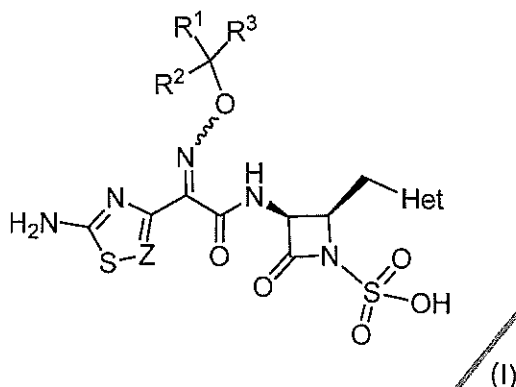


CLAIMS

1. A compound of Formula (I):



or a pharmaceutically acceptable salt thereof,

wherein:

Z is CR⁴ or N;

R¹ is H or C₁-C₄ alkyl;

R² is selected from the group consisting of H, C₁-C₄ alkyl, and -COOH

or R¹ and R² taken together with the carbon to which they are attached form a ring selected from a C₃-C₆ cycloalkyl ring and a 4-6 membered heterocyclic ring containing up to two heteroatoms selected from N, O and S as ring members;

R³ is selected from H, -COOH, and -L¹-W-(CH₂)₀₋₂-X-R⁵;

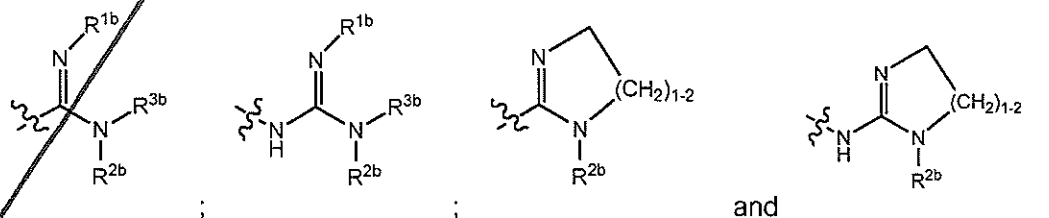
R⁴ is H or halo;

each L¹ is independently a straight chain or branched C₁₋₄ alkylene;

W is a bond, O, NH or S;

X is phenyl, or a 5-6 membered heteroaryl ring containing 1-3 heteroatoms selected from N, O and S as ring members; where the phenyl and 5-6 membered heteroaryl are optionally substituted with one or two groups selected from C₁₋₄ alkyl, hydroxy, -CN, F, C₁₋₄ alkoxy, -NH₂, -NH(C₁₋₄ alkyl) and -N(C₁₋₄ alkyl)₂;

R⁵ is selected from



wherein R^{1b}, R^{2b}, and R^{3b} are independently hydrogen, hydroxy, CN, (C₁-C₄)alkyl, (C₁-C₄)alkoxy, (C₃-C₆)cycloalkyl, or 4-, 5-, 6- or 7 -membered heterocyclyl

containing N, O or S as a ring member, wherein each (C₁-C₄)alkyl, (C₁-C₄)alkoxy, (C₃-C₆)cycloalkyl, or 4-, 5-, 6- or 7 -membered heterocyclyl containing N, O or S as a ring member may be substituted with one, two or three substituents selected independently from Y,

and wherein R^{2b} and R^{3b} together with the nitrogen atom to which they are bonded can optionally form a 5- to 7-membered heterocyclyl including 0 or 1 further heteroatoms selected from N, O and S, said heterocyclyl optionally substituted by Y;

Y is selected from F, CN, -NH₂, Q, -L²-C(O)NR¹⁰-L²-Q, -L²-NR¹⁰-C(O)-L²-Q, -L²-OR¹⁰, -L²-N(R¹⁰)₂, -L²-N⁺(R¹¹)₃, -L²-NR¹⁰-C(O)R¹⁰, -L²-NR¹⁰-L²-N(R¹⁰)₂, -L²-O-C(O)OR¹⁰, -L²-O-C(O)-N(R¹⁰)₂, -L²-NR¹⁰-C(O)-N(R¹⁰)₂, -L²-NR¹⁰-C(O)-OR¹¹, -L²-C(=NR¹⁰)-N(R¹⁰)₂, -CON(R¹⁰)₂, -L²-NR¹⁰-C(=NR¹⁰)-N(R¹⁰)₂, -L²-NR¹⁰-C(=NR¹⁰)-R¹⁰, -L²-C(O)N(R¹⁰)₂, -L²-O-SO₃R¹⁰;

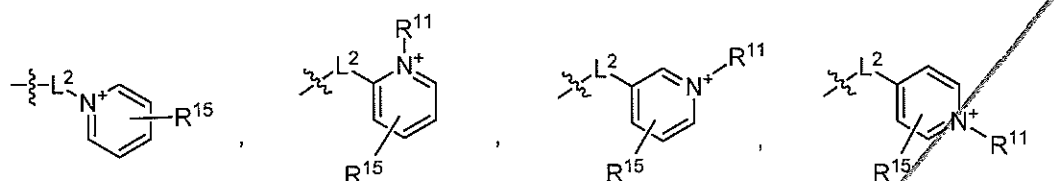
L² is independently at each occurrence a bond or a straight chain or branched C₁₋₄ alkylene, optionally substituted with NH₂, OH, or F;

Het is a 4-6 membered heteroaryl or heterocyclic ring, where the heteroaryl ring contains 1 to 4 heteroatoms selected from N, O and S as ring members and is optionally substituted with one or two groups selected from Y, OH, NH₂, -C(O)NR¹⁰, and C₁₋₄ alkyl optionally substituted with one or two Y; , and the heterocyclic ring contains 1 or 2 heteroatoms selected from N, O and S as ring members and is optionally substituted with up to three groups selected from halo, Y, C₁₋₄ alkyl optionally substituted with one or two groups selected from Y, =NR¹⁰, =N-OR¹⁰, =N-CN, and oxo;

and Het is optionally fused to a 5 or 6 membered heterocyclic or heteroaryl ring containing up to two heteroatoms selected from N-R¹⁰, O and S as ring members, and optionally substituted with one or two R¹⁶;

R¹⁰ and R¹² are independently H or C₁₋₄ alkyl optionally substituted by one or two groups selected from OH, NH₂ or Q;

Q is selected from -L²-N(R¹³)₂, -L²-N⁺(R¹⁴)₃, -L²-NR¹³-C(=NR¹³)-N(R¹³)₂, -L²-NR¹³-C(R¹³)(=NR¹³), -L²-NR¹³-L²-Cy, -L²-NR¹³-C(=NR¹³)-NR¹³-L²-Cy, -L²-NR¹³-C(=NR¹³)-L²-Cy, -L²-Cy-L²-R¹³, -L²-Cy-L²-N(R¹³)₂, -L²-NR¹³-SO₂-N(R¹³)₂, -L²-SO₂-N(R¹³)₂, -L²-NR¹³-SO₂-R¹³, -L²-NR¹³-L²-Ar, -L²-S-L²-Cy, -L²-NR¹³-(C=O)-O-R¹³,



each Cy is independently a 3-6 membered cycloalkyl or 3-6 membered heterocyclyl containing one or two heteroatoms selected from N, O and S as a ring member and optionally fused to a 5-6 membered aryl or heteroaryl ring, wherein each Cy is optionally substituted with one or two groups selected from halo, C₁₋₃ haloalkyl, R¹⁴, hydroxy, C₁₋₄ alkoxy, -NH₂, -NH(C₁₋₄ alkyl) or -N(C₁₋₄ alkyl)₂;

Ar is phenyl, optionally substituted with one or two groups selected from halo, C₁₋₃ haloalkyl, R¹⁴, hydroxy, C₁₋₄ alkoxy, -NH₂, -NH(C₁₋₄ alkyl) or -N(C₁₋₄ alkyl)₂;

R¹¹ is independently at each occurrence C₁₋₄ alkyl;

and two R¹⁰, or two R¹¹, or two R¹² on the same N can cyclize to form a 4-6 membered heterocyclic ring optionally substituted with C₁₋₄ alkyl, C₁₋₄ alkoxy, hydroxy, or oxo;

R¹³ is independently at each occurrence H or C₁₋₄ alkyl optionally substituted with hydroxy, -OR¹⁴, -NHR¹⁴, C₁₋₄ alkoxy, -NH₂, -NH(C₁₋₄ alkyl) or -N(C₁₋₄ alkyl)₂;

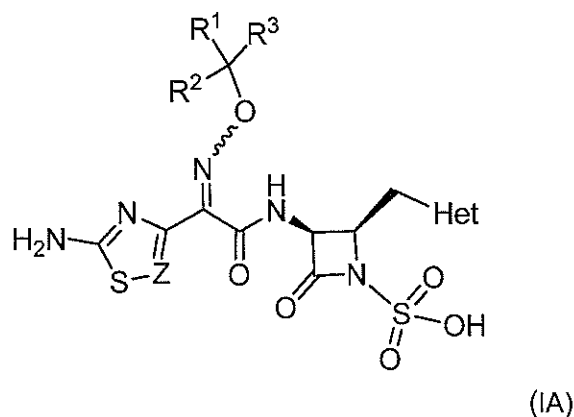
R¹⁴ is independently at each occurrence C₁₋₄ alkyl optionally substituted with hydroxy, C₁₋₄ alkoxy, -NH₂, -NH(C₁₋₄ alkyl) or -N(C₁₋₄ alkyl)₂;

wherein two R¹³ or two R¹⁴ on the same N can cyclize to form a 4-6 membered heterocyclic ring optionally substituted with C₁₋₄ alkyl, C₁₋₄ alkoxy, hydroxy, amino or oxo;

R¹⁵ is H, halo, C₁₋₄ alkyl, CN, or -O(C₁₋₄ alkyl);

each R¹⁶ is independently halo, C₁₋₄ alkyl, -NH₂, CN, or -O(C₁₋₄ alkyl);
or a pharmaceutically acceptable salt thereof.

2. A compound of Formula (IA):



or a pharmaceutically acceptable salt thereof,

wherein:

Z is CR⁴ or N;

R¹ is H or C₁-C₄ alkyl;

R² is selected from the group consisting of H, C₁-C₄ alkyl, and -COOH

or R¹ and R² taken together with the carbon to which they are attached form a ring selected from a C₃-C₆ cycloalkyl ring and a 4-6 membered heterocyclic ring containing up to two heteroatoms selected from N, O and S as ring members;

R³ is selected from H, -COOH, and -L¹-W-(CH₂)₀₋₂-X-R⁵;

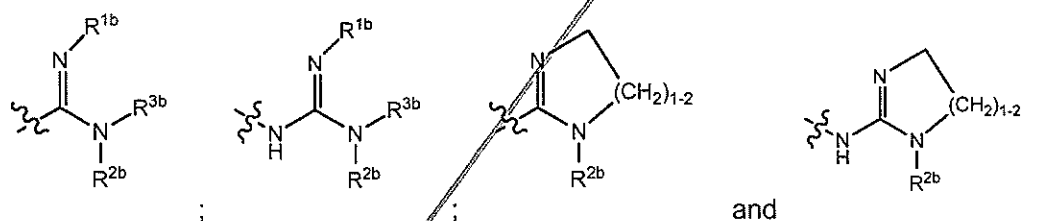
R⁴ is H or halo;

each L¹ is independently a straight chain or branched C₁₋₄ alkylene;

W is a bond, O, NH or S;

X is phenyl, or a 5-6 membered heteroaryl ring containing 1-3 heteroatoms selected from N, O and S as ring members; where the phenyl and 5-6 membered heteroaryl are optionally substituted with one or two groups selected from C₁₋₄ alkyl, hydroxy, -CN, F, C₁₋₄ alkoxy, -NH₂, -NH(C₁₋₄ alkyl) and -N(C₁₋₄ alkyl)₂;

R⁵ is selected from



wherein R^{1b}, R^{2b}, and R^{3b} are independently hydrogen, hydroxy, CN, (C₁-C₄)alkyl, (C₁-C₄)alkoxy, (C₃-C₆)cycloalkyl, or 4-, 5-, 6- or 7 -membered heterocyclyl, wherein each (C₁-C₄)alkyl, (C₁-C₄)alkoxy, (C₃-C₆)cycloalkyl, or 4-, 5-, 6- or 7 -membered heterocyclyl may be substituted with one, two or three substituents selected independently from Y,

and wherein R^{2b} and R^{3b} together with the nitrogen atom to which they are bonded can optionally form a 5- to 7-membered heterocyclyl including 0 or 1 further heteroatoms selected from N, O and S, said heterocyclyl optionally substituted by Y;

Y is selected from F, CN, -NH₂, Q, -L²-C(O)NR¹⁰-L²-Q, -L²-NR¹⁰-C(O)-L²-Q, -L²-OR¹⁰, -L²-N(R¹⁰)₂, -L²-N⁺(R¹¹)₃, -L²-NR¹⁰-C(O)R¹⁰, -L²-NR¹⁰-L²-N(R¹⁰)₂, -L²-O-C(O)OR¹⁰, -L²-O-C(O)-N(R¹⁰)₂, -L²-NR¹⁰-C(O)-N(R¹⁰)₂, -L²-NR¹⁰-C(O)-OR¹¹, -L²-C(=NR¹⁰)-N(R¹⁰)₂, -CON(R¹⁰)₂, -L²-NR¹⁰-C(=NR¹⁰)-N(R¹⁰)₂, -L²-NR¹⁰-C(=NR¹⁰)-R¹⁰, -L²-C(O)N(R¹⁰)₂, -L²-O-SO₃R¹⁰;

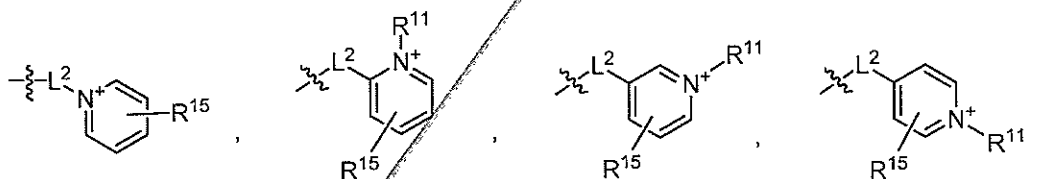
L^2 is independently at each occurrence a bond or a straight chain or branched C_{1-4} alkylene;

Het is a 5-6 membered heteroaryl or heterocyclic ring, where the heteroaryl ring contains 1 to 4 heteroatoms selected from N, O and S as ring members and is optionally substituted with one or two groups selected from Y, C_{1-4} alkyl optionally substituted with one or two Y, NH_2 , and $-C(O)NR^{10}_2$, and the heterocyclic ring contains 1 or 2 heteroatoms selected from N, O and S as ring members and is optionally substituted with up to three groups selected from halo, Y, C_{1-4} alkyl optionally substituted with one or two groups selected from Y, $=NR^{10}$, $=N-OR^{10}$, $=N-CN$, and oxo;

and Het is optionally fused to a 5 or 6 membered heterocyclic or heteroaryl ring containing up to two heteroatoms selected from N, O and S as ring members, and optionally substituted with one or two R^{16} ;

R^{10} and R^{12} are independently H or C_{1-4} alkyl optionally substituted by Q;

Q is selected from $-L^2-N(R^{13})_2$, $-L^2-N^+(R^{14})_3$, $-L^2-NH-C(=NH)-NH_2$, $-L^2-C(=NH)-NH_2$,



R^{11} is independently at each occurrence C_{1-4} alkyl;

and two R^{10} , or two R^{11} , or two R^{12} on the same N can cyclize to form a 4-6 membered heterocyclic ring optionally substituted with C_{1-4} alkyl, C_{1-4} alkoxy, hydroxy, or oxo;

R^{13} is independently at each occurrence H or C_{1-4} alkyl optionally substituted with hydroxy, C_{1-4} alkoxy, $-NH_2$, $NH(C_{1-4} \text{ alkyl})$ or $-N(C_{1-4} \text{ alkyl})_2$;

R^{14} is independently at each occurrence C_{1-4} alkyl optionally substituted with hydroxy, C_{1-4} alkoxy, $-NH_2$, $NH(C_{1-4} \text{ alkyl})$ or $-N(C_{1-4} \text{ alkyl})_2$;

wherein two R^{13} or two R^{14} on the same N can cyclize to form a 4-6 membered heterocyclic ring optionally substituted with C_{1-4} alkyl, C_{1-4} alkoxy, hydroxy, amino or oxo;

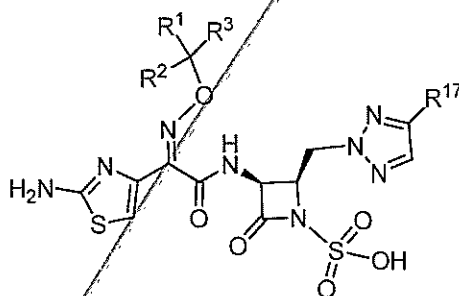
R^{15} is H, halo, C_{1-4} alkyl, CN, or $-O(C_{1-4} \text{ alkyl})$;

each R^{16} is independently halo, C_{1-4} alkyl, $-NH_2$, CN, or $-O(C_{1-4} \text{ alkyl})$;

or a pharmaceutically acceptable salt thereof.

3. The compound of claim 1 or claim 2, wherein R^1 and R^2 are each methyl and R^3 is $-COOH$.
4. The compound of claim 1 or claim 2, wherein R^1 and R^2 together with the carbon to which they are both attached form a cyclopropane ring and R^3 is $-COOH$.

5. The compound of claim 1 or claim 2, wherein R^1 and R^2 are both H and R^3 is $-\text{COOH}$.
6. The compound of any of the preceding claims, wherein Z is CH.
7. The compound of any of claims 1-5, wherein Z is N.
8. The compound of any of the preceding claims, wherein Het is a 5-membered heteroaryl ring containing 1-4 nitrogen atoms as ring members and is optionally substituted with Y.
9. The compound of claim 8, wherein Het is selected from pyrrole, pyrazole, 1,2,3-triazole, 1,2,4-triazole, 1,3,4-triazole, and 1,2,3,4-tetrazole and is optionally substituted as provided in claim 8.
10. The compound of claim 8, wherein Het is a 1,2,3-triazol-2-yl group that is optionally substituted with $-\text{L}^2-\text{N}(\text{R}^{10})_2$ or $\text{L}^2-\text{NR}^{10}-\text{C}(=\text{NR}^{10})-\text{N}(\text{R}^{10})_2$.
11. The compound of claim 8, which is of the formula:

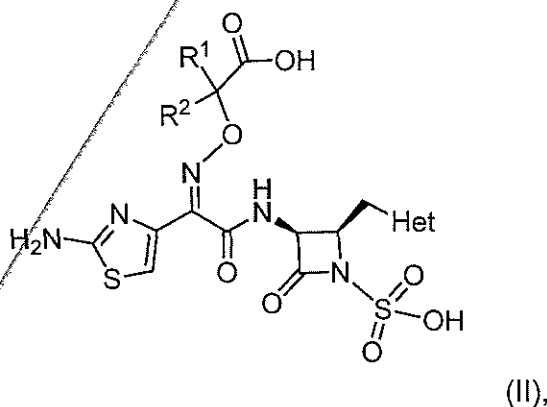


wherein R^{17} is selected from $-\text{CH}_2-\text{G}^1-(\text{CH}_2)_{1,4}-\text{G}^2$ and $-\text{CH}_2-\text{G}^1-\text{R}^x-(\text{CH}_2)_{0,2}-\text{G}^2$,
 G^1 is selected from $-\text{NH}-$, $-\text{NMe}-$, $-\text{NH}-\text{C}(=\text{NH})-$, and $-\text{NH}-\text{C}(=\text{NH})-\text{NH}-$,
 G^2 is selected from $-\text{NH}_2$, $-\text{NHMe}$, $-\text{NH}-\text{C}(=\text{NH})-\text{NH}_2$, azetidine, and pyrrolidine;
 and R^x is a ring selected from cyclobutyl, azetidine, and pyrrolidine.

12. The compound of claim 8, wherein Het is a 1,2,3-triazol-1-yl group that is optionally substituted with $-\text{L}^2-\text{N}(\text{R}^{10})_2$ or $\text{L}^2-\text{NR}^{10}-\text{C}(=\text{NR}^{10})-\text{N}(\text{R}^{10})_2$.
13. The compound of claim 8, wherein Het is a 1,2,4-triazol-1-yl group that is

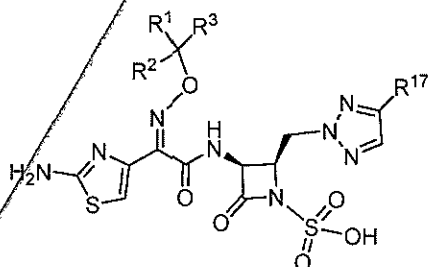
optionally substituted with $-L^2-N(R^{10})_2$ or $L^2-NR^{10}-C(=NR^{10})-N(R^{10})_2$.

14. The compound of any of claims 1-7, wherein Het is a saturated ring substituted with oxo and optionally further substituted with Y.
15. The compound of claim 14, wherein Het is selected from pyrrolidine-2-one, oxazolidin-2-one, and imidazolidin-2-one, and is optionally substituted with Y.
16. The compound of claim 14, wherein Het is oxazolidin-2-one and is optionally substituted with $-L^2-N(R^{10})_2$ or $L^2-NR^{10}-C(=NR^{10})-N(R^{10})_2$.
17. The compound of claim 14, wherein Het is oxazolidin-2-one that is substituted on the 5-position with $-L^2-N(R^{10})_2$ or $L^2-NR^{10}-C(=NR^{10})-N(R^{10})_2$ in the *R*-configuration.
18. The compound of any of the preceding claims, having the structure of Formula (II):

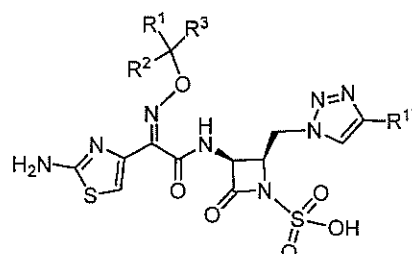


or a pharmaceutically acceptable salt thereof.

19. The compound of claim 1 or claim 2, which is of the formula (IIIa) or (IIIb):



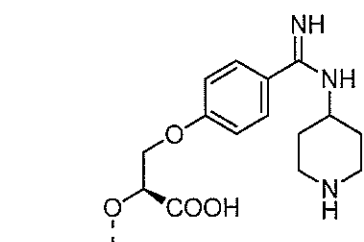
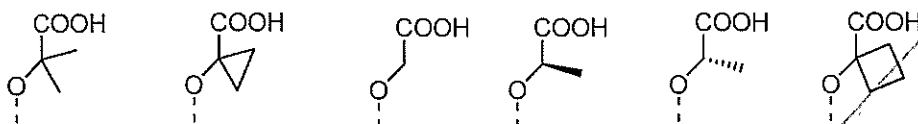
(IIIa) or



(IIIb)

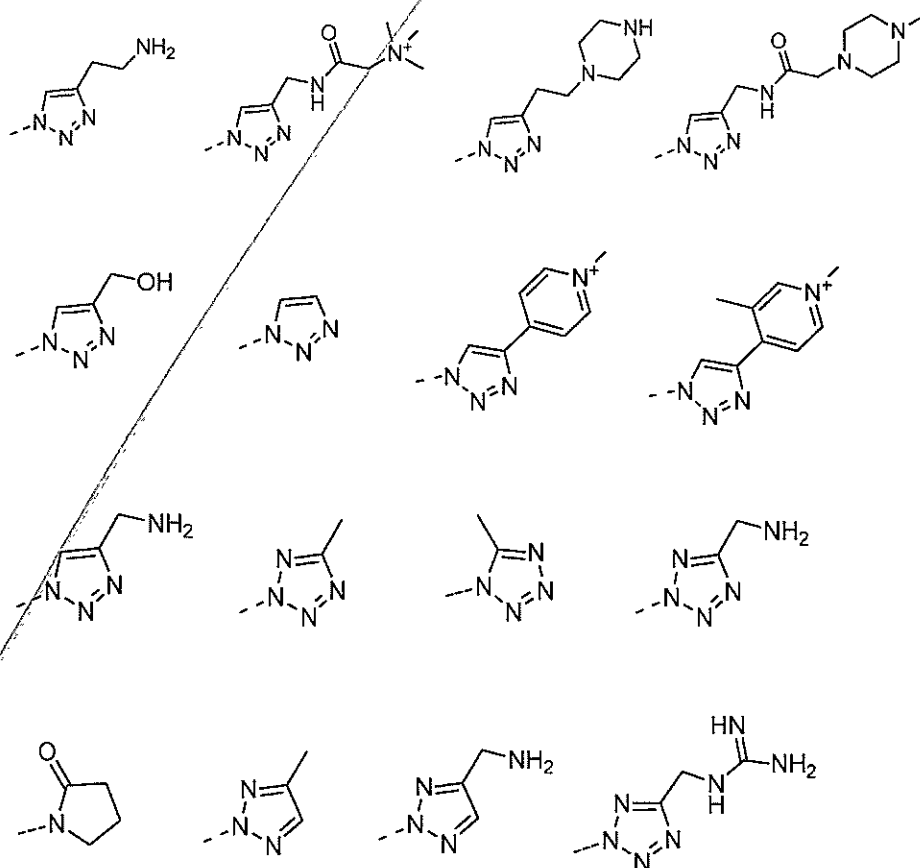
wherein R^{17} is Y or C_{1-4} alkyl optionally substituted with one or two Y.

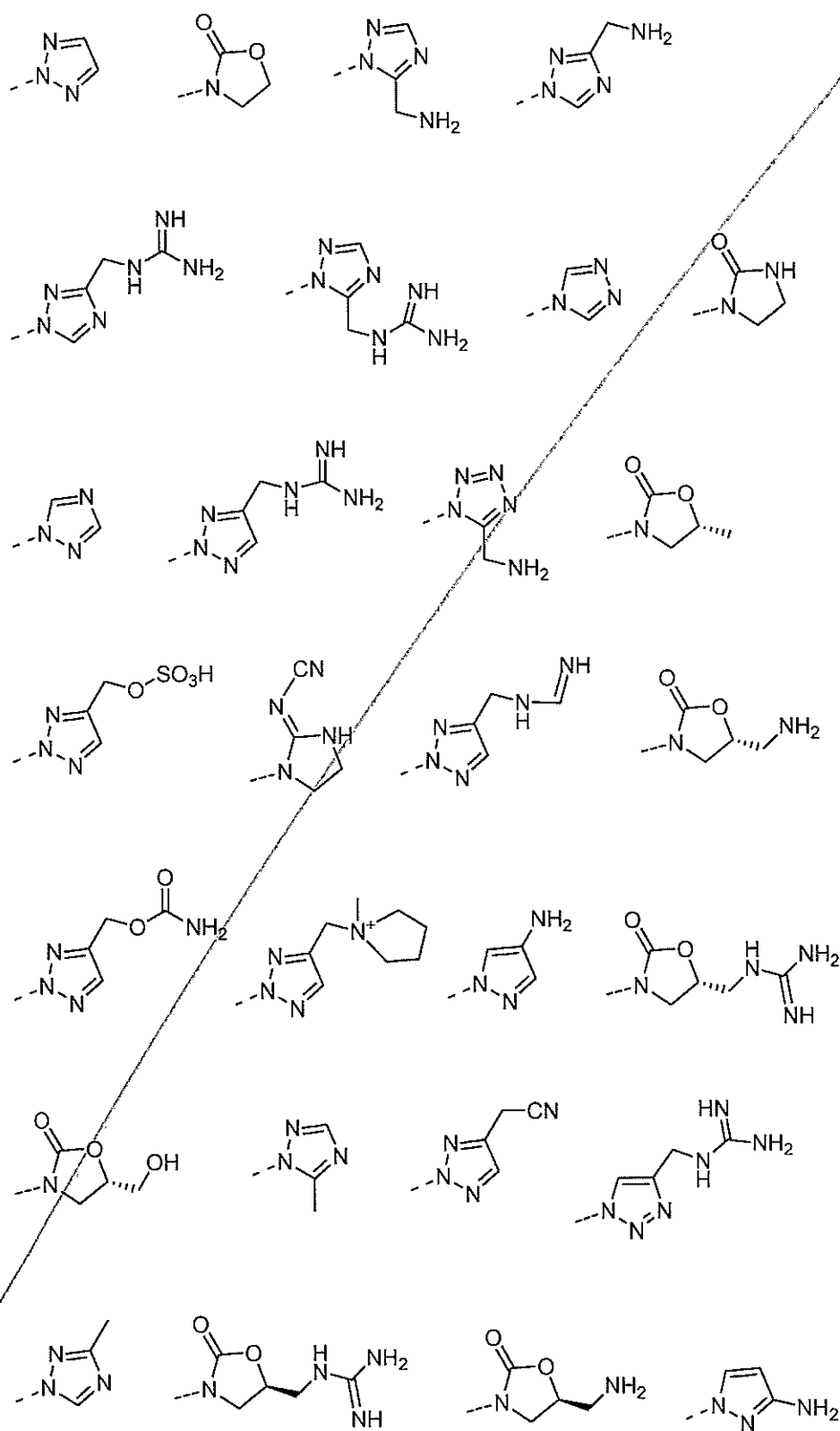
20. The compound of claim 1 or claim 2, wherein $-\text{O}-\text{CR}^1\text{R}^2\text{R}^3$ is selected from

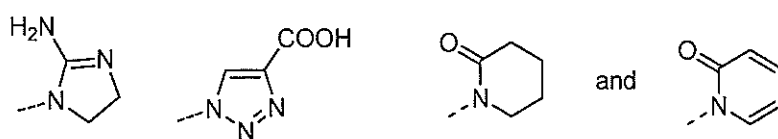


and

21. The compound of claim 1 or claim 20, wherein Het is selected from

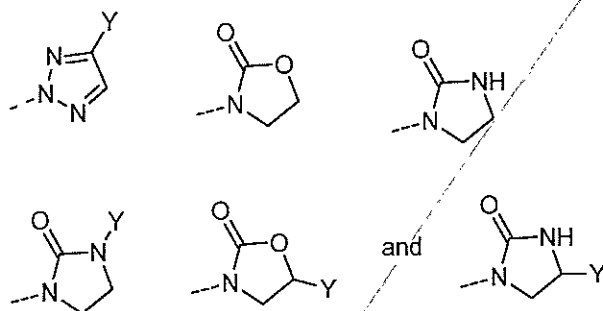




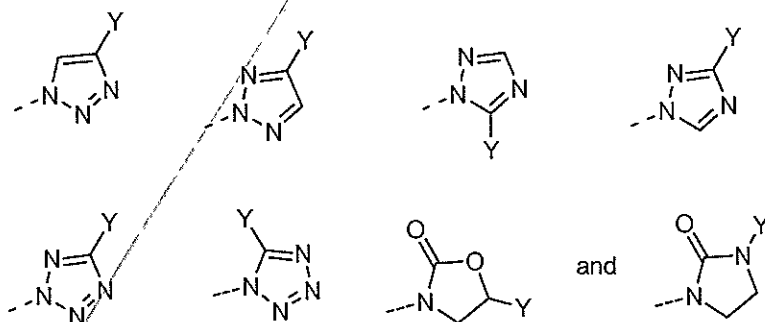


22. The compound of any of claims 1-16, wherein L^2 is $-(\text{CH}_2)_{1-3}-$.

23. The compound of claim 18 wherein Het is selected from:

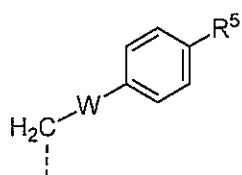


24. The compound of claim 18, wherein Het is selected from



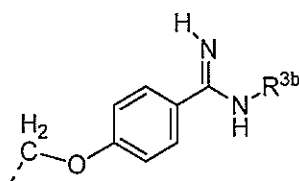
25. The compound of claim 19, wherein Y is selected from Q , $-\text{L}^2-\text{OR}^{10}$, $-\text{L}^2-\text{N}(\text{R}^{10})_2$, $-\text{L}^2-\text{N}^+(\text{R}^{11})_3$, $-\text{L}^2-\text{NR}^{10}-\text{C}(\text{O})\text{R}^{10}$, $-\text{L}^2-\text{O}-\text{C}(\text{O})\text{OR}^{10}$, $-\text{L}^2-\text{O}-\text{C}(\text{O})-\text{N}(\text{R}^{10})_2$, $-\text{L}^2-\text{NR}^{10}-\text{C}(\text{O})-\text{N}(\text{R}^{10})_2$, $-\text{L}^2-\text{C}(=\text{NR}^{10})-\text{N}(\text{R}^{10})_2$, $-\text{CON}(\text{R}^{10})_2$, $-\text{L}^2-\text{NR}^{10}-\text{C}(=\text{NR}^{10})-\text{N}(\text{R}^{10})_2$, and $-\text{L}^2-\text{NR}^{10}-\text{C}(=\text{NR}^{10})-\text{R}^{10}$.

26. The compound of any of claims 6-25, wherein R^3 is



of the formula

27. The compound of claim 26, wherein R^3 is



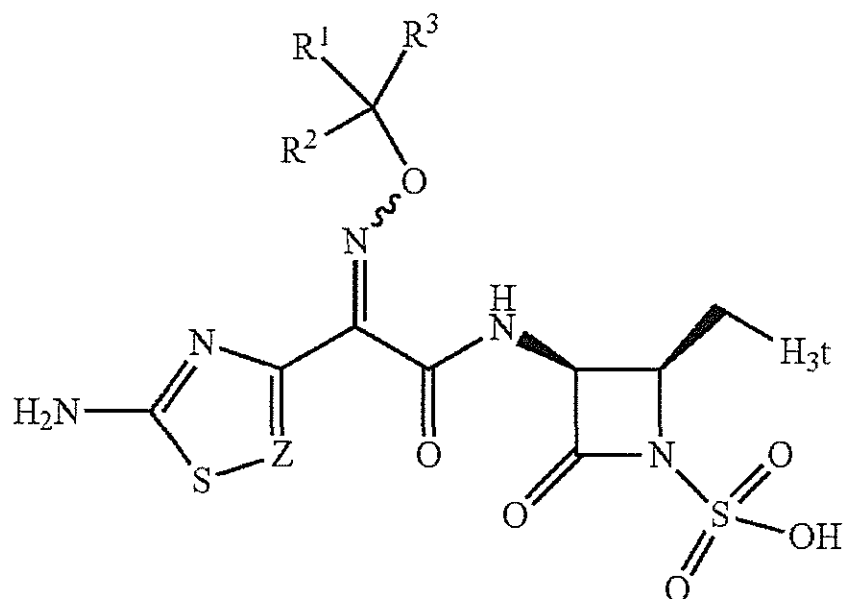
where R^{3b} is selected from H, azetidine, pyrrolidine and piperidine.

28. The compound of any of the preceding claims, which is a pharmaceutically acceptable salt.
29. A pharmaceutical composition comprising a compound of any of the preceding claims and at least one pharmaceutically acceptable excipient.
30. A method to treat a Gram-negative bacterial infection, which comprises administering to a subject in need of such treatment a compound of any of claims 1-27, or a pharmaceutical composition of claim 29.
31. The method of claim 30, wherein the bacterial infection is caused by a species of *Burkholderia*, *Citrobacter*, *Enterobacter*, *Escherichia*, *Klebsiella*, *Meningitidis*, *Morganella*, *Pseudomonas*, *Proteus*, *Salmonella*, *Serratia*, *Acinetobacter*, *Bacteroides*, *Burgholderia*, *Campylobacter*, *Neisseria*, or *Stenotrophomonas* bacteria.
32. The method of claim 30, wherein the bacterial infection is nosocomial pneumonia, an intraabdominal infection, or a urinary tract infection caused by a species of *Enterobacteriaceae*.
33. A compound according to any of claims 1-27 for use as a medicament.

34. The compound of claim 33, wherein the medicament is an antibacterial agent.
35. The compound of claim 33, wherein the antibacterial agent is for treatment of a Gram-negative bacterial infection caused by a species of *Citrobacter*, *Enterobacter*, *Escherichia*, *Klebsiella*, *Morganella*, *Pseudomonas*, *Proteus*, *Salmonella*, *Serratia*, *Acinetobacter*, *Bacteroides*, *Burgholderia*, *Campylobacter*, *Neisseria*, or *Stenotrophomonas*.
36. A pharmaceutical combination, comprising a compound according to any of claims 1-27 and a second therapeutic agent.

Claims

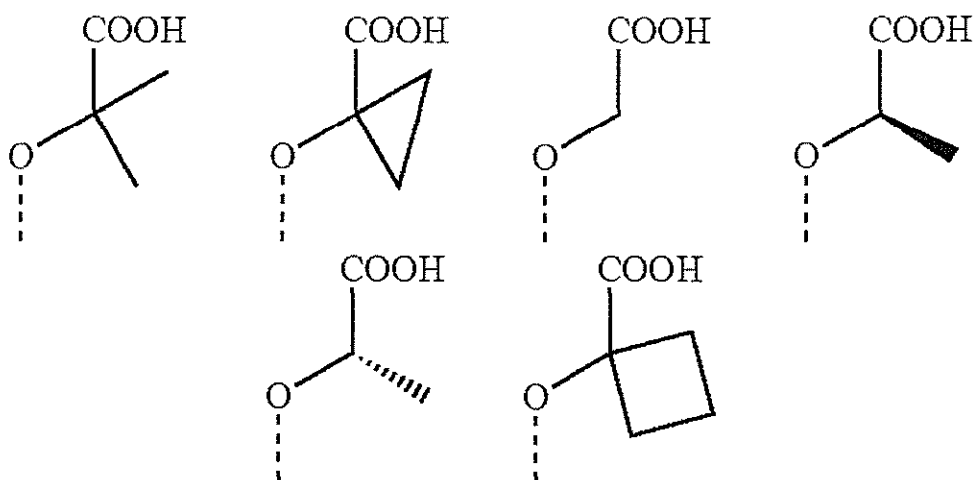
1. A compound of Formula (IA):

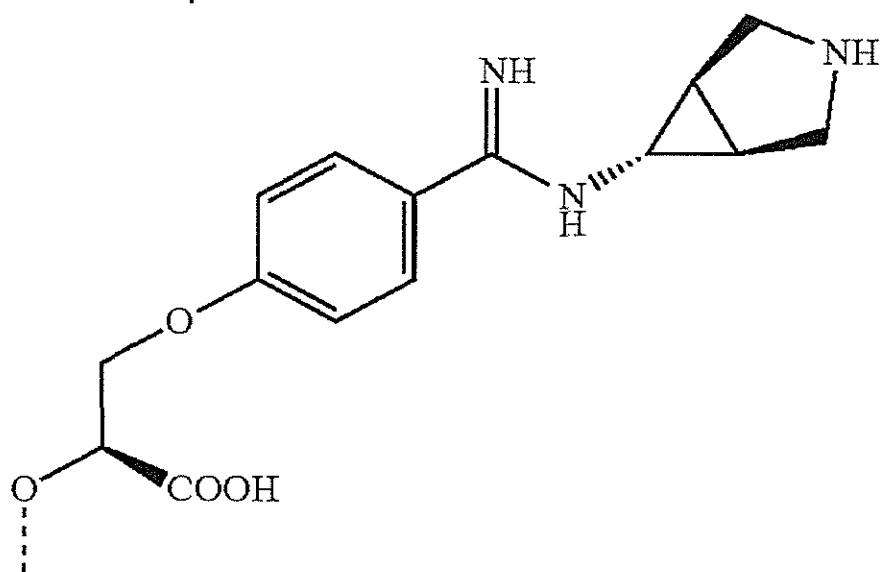
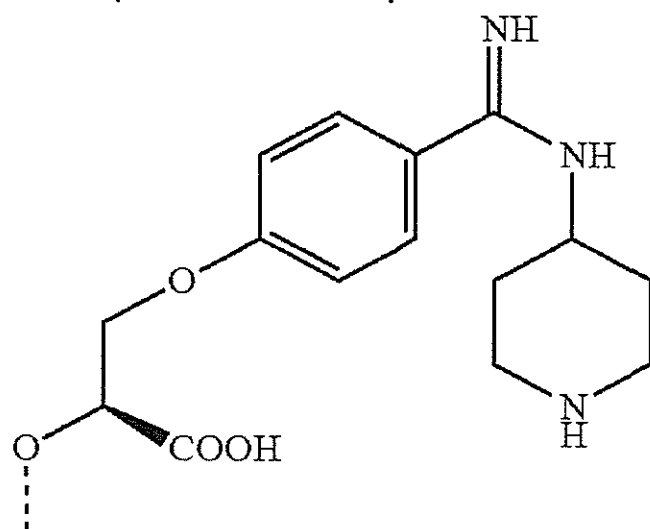


or a pharmaceutically acceptable salt thereof,
wherein:

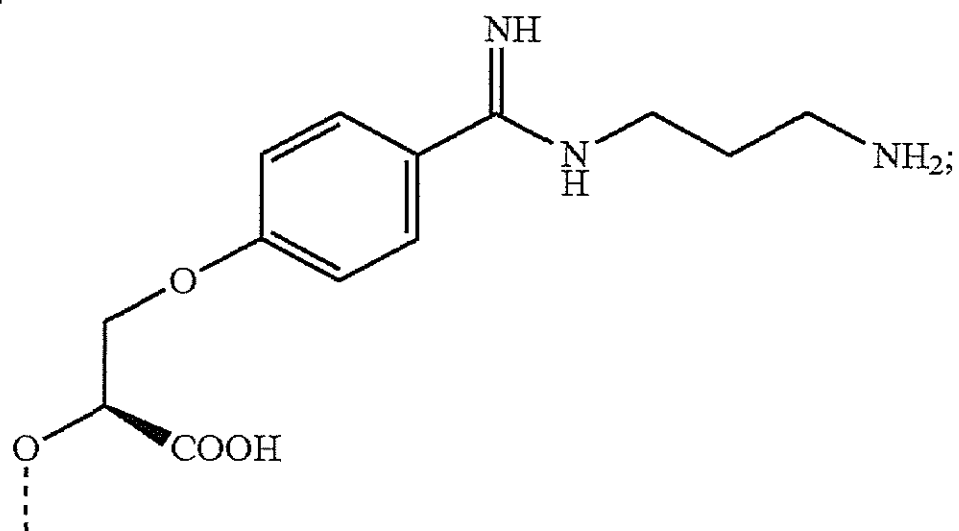
Z is CH;

the group —O—CR¹R²R³ is selected from



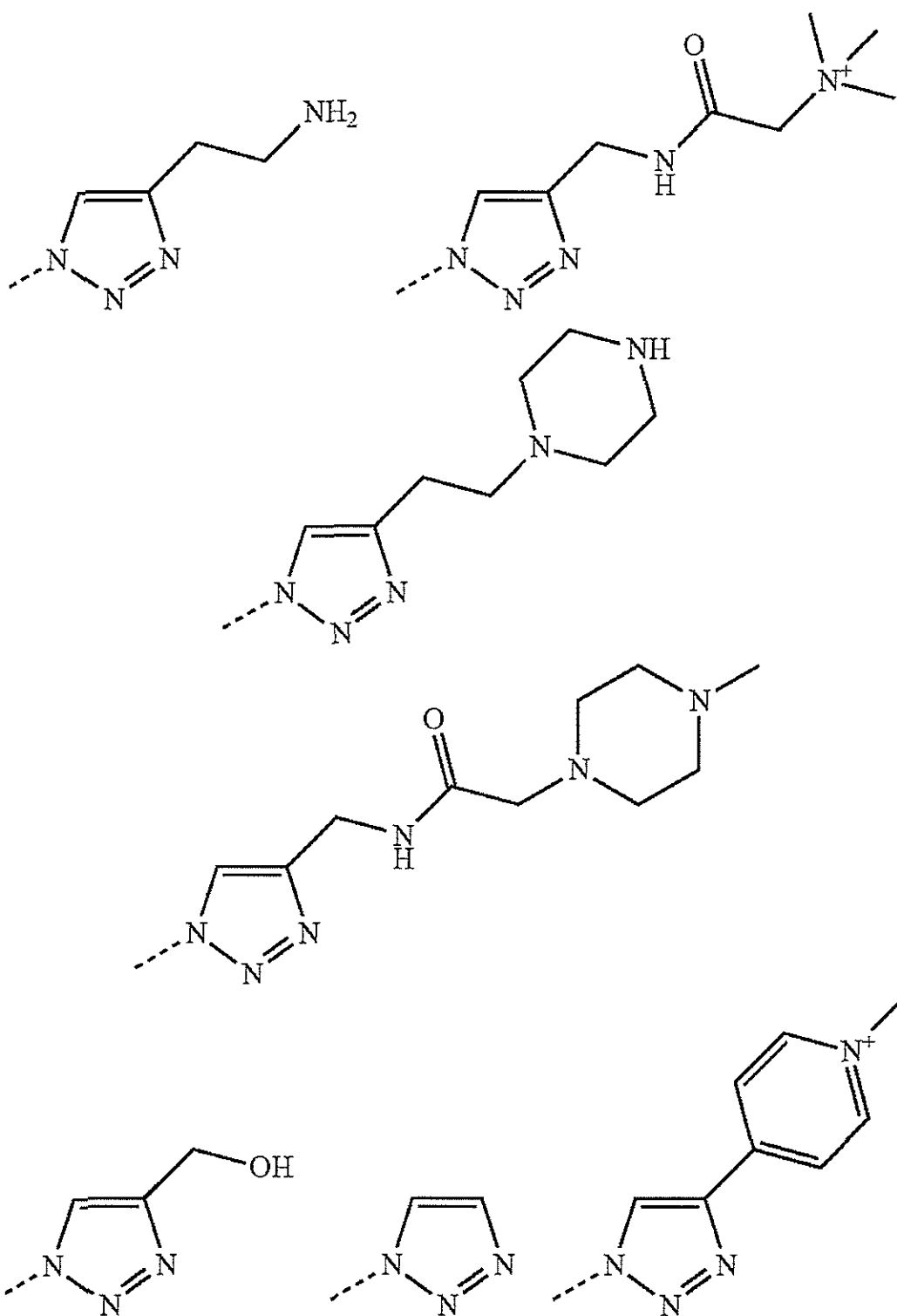


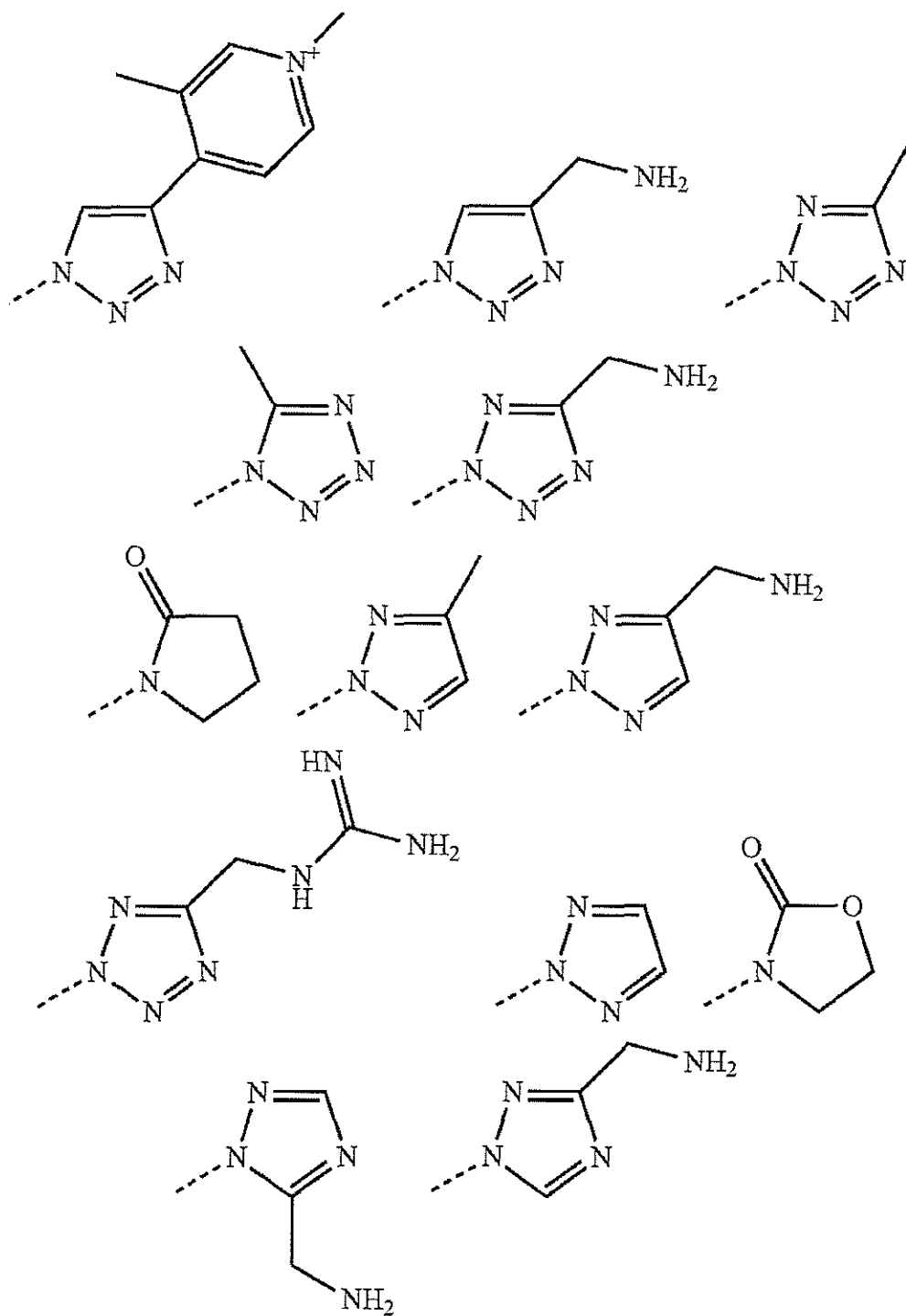
and

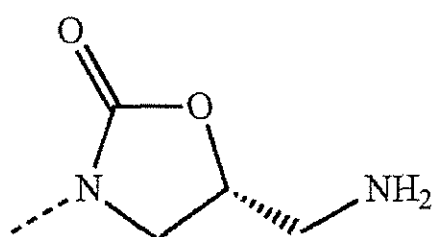
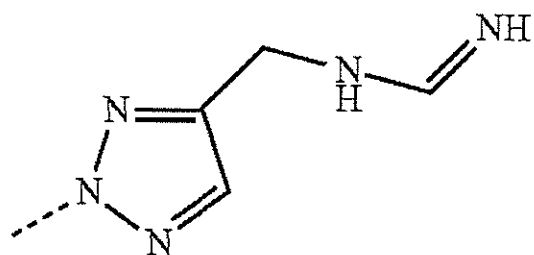
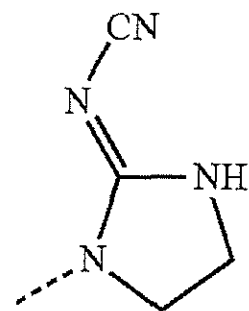
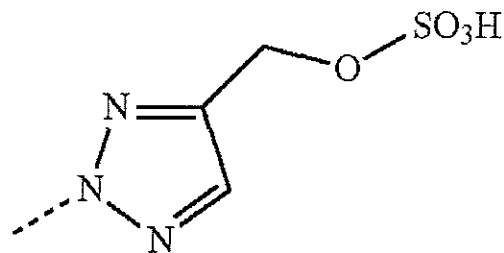
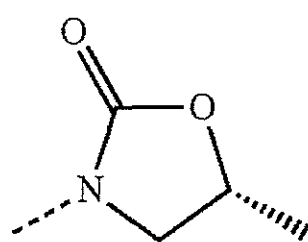
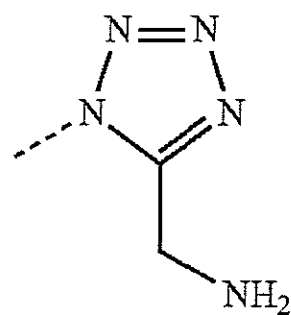
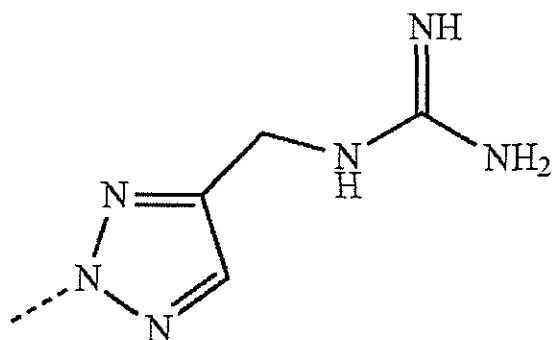
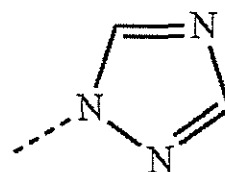
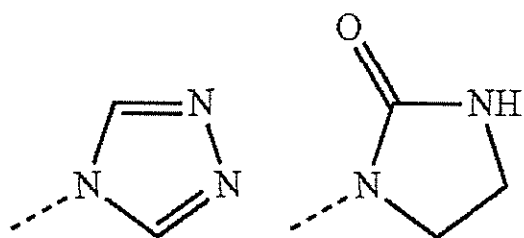
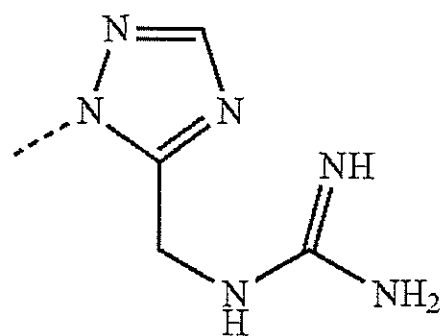
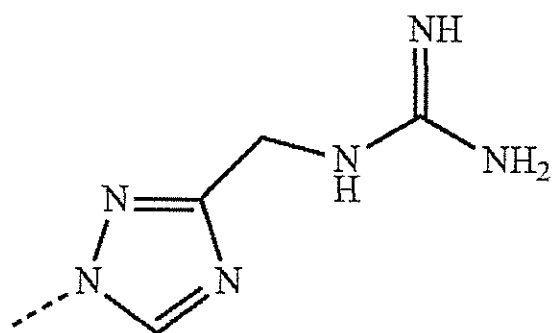


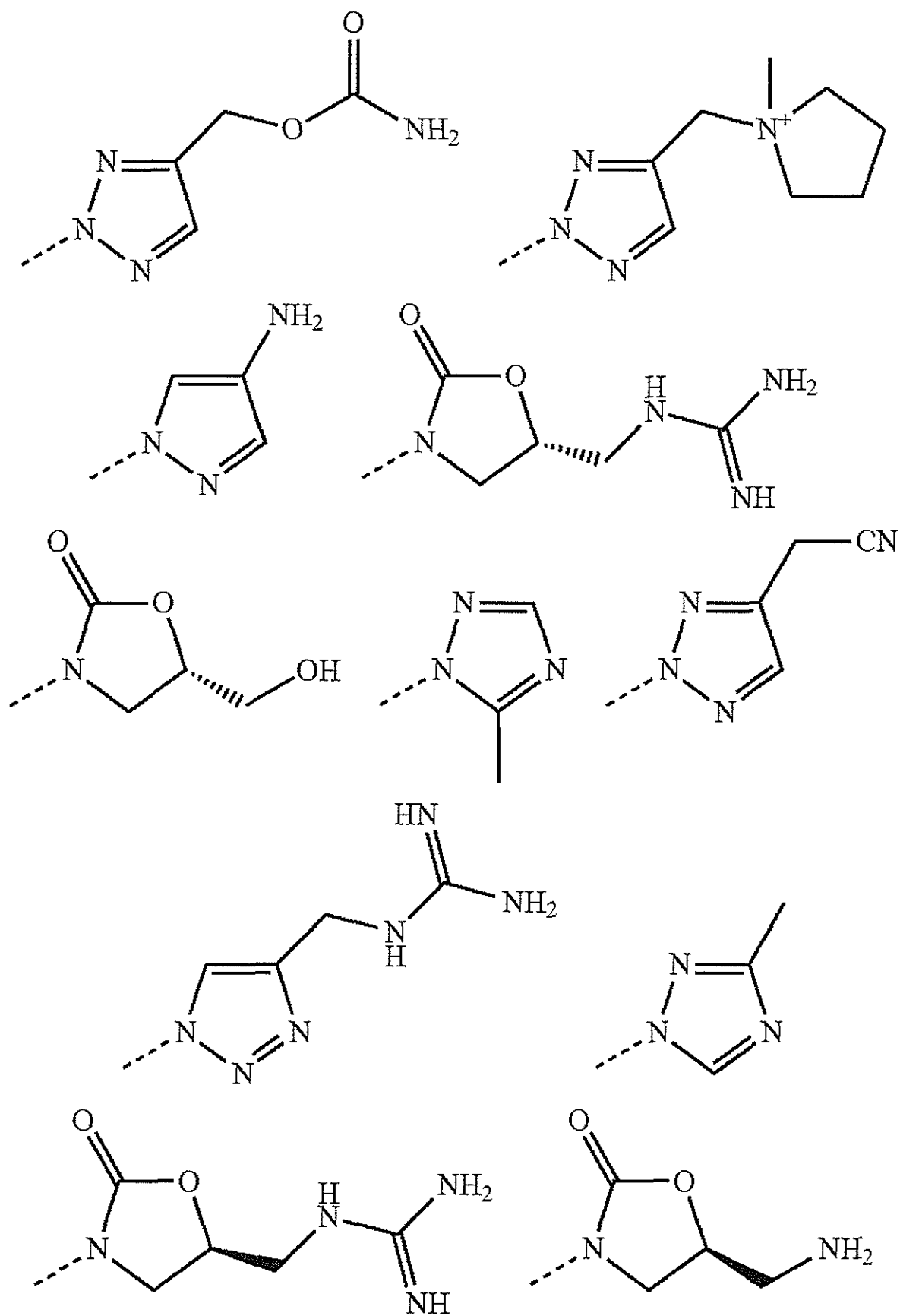
and

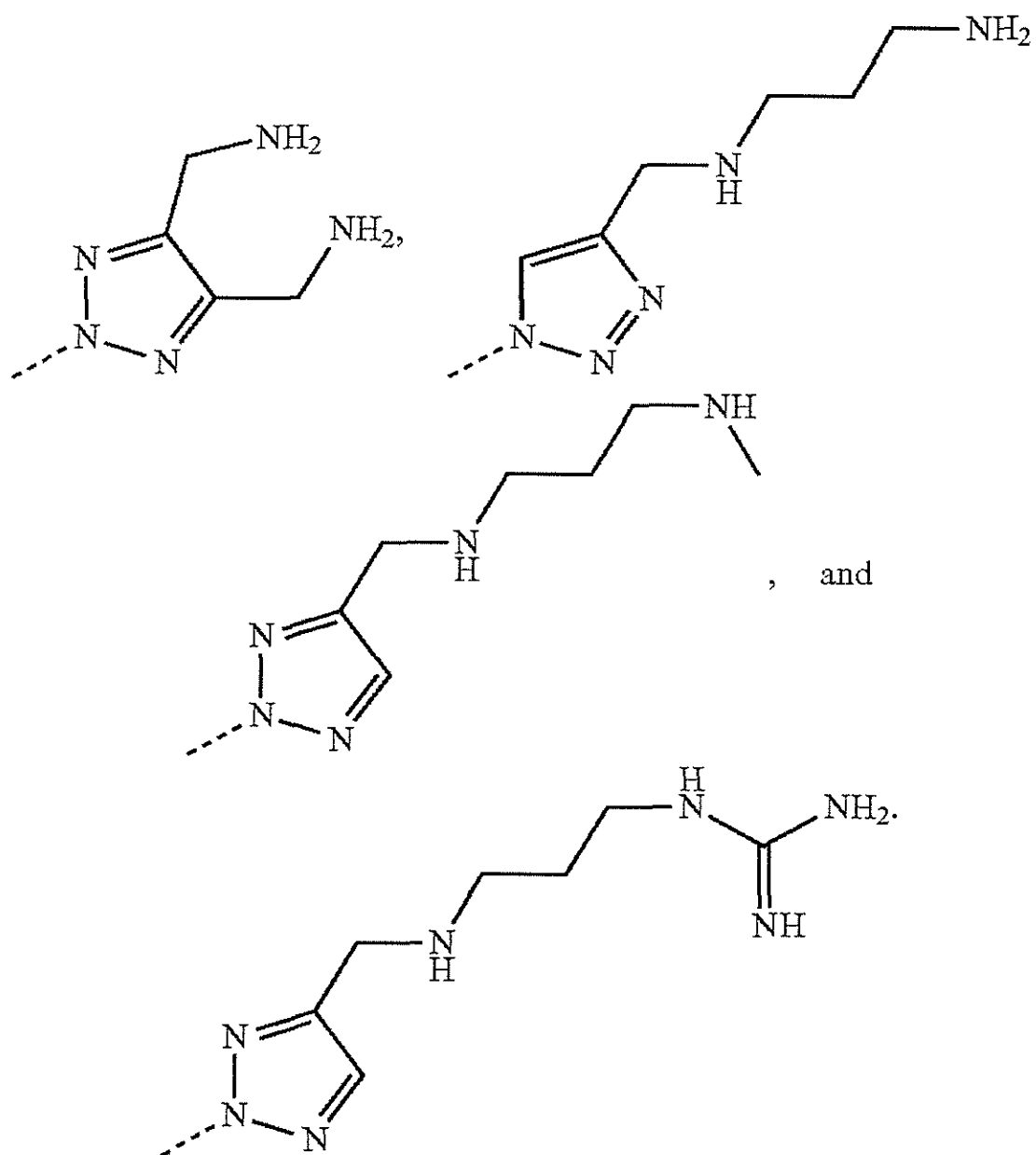
Het is selected from



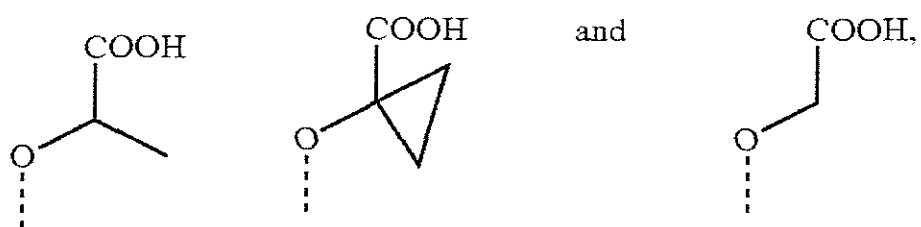






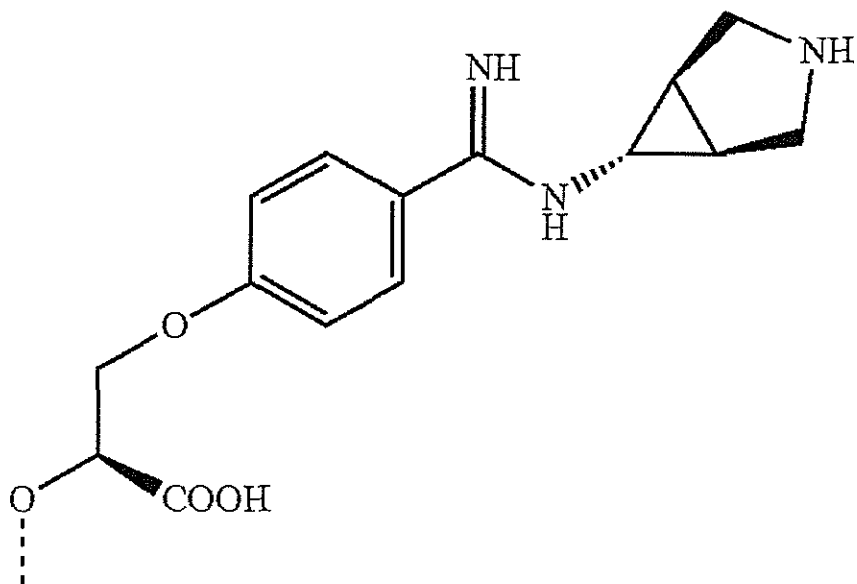
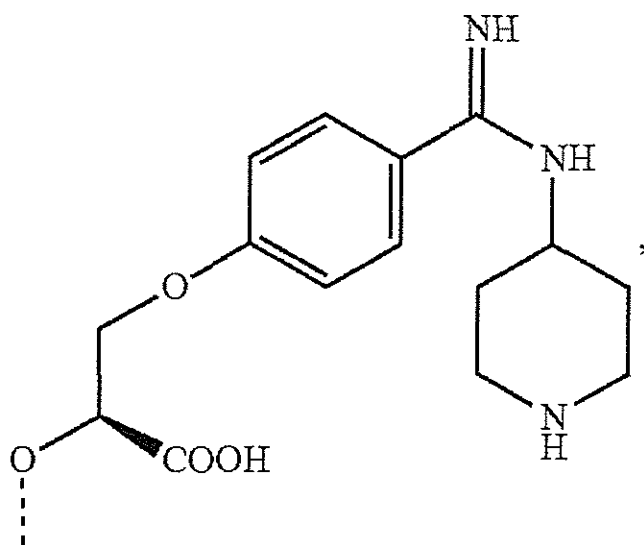


2. The compound of claim 1, wherein the group $-\text{OCR}^1\text{R}^2\text{R}^3$ is selected from:

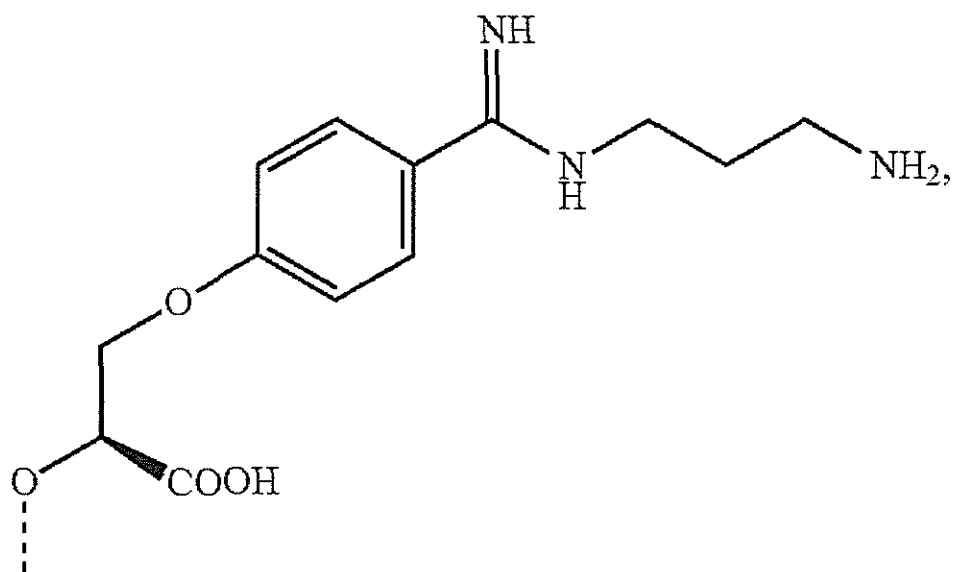


or a pharmaceutically acceptable salt thereof.

3. The compound of claim 1, wherein the group $\text{—O—CR'R}^2\text{R}^3$ is

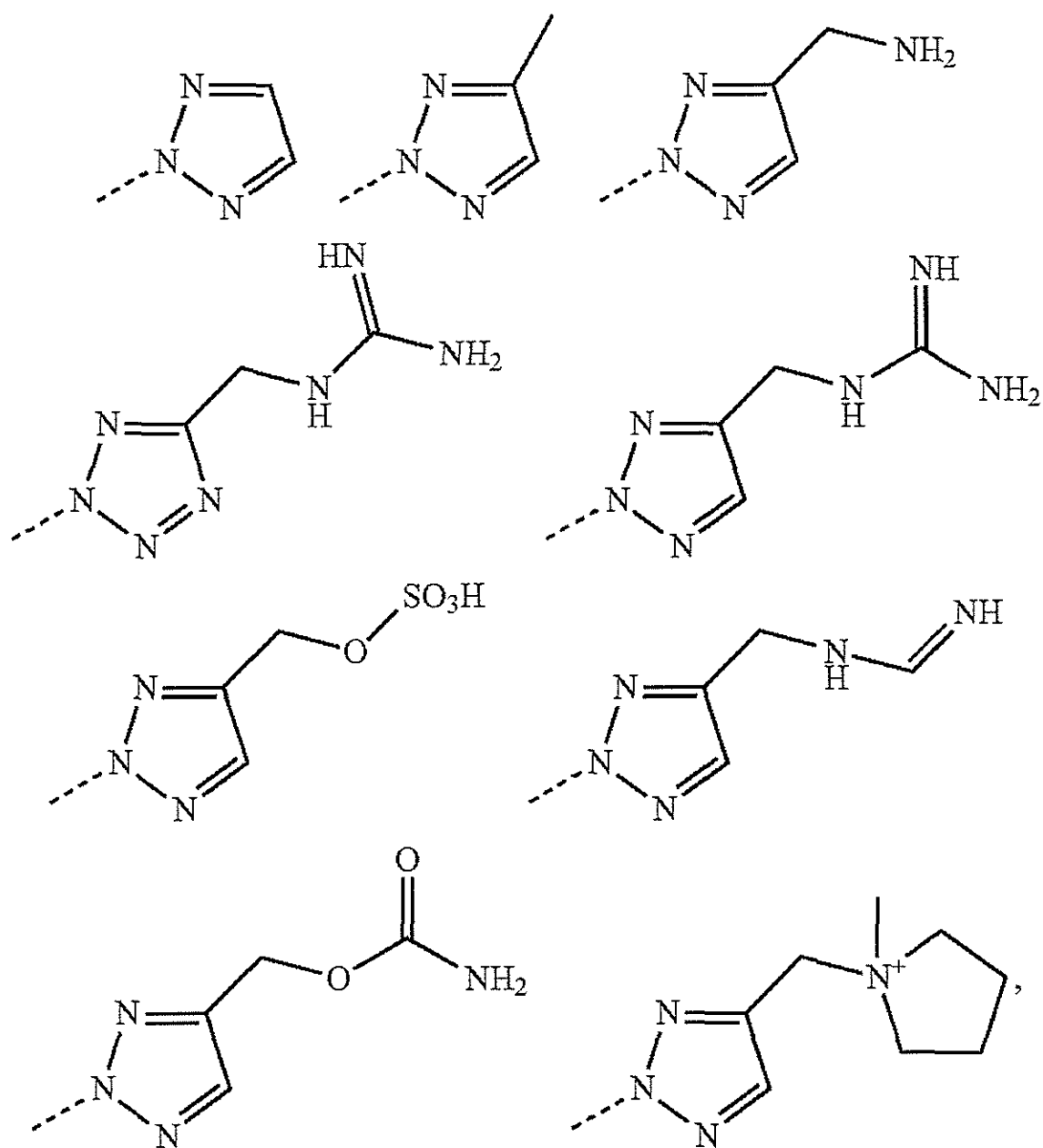


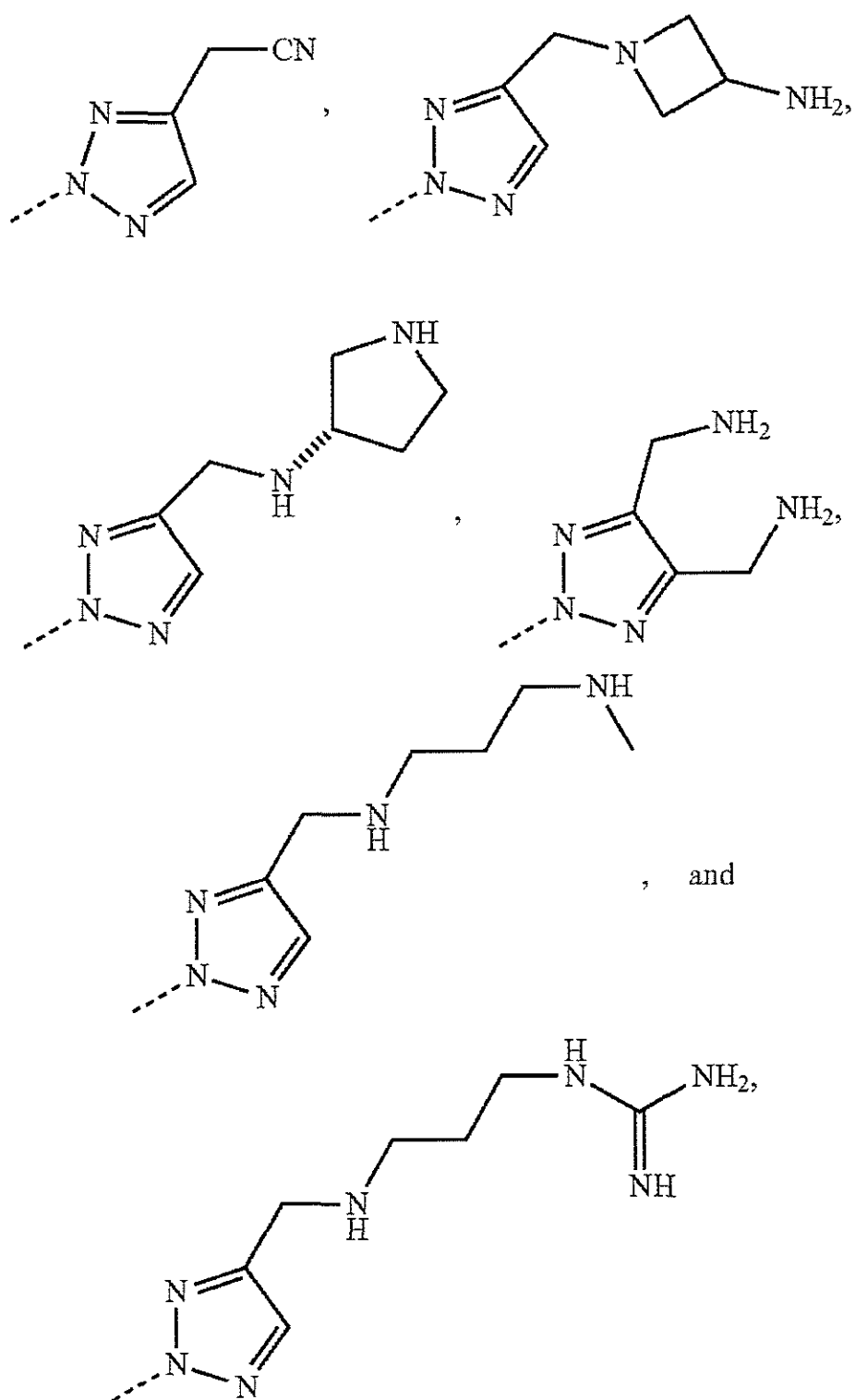
or



or a pharmaceutically acceptable salt thereof.

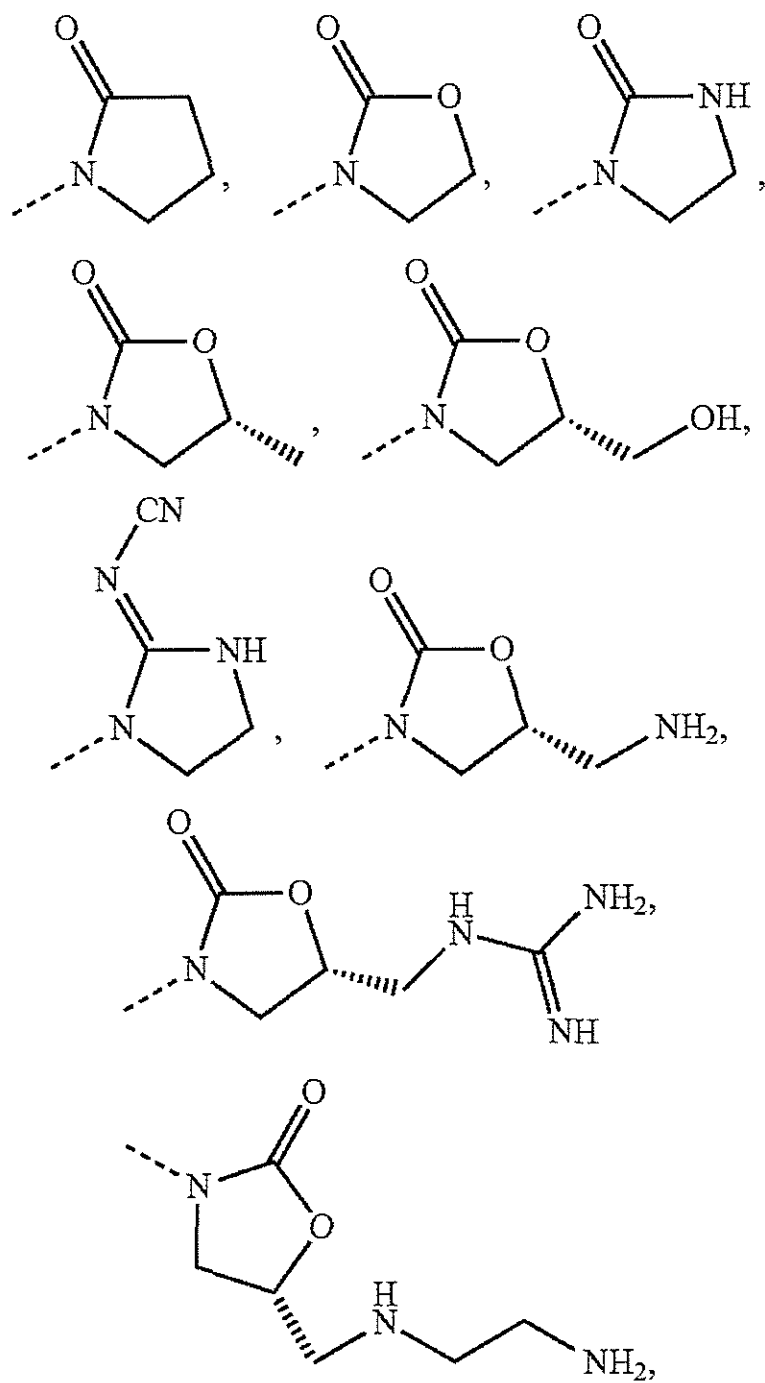
4. The compound of claim 1, wherein Het is selected from:

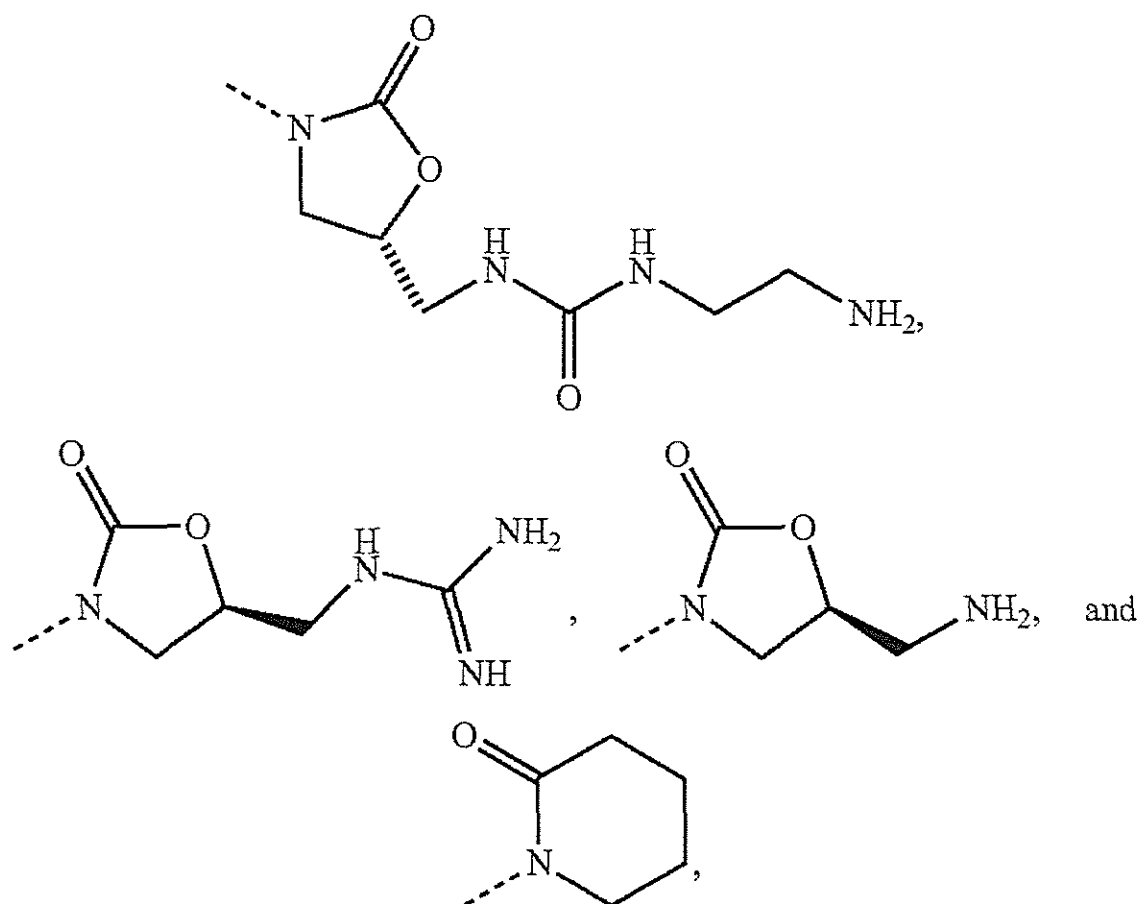




or a pharmaceutically acceptable salt thereof.

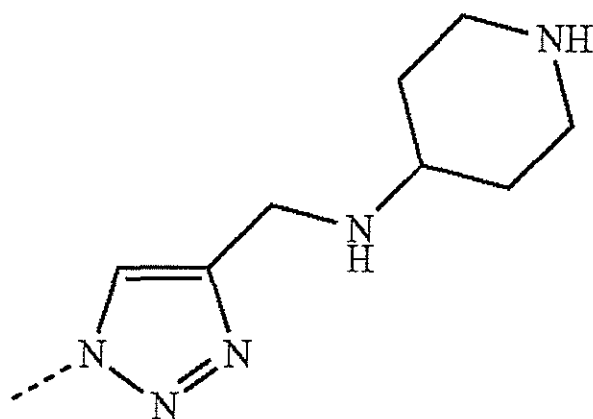
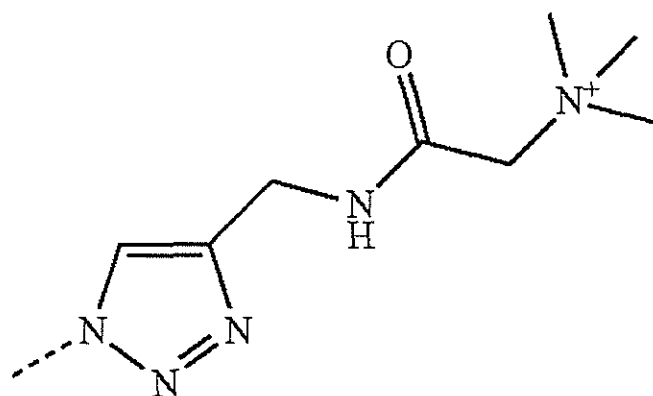
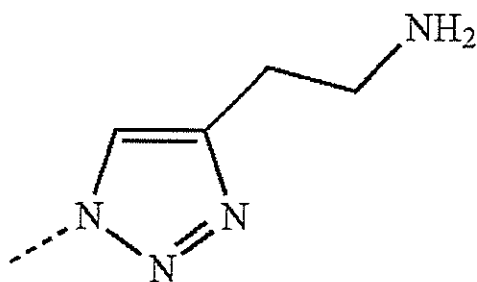
5. The compound of claim 1, wherein Het is selected from:

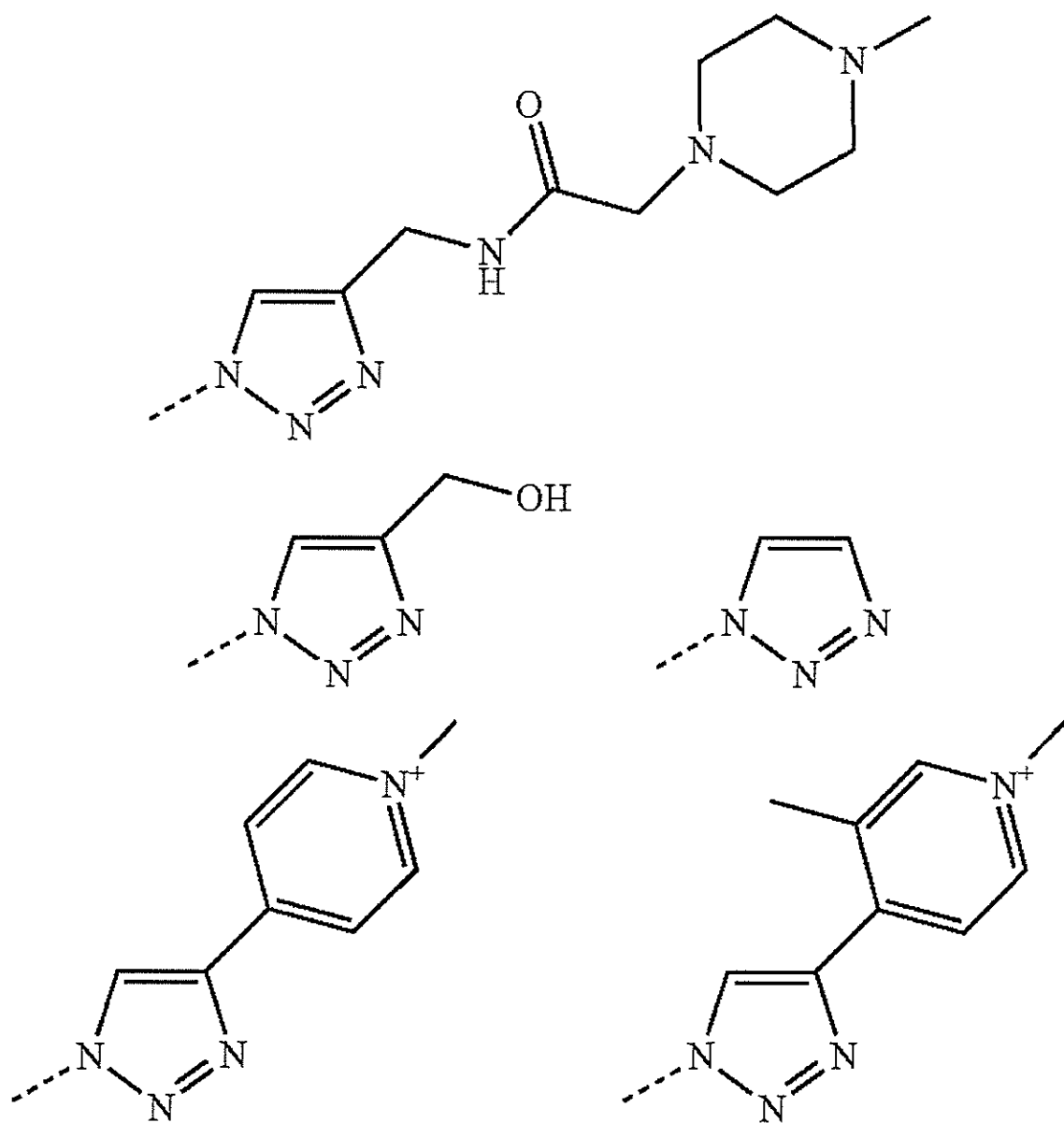


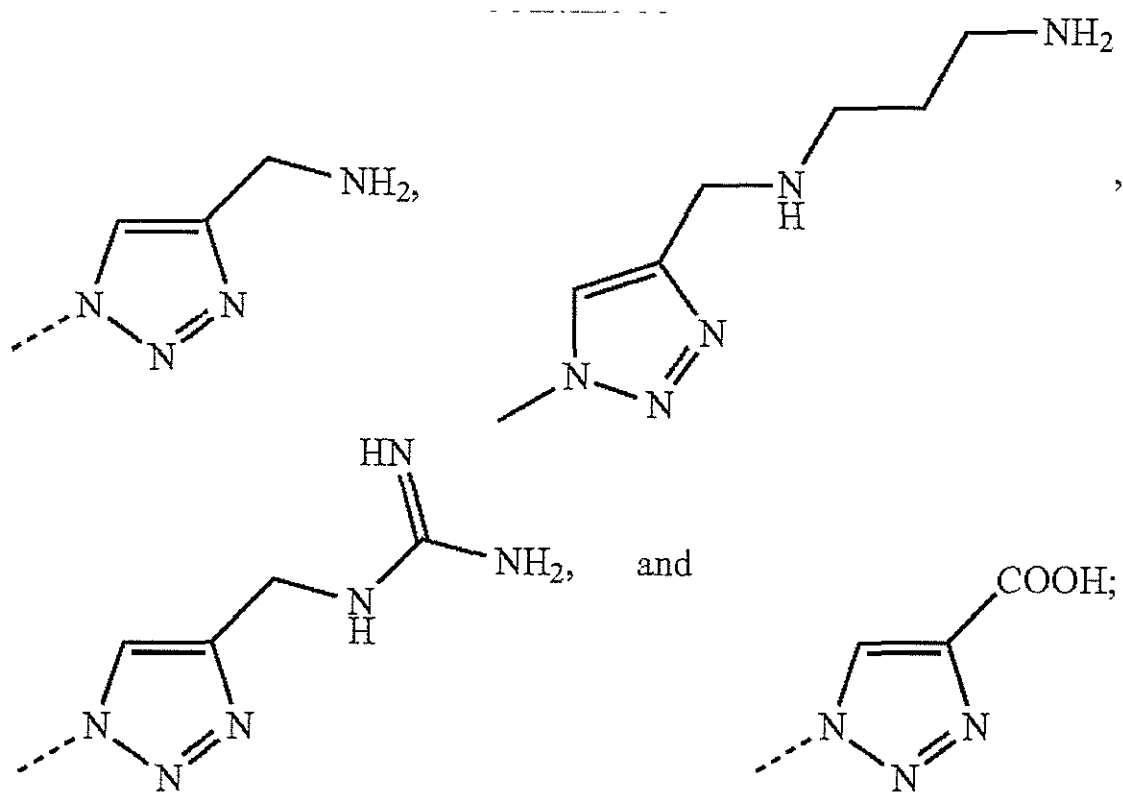


or a pharmaceutically acceptable salt thereof.

6. The compound of claim 1, wherein Het is selected from:

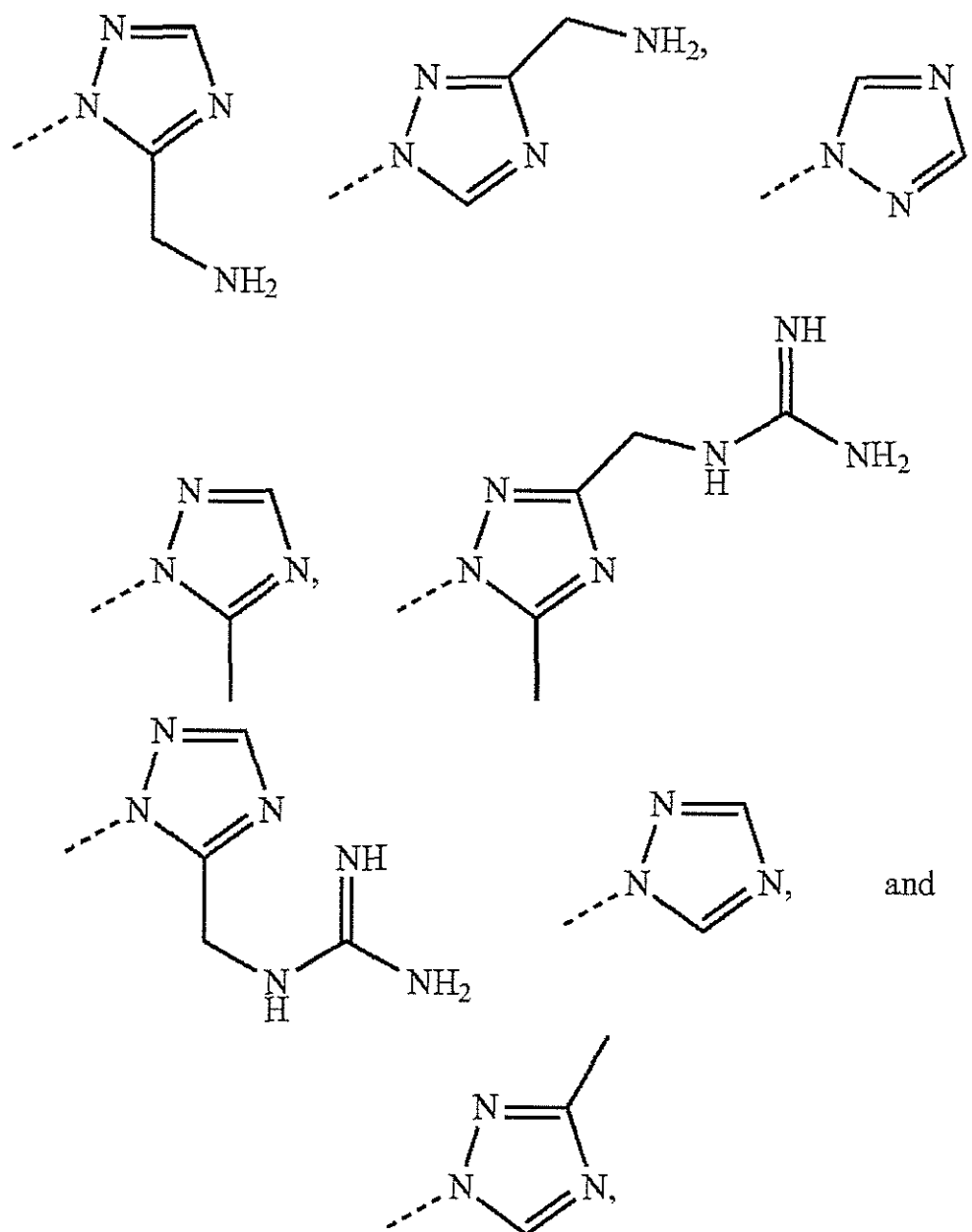






or a pharmaceutically acceptable salt thereof.

7. The compound of claim 1, wherein Het is selected from:



or a pharmaceutically acceptable salt thereof.

8. The compound of claim 1, which is selected from:
- 1-(((Z)-(2-(((2R,3S)-2-((4-(aminomethyl)-2-oxoimidazolidin-1-yl)methyl)-4-oxo-1-sulfoazetidin-3-yl)amino)-1-(2-aminothiazol-4-yl)-2-oxoethylidene)amino)oxy)cyclopropanecarboxylic acid;
 - 1-(((Z)-(2-(((2R,3S)-2-(((R)-5-((3-(2-aminoethyl)ureido)methyl)-2-oxooxazolidin-3-yl)methyl)-4-oxo-1-sulfoazetidin-3-yl)amino)-1-(2-aminothiazol-4-yl)-2-oxoethylidene)amino)oxy)cyclopropanecarboxylic acid;
 - 1-(((Z)-(1-(2-aminothiazol-4-yl)-2-oxo-2-(((3S,4R)-2-oxo-4-((2-oxoimidazolidin-1-yl)methyl)-1-sulfoazetidin-3-yl)amino)ethylidene)amino)oxy)cyclopropanecarboxylic acid;
 - 1-(((Z)-(2-(((2R,3S)-2-(((R)-5-((2-aminoethyl)amino)methyl)-2-oxooxazolidin-3-yl)methyl)-4-oxo-1-sulfoazetidin-3-yl)amino)-1-(2-aminothiazol-4-yl)-2-oxoethylidene)amino)oxy)cyclopropanecarboxylic acid;
 - 1-(((Z)-(2-(((2R,3S)-2-(((R)-5-(aminomethyl)-2-oxooxazolidin-3-yl)methyl)-4-oxo-1-sulfoazetidin-3-yl)

amino)-1-(2-aminothiazol-4-yl)-2-oxoethyl idene) amino)oxy)-cyclopropanecarboxylic acid;

1-(((Z)-(1-(2-aminothiazol-4-yl)-2-oxo-2-(((3S,4R)-2-oxo-4-((2-oxooxazolidin-3-yl)methyl)-1-sulfoazetidin-3-yl)amino)ethylidene)amino)oxy)cyclopropanecarboxylic acid; and

1-(((Z)-(1-(2-aminothiazol-4-yl)-2-(((2R,3S)-2-(((R)-5-(guanidinomethyl)-2-oxooxazolidin-3-yl)methyl)-4-oxo-1-sulfoazetidin-3-yl)amino)-2-oxoethylidene) amino)oxy)-cyclopropanecarboxylic acid, or a pharmaceutically acceptable salt thereof.

9. The compound of claim 1, which is selected from:

1-(((Z)-(1-(2-aminothiazol-4-yl)-2-(((2R,3S)-2-((4-(guanidinomethyl)-2H-1,2,3-triazol-2-yl)methyl)-4-oxo-1-sulfoazetidin-3-yl)amino)-2-oxoethylidene) amino)oxy)-cyclopropanecarboxylic acid;

1-(((Z)-(2-(((2R,3S)-2-((4-(aminomethyl)-1H-1,2,3-triazol-1-yl)methyl)-4-oxo-1-sulfoazetidin-3-yl)amino)-1-(2-aminothiazol-4-yl)-2-oxoethylidene)amino)oxy)cyclopropanecarboxylic acid;

(S)-2-(((Z)-(2-(((2R,3S)-2-((1H-1,2,4-triazol-1-yl)methyl)-4-oxo-1-sulfoazetidin-3-yl)amino)-1-(2-aminothiazol-4-yl)-2-oxoethylidene)amino)oxy)-3-(4-(N-(2-aminoethyl)carbamimidoyl)phenoxy)propanoic acid;

1-(((Z)-(1-(2-aminothiazol-4-yl)-2-(((2R,3S)-2-((4-(((3-guanidinopropyl)amino)methyl)-2H-1,2,3-triazol-2-yl)methyl)-4-oxo-1-sulfoazetidin-3-yl)amino)-2-oxoethylidene)amino)oxy)cyclopropanecarboxylic acid;
 1-(((Z)-(1-(2-aminothiazol-4-yl)-2-(((2R,3S)-2-((4,5-bis(aminomethyl)-2H-1,2,3-triazol-2-yl)methyl)-4-oxo-1-sulfoazetidin-3-yl)amino)-2-oxoethylidene)amino)oxy)cyclopropanecarboxylic acid;
 1-(((Z)-(2-(((2R,3S)-2-((4-((3-aminoazetidin-1-yl)methyl)-2H-1,2,3-triazol-2-yl)methyl)-4-oxo-1-sulfoazetidin-3-yl)amino)-1-(2-aminothiazol-4-yl)-2-oxoethylidene)amino)oxy)cyclopropanecarboxylic acid;
 1-(((Z)-(1-(2-aminothiazol-4-yl)-2-oxo-2-(((3S,4R)-2-oxo-4-((4-(((S)-pyrrolidin-3-ylamino)methyl)-2H-1,2,3-triazol-2-yl)methyl)-1-sulfoazetidin-3-yl)amino)ethylidene)amino)oxy)cyclopropanecarboxylic acid;
 (S)-2-(((Z)-(2-(((2R,3S)-2-((1H-1,2,4-triazol-1-yl)methyl)-4-oxo-1-sulfoazetidin-3-yl)amino)-1-(2-aminothiazol-4-yl)-2-oxoethylidene)amino)oxy)-3-(4-(N-((1R,5S,6s)-3-azabicyclo[3.1.0]hexan-6-yl)carbamimidoyl)phenoxy)propanoic acid; and
 (S)-2-(((Z)-(2-(((2R,3S)-2-((1H-1,2,4-triazol-1-yl)methyl)-4-oxo-1-sulfoazetidin-3-yl)amino)-1-(2-aminothiazol-4-yl)-2-oxoethylidene)amino)oxy)-3-(4-(N-(3-aminopropyl)carbamimidoyl)phenoxy)propanoic acid;
 or a pharmaceutically acceptable salt thereof.

10. The compound of claim 1, which is selected from:
- 1-(((Z)-(2-(((2R,3S)-2-((4-(aminomethyl)-2-oxoimidazolidin-1-yl)methyl)-4-oxo-1-sulfoazetidin-3-yl)amino)-1-(2-aminothiazol-4-yl)-2-oxoethylidene)amino)oxy)cyclopropanecarboxylic acid;
- 1-(((Z)-(2-(((2R,3S)-2-(((R)-5-((3-(2-aminoethyl)ureido)methyl)-2-oxooxazolidin-3-yl)methyl)-4-oxo-1-sulfoazetidin-3-yl)amino)-1-(2-aminothiazol-4-yl)-2-oxoethylidene)amino)oxy)cyclopropanecarboxylic acid;
- and
- 1-(((Z)-(1-(2-aminothiazol-4-yl)-2-oxo-2-(((3S,4R)-2-oxo-4-((2-oxoimidazolidin-1-yl)methyl)-1-sulfoazetidin-3-yl)amino)ethylidene)amino)oxy)cyclopropanecarboxylic acid;
- or a pharmaceutically acceptable salt thereof.

11. The compound of claim 1, which is selected from:
1-(((Z)-(2-(((2R,3S)-2-(((R)-5-(((2-aminoethyl)amino)methyl)-2-oxooxazolidin-3-yl)methyl)-4-oxo-1-sulfoazetidin-3-yl)amino)-1-(2-aminothiazol-4-yl)-2-oxoethylidene)amino)oxy)cyclopropanecarboxylic acid;
1-(((Z)-(2-(((2R,3S)-2-(((R)-5-(aminomethyl)-2-oxooxazolidin-3-yl)methyl)-4-oxo-1-sulfoazetidin-3-yl)amino)-1-(2-aminothiazol-4-yl)-2-oxoethylidene)amino)oxy)-cyclopropanecarboxylic acid;
1-(((Z)-(1-(2-aminothiazol-4-yl)-2-oxo-2-(((3S,4R)-2-oxo-4-((2-oxooxazolidin-3-yl)methyl)-1-sulfoazetidin-3-yl)amino)ethylidene)amino)oxy)cyclopropanecarboxylic acid; and
1-(((Z)-(1-(2-aminothiazol-4-yl)-2-(((2R,3S)-2-(((R)-5-(guanidinomethyl)-2-oxooxazolidin-3-yl)methyl)-4-oxo-1-sulfoazetidin-3-yl)amino)-2-oxoethylidene)amino)oxy)-cyclopropanecarboxylic acid,
or a pharmaceutically acceptable salt thereof.
12. The compound of claim 1, which is selected from:
1-(((Z)-(1-(2-aminothiazol-4-yl)-2-(((2R,3S)-2-((4-(guanidinomethyl)-2H-1,2,3-triazol-2-yl)methyl)-4-oxo-1-sulfoazetidin-3-yl)amino)-2-oxoethylidene)amino)oxy)-cyclopropanecarboxylic acid;
1-(((Z)-(2-(((2R,3S)-2-((4-(aminomethyl)-1H-1,2,3-triazol-1-yl)methyl)-4-oxo-1-sulfoazetidin-3-yl)amino)-1-(2-aminothiazol-4-yl)-2-oxoethylidene)amino)oxy)cyclopropanecarboxylic acid;

(S)-2-(((Z)-(2-(((2R,3S)-2-((1H-1,2,4-triazol-1-yl)methyl)-4-oxo-1-sulfoazetidin-3-yl)amino)-1-(2-aminothiazol-4-yl)-2-oxoethylidene)amino)oxy)-3-(4-(N-(2-aminoethyl)carbamimidoyl)phenoxy)propanoic acid;

or a pharmaceutically acceptable salt thereof.

13. The compound of claim 1, which is selected from:

1-(((Z)-(1-(2-aminothiazol-4-yl)-2-(((2R,3S)-2-((4-(((3-guanidinopropyl)amino)methyl)-2H-1,2,3-triazol-2-yl)methyl)-4-oxo-1-sulfoazetidin-3-yl)amino)-2-oxoethylidene)amino)oxy)cyclopropanecarboxylic acid;

1-(((Z)-(1-(2-aminothiazol-4-yl)-2-(((2R,3S)-2-((4,5-bis(aminomethyl)-2H-1,2,3-triazol-2-yl)methyl)-4-oxo-1-sulfoazetidin-3-yl)amino)-2-oxoethylidene)amino)oxy)cyclopropanecarboxylic acid;

1-(((Z)-(2-(((2R,3S)-2-((4-((3-aminoazetidin-1-yl)methyl)-2H-1,2,3-triazol-2-yl)methyl)-4-oxo-1-sulfoazetidin-3-yl)amino)-1-(2-aminothiazol-4-yl)-2-oxoethylidene)amino)oxy)cyclopropanecarboxylic acid;

or a pharmaceutically acceptable salt thereof.

14. The compound of claim 1, which is selected from:

1-(((Z)-(1-(2-aminothiazol-4-yl)-2-oxo-2-(((3S,4R)-2-oxo-4-((4-(((S)-pyrrolidin-3-ylamino)methyl)-2H-1,2,3-triazol-2-yl)methyl)-1-sulfoazetidin-3-yl)amino)ethylidene)amino)oxy)cyclopropanecarboxylic acid;

(S)-2-(((Z)-(2-(((2R,3S)-2-((1H-1,2,4-triazol-1-yl)methyl)-4-oxo-1-sulfoazetidin-3-yl)amino)-1-(2-aminothiazol-4-yl)-2-oxoethylidene)amino)oxy)-3-(4-(N-((1R,5S,6s)-3-azabicyclo[3.1.0]hexan-6-yl)carbamimidoyl)phenoxy)propanoic acid; and

(S)-2-(((Z)-(2-(((2R,3S)-2-((1H-1,2,4-triazol-1-yl)methyl)-4-oxo-1-sulfoazetidin-3-yl)amino)-1-(2-aminothiazol-4-yl)-2-oxoethylidene)amino)oxy)-3-(4-(N-(3-aminopropyl)carbamimidoyl)phenoxy)propanoic acid;

or a pharmaceutically acceptable salt thereof.

15. A pharmaceutical composition comprising a compound of claim 1 and at least one pharmaceutically acceptable excipient.

16. The pharmaceutical composition of claim 15, wherein the compound is selected from:

- 1-(((Z)-(2-(((2R,3S)-2-((4-(aminomethyl)-2-oxoimidazolidin-1-yl)methyl)-4-oxo-1-sulfoazetidin-3-yl)amino)-1-(2-aminothiazol-4-yl)-2-oxoethylidene)amino)oxy)cyclopropanecarboxylic acid;
- 1-(((Z)-(2-(((2R,3S)-2-(((R)-5-((3-(2-aminoethyl)ureido)methyl)-2-oxooxazolidin-3-yl)methyl)-4-oxo-1-sulfoazetidin-3-yl)amino)-1-(2-aminothiazol-4-yl)-2-oxoethylidene)amino)oxy)cyclopropanecarboxylic acid;
- 1-(((Z)-(1-(2-aminothiazol-4-yl)-2-oxo-2-(((3S,4R)-2-oxo-4-((2-oxoimidazolidin-1-yl)methyl)-1-sulfoazetidin-3-yl)amino)ethylidene)amino)oxy)cyclopropanecarboxylic acid;
- 1-(((Z)-(2-(((2R,3S)-2-(((R)-5-(((2-aminoethyl)amino)methyl)-2-oxooxazolidin-3-yl)methyl)-4-oxo-1-sulfoazetidin-3-yl)amino)-1-(2-aminothiazol-4-yl)-2-oxoethylidene)amino)oxy)cyclopropanecarboxylic acid;
- 1-(((Z)-(2-(((2R,3S)-2-(((R)-5-(aminomethyl)-2-oxooxazolidin-3-yl)methyl)-4-oxo-1-sulfoazetidin-3-yl)amino)-1-(2-aminothiazol-4-yl)-2-oxoethylidene)amino)oxy)-cyclopropanecarboxylic acid;
- 1-(((Z)-(1-(2-aminothiazol-4-yl)-2-oxo-2-(((3S,4R)-2-oxo-4-((2-oxooxazolidin-3-yl)methyl)-1-sulfoazetidin-3-yl)amino)ethylidene)amino)oxy)cyclopropanecarboxylic acid; and
- 1-(((Z)-(1-(2-aminothiazol-4-yl)-2-(((2R,3S)-2-(((R)-5-(guanidinomethyl)-2-oxooxazolidin-3-yl)methyl)-4-oxo-1-sulfoazetidin-3-yl)amino)-2-oxoethylidene)amino)oxy)-cyclopropanecarboxylic acid,
or a pharmaceutically acceptable salt thereof.

17. The pharmaceutical composition of claim 15, wherein the compound is selected from:

- 1-(((Z)-(1-(2-aminothiazol-4-yl)-2-(((2R,3S)-2-((4-(guanidinomethyl)-2H-1,2,3-triazol-2-yl)methyl)-4-oxo-1-sulfoazetidin-3-yl)amino)-2-oxoethylidene)amino)oxy)-cyclopropanecarboxylic acid;
- 1-(((Z)-(2-(((2R,3S)-2-((4-(aminomethyl)-1H-1,2,3-triazol-1-yl)methyl)-4-oxo-1-sulfoazetidin-3-yl)amino)-1-(2-aminothiazol-4-yl)-2-oxoethylidene)amino)oxy)cyclopropanecarboxylic acid;
- (S)-2-(((Z)-(2-(((2R,3S)-2-((1H-1,2,4-triazol-1-yl)methyl)-4-oxo-1-sulfoazetidin-3-yl)amino)-1-(2-aminothiazol-4-yl)-2-oxoethylidene)amino)oxy)-3-(4-(N-(2-aminoethyl)carbamimidoyl)phenoxy)propanoic acid;
- 1-(((Z)-(1-(2-aminothiazol-4-yl)-2-(((2R,3S)-2-((4-(((3-guanidinopropyl)amino)methyl)-2H-1,2,3-triazol-2-yl)methyl)-4-oxo-1-sulfoazetidin-3-yl)amino)-2-oxoethylidene)amino)oxy)cyclopropanecarboxylic acid;
- 1-(((Z)-(1-(2-aminothiazol-4-yl)-2-(((2R,3S)-2-((4,5-bis(aminomethyl)-2H-1,2,3-triazol-2-yl)methyl)-4-oxo-1-sulfoazetidin-3-yl)amino)-2-oxoethylidene)amino)oxy)cyclopropanecarboxylic acid;
- 1-(((Z)-(2-(((2R,3S)-2-((4-((3-aminoazetidin-1-yl)methyl)-2H-1,2,3-triazol-2-yl)methyl)-4-oxo-1-sulfoazetidin-3-yl)amino)-1-(2-aminothiazol-4-yl)-2-oxoethylidene)amino)oxy)cyclopropanecarboxylic acid;
- 1-(((Z)-(1-(2-aminothiazol-4-yl)-2-oxo-2-(((3S,4R)-2-oxo-4-((4-(((S)-pyrrolidin-3-ylamino)methyl)-2H-1,2,3-triazol-2-yl)methyl)-1-sulfoazetidin-3-yl)amino)ethylidene)amino)oxy