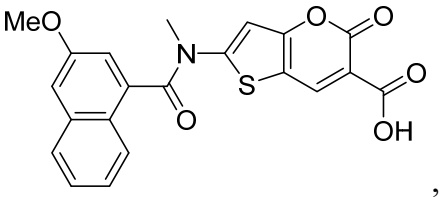
16. A compound, selected from the group consisting of:

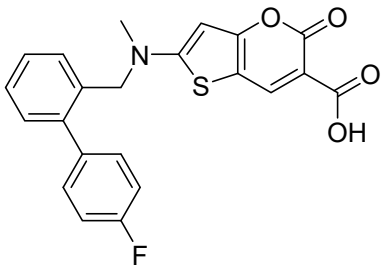



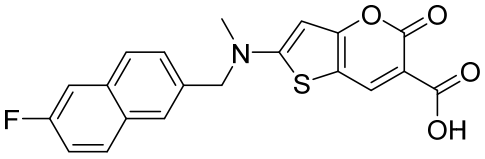





, 

,

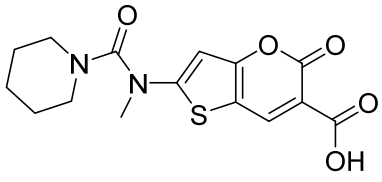


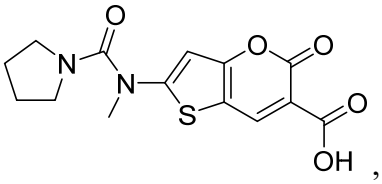
, and 

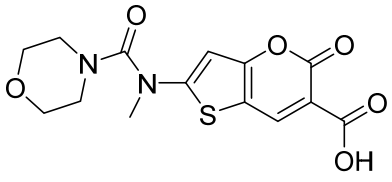
,

or a pharmaceutically acceptable salt thereof.

17. A compound, selected from the group consisting of:



, 

, and 

,

or a pharmaceutically acceptable salt thereof.

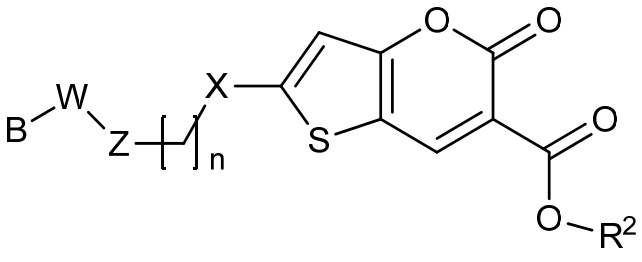
18. A pharmaceutical composition comprising a compound of any one of claims **1** to **17**, and a pharmaceutically acceptable carrier.

19. An in vitro method for modulating monocarboxylate transport comprising contacting a monocarboxylate transport protein with a therapeutically effective amount of a compound according to any one of claims **1** to **17**.

20. ~~A method for treating a disorder associated with monocarboxylate transport comprising administering a therapeutically effective amount~~ Use of a compound according to any one of claims **1** to **17** in the preparation of a medicament for the treatment of a disorder associated with monocarboxylate transport.

21. The ~~method~~ use of claim **20**, wherein the disorder is selected from the group consisting of cancer, neoplastic disorders, disorders of abnormal tissue growth, disorders of immune system, and tissue and organ rejection.

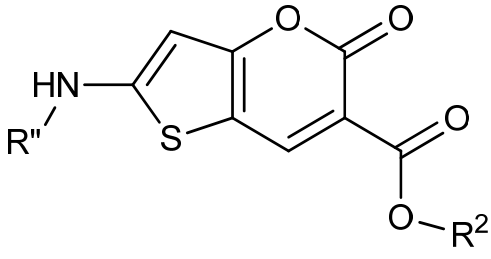
22. A process for preparing a compound of formula (VIII):



(VIII),

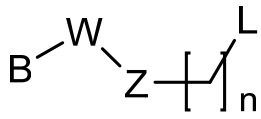
or a pharmaceutically acceptable salt thereof, comprising:

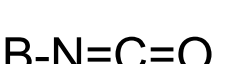
a) providing a compound of formula (IX):



(IX); and

b) reacting with a compound of formula (X) or (XI):

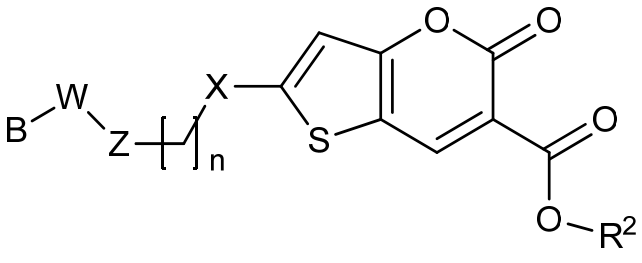


(X) or 

(XI),

wherein L is H, OH, or halogen; and subscript n, B, W, Z, X, R^2, and R" are defined according to claim **1**.

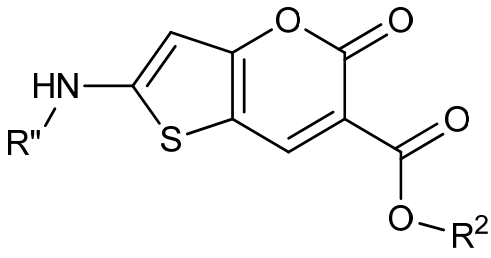
23. A process for preparing a compound of formula (VIII):



(VIII),

or a pharmaceutically acceptable salt thereof, comprising:

a) providing a compound of formula (IX):

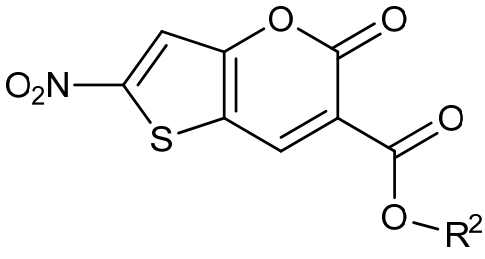


(IX); and

b) reacting with thiophosgene and an aniline of formula B-NH_2,

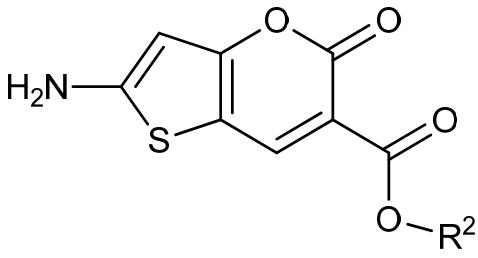
wherein subscript n, B, W, Z, X, R^2, and R" are defined according to claim **1**.

24. The process of claim **22** or **23**, wherein, when R" is hydrogen in formula (IX), the process further comprising reacting a compound of formula (XIII):



(XIII),

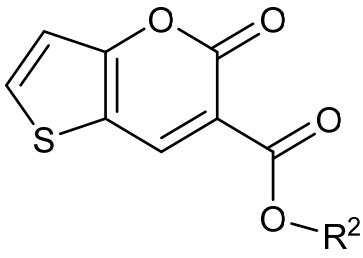
with a reducing agent to provide a compound of formula (XII):



(XII),

or a salt thereof, wherein R^2 is defined according to claim **1**.

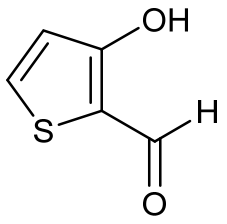
25. The process of claim **24**, further comprising reacting a compound of formula (XIV)**:**

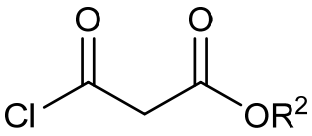


(XIV),

with a nitration agent to provide the compound of formula (XIII).

26. The process of claim **25**, further comprising reacting a compound of formula (XV) with a compound of formula (XVI):



(XV) and 

(XVI),

to provide the compound of formula (XIV).