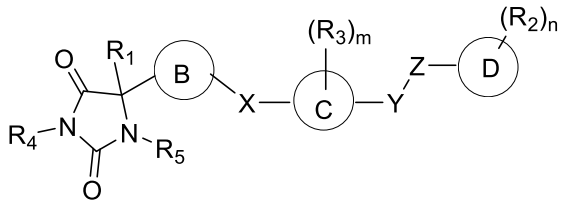
## CLAIMS

1. A compound of formula (II):




(II),

or a tautomer, stereoisomer, pharmaceutically acceptable salt, or solvate thereof,

wherein:

ring B is optionally substituted furanyl;

ring C is aryl or heteroaryl;

ring D is phenyl, pyridinyl, or pyridinyl N-oxide;

each of X, Y, and Z is independently selected from the group consisting of O, $CH_2$, $NR_x$ and $S(O)_q$, wherein $R_x$ is hydrogen or alkyl;

$R_1$ is hydrogen or alkyl;

each $R_2$ is independently selected from the group consisting of hydrogen, alkyl, halo, hydroxyl, haloalkyl, alkoxy, alkylthio, amino, amide, alkylamine, aminoalkyl, cyano, hydroxyalkyl, $-(CH_2)_pC(O)OR_6$, and $-(CH_2)_pOC(O)R_6$;

each $R_3$ is independently selected from the group consisting of hydrogen, alkyl and halo;

$R_4$ is hydrogen or alkyl;

$R_5$ is hydrogen;

each $R_6$ is independently selected from the group consisting of hydrogen and alkyl, wherein the alkyl is unsubstituted or substituted with one or more groups independently selected from the group consisting of amino, hydroxyl, halo, and alkoxy;

m is 1, 2, 3, or 4;

n is 1, 2, 3, 4, or 5;

p is 0, 1, 2, 3, 4, or 5; and

q is 0, 1, or 2;

provided that when ring D is phenyl, at least one of the following is true:

(i) $R_1$ is alkyl;

(ii) $R_2$ is not methoxy, chloro, or trifluoromethyl; and

(iii) ring C is not unsubstituted phenyl.

2. The compound of claim 1, wherein ring C is phenyl.

3. The compound of claim 1, wherein ring D is pyridinyl or pyridinyl N-oxide.

4. The compound of claim 1, wherein $R_4$ is hydrogen.

5. The compound of claim 1, wherein $R_1$ is alkyl.

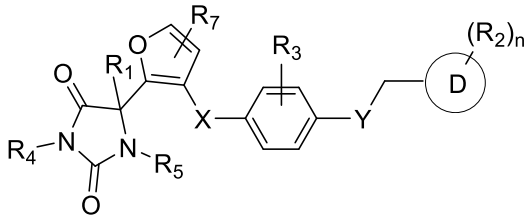
6. The compound of claim 1, wherein X is S and Z is $CH_2$.

7. The compound of claim 1, wherein X is S, Y is O, and Z is $CH_2$.

8. The compound of claim 1, wherein n is 1; and $R_2$ is alkyl, alkoxy, hydroxy, hydroxyalkyl or amide.

9. The compound of claim 1, wherein n is 1; and $R_2$ is $-CH_3$, $C_{1-4}$ alkoxy, -OH, $-CH_2OH$, or $-C(O)NH_2$.

10. The compound of claim 1, being a compound of formula (III):




(III),

or a tautomer, stereoisomer, pharmaceutically acceptable salt, or solvate thereof, wherein:

$R_1$ is hydrogen or $C_{1-4}$ alkyl;

X is S;

Y is O, $CH_2$, NH, or $N(CH_3)$;

each $R_2$ is independently selected from the group consisting of hydrogen, alkyl, hydroxyl, alkoxy, amide, and hydroxyalkyl;

each $R_3$ is hydrogen, alkyl or halo;

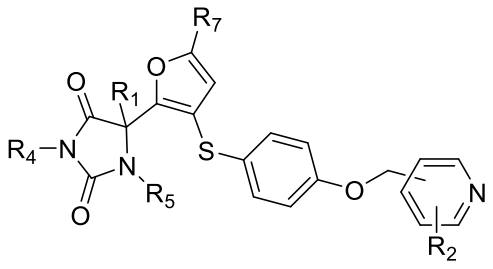
ring D is phenyl, pyridinyl, or pyridinyl N-oxide;

each of $R_4$ and $R_5$ is hydrogen;

$R_7$ is hydrogen or methyl; and

n is 1 or 2.

11. A compound of formula (IV):



(IV),

or a tautomer, stereoisomer, pharmaceutically acceptable salt, or solvate thereof, wherein:

$R_1$ is hydrogen or alkyl;

$R_2$ is selected from the group consisting of alkyl, amide, hydroxyl, alkoxy, and hydroxylalkyl;

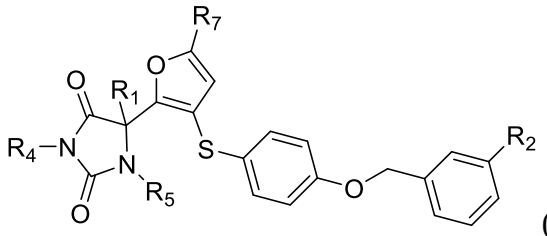
each of $R_4$ and $R_5$ is hydrogen; and

$R_7$ is methyl or hydrogen.

12. The compound of claim 11, wherein $R_2$ is $-CH_3$, $C_{1-4}$ alkoxy, -OH, $-CH_2OH$, or $-C(O)NH_2$.

13. The compound of claim 11, wherein $R_1$ is $C_{1-4}$ alkyl.

14. A compound of formula (V):



(V),

or a tautomer, stereoisomer, pharmaceutically acceptable salt, or solvate thereof,

wherein:

$R_1$ is alkyl;

$R_2$ is selected from the group consisting of alkyl, amide, alkoxy, hydroxyl, and hydroxyalkyl;

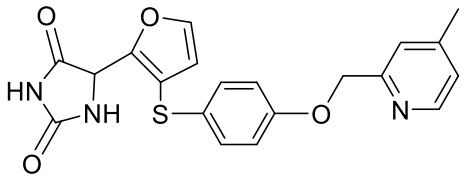
each of $R_4$ and $R_5$ is hydrogen; and

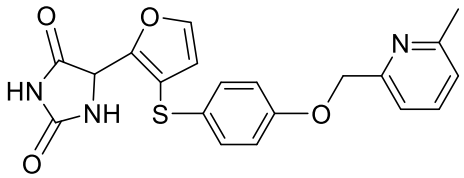
$R_7$ is methyl or hydrogen.

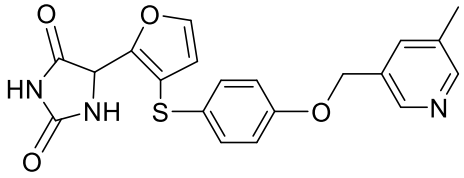
15. The compound of claim 14, wherein $R_2$ is $-CH_3$, $C_{1-4}$ alkoxy, -OH, $-CH_2OH$, or $-C(O)NH_2$.

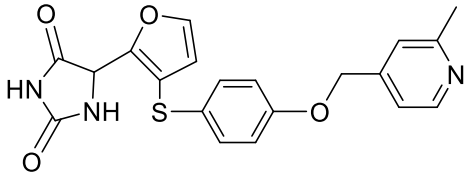
16. The compound of claim 14, wherein $R_1$ is $C_{1-4}$ alkyl.

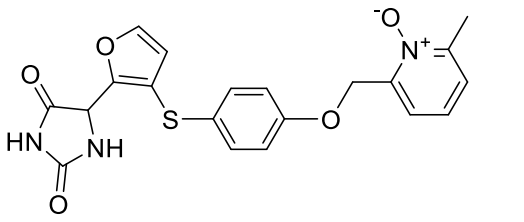
17. The compound of claim 1, being a compound selected from the group consisting of:

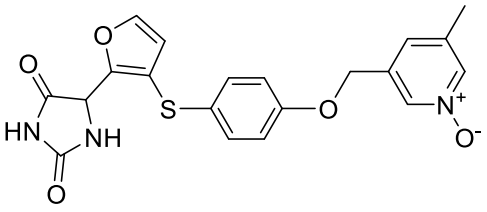


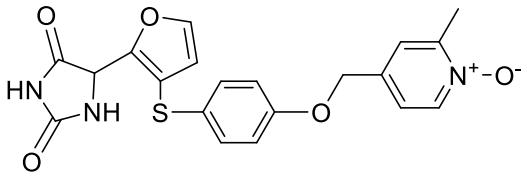



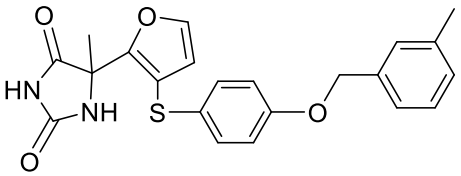



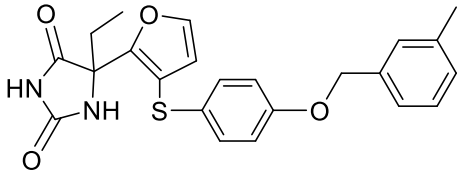



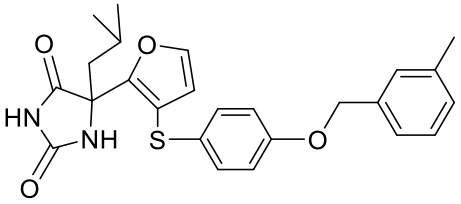


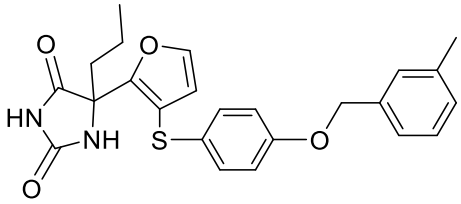


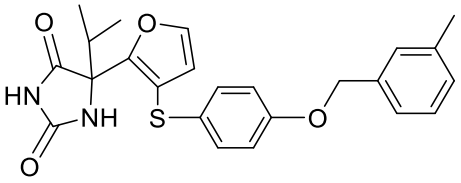


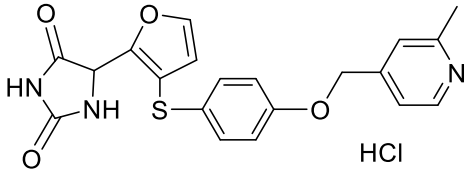


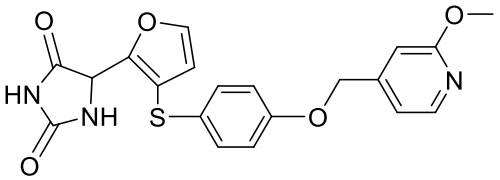


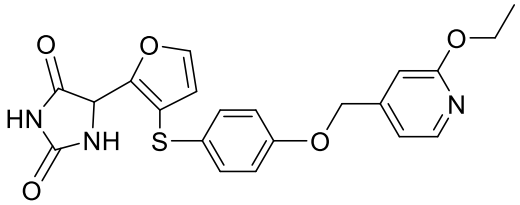


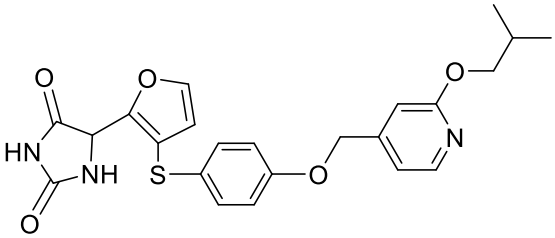


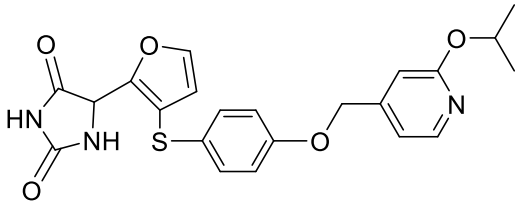


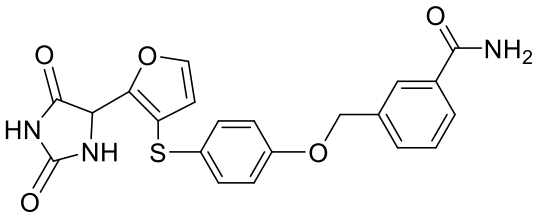

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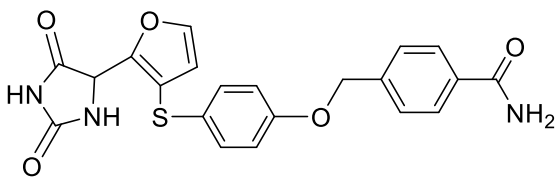


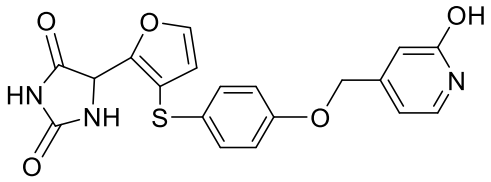


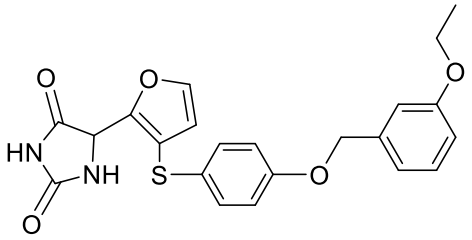


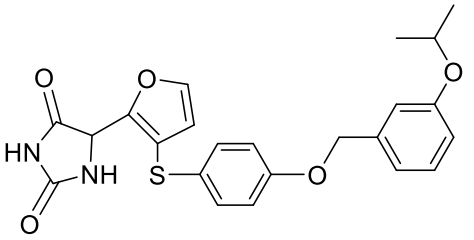


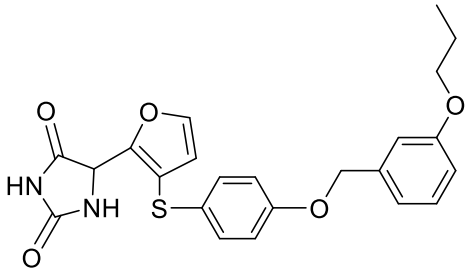


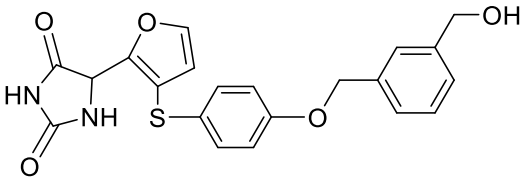


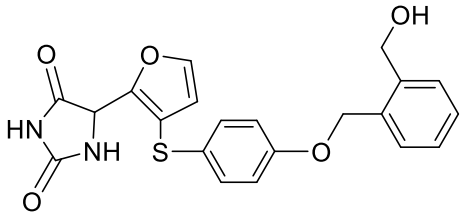


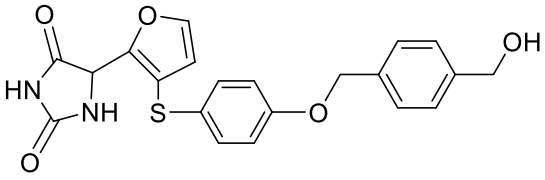


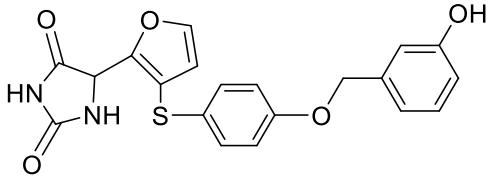


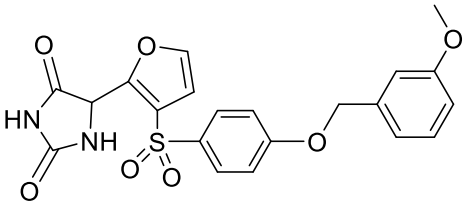


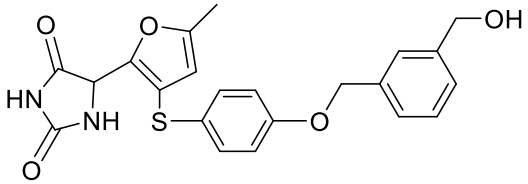


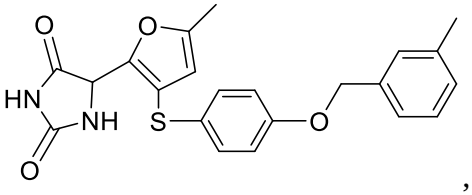




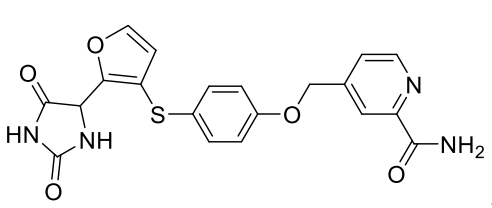




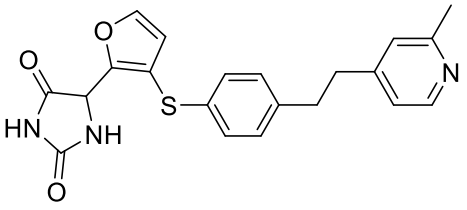




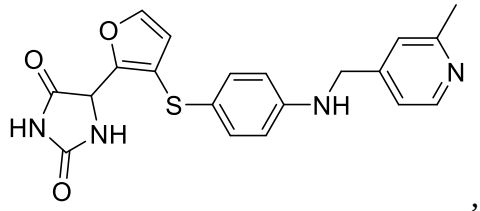
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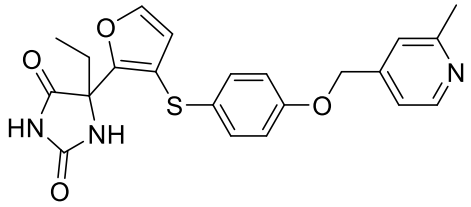


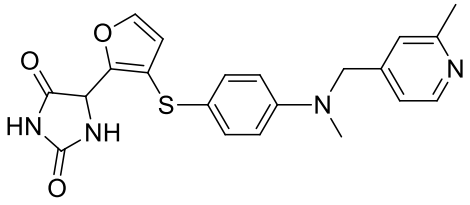
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or a tautomer, stereoisomer, pharmaceutically acceptable salt, or solvate thereof.

18. The compound of claim 17, or a pharmaceutically acceptable salt thereof.

19. A pharmaceutical composition comprising the compound of claim 1, and at least one pharmaceutically acceptable carrier.

20. The pharmaceutical composition of claim 19 for use in inhibiting macrophage elastase (MMP-12) in a subject in need thereof, wherein the pharmaceutical composition is to be administered to the subject.

21. The pharmaceutical composition of claim 19 for use in a method of treating a disease mediated by macrophage elastase MMP-12 in a subject in need thereof, wherein the disease is selected from the group consisting of asthma, chronic obstructive pulmonary disease (COPD), emphysema, acute lung injury, idiopathic pulmonary fibrosis (IPF), sarcoidosis, systemic sclerosis, liver fibrosis, nonalcoholic steatohepatitis (NASH), arthritis, cancer, heart disease, inflammatory bowel disease (IBD), acute kidney injury (AKI), chronic kidney disease (CKD), Alport syndrome, and nephritis, and wherein the pharmaceutical composition is to be administered to the subject.

22. Use of the pharmaceutical composition of claim 19 in the manufacture of a medicament for the treatment of a disease mediated by macrophage elastase MMP-12 in a subject in need thereof, wherein the disease is selected from the group consisting of asthma, chronic

obstructive pulmonary disease (COPD), emphysema, acute lung injury, idiopathic pulmonary fibrosis (IPF), sarcoidosis, systemic sclerosis, liver fibrosis, nonalcoholic steatohepatitis (NASH), arthritis, cancer, heart disease, inflammatory bowel disease (IBD), acute kidney injury (AKI), chronic kidney disease (CKD), Alport syndrome, and nephritis, and wherein the pharmaceutical composition is to be administered to the subject.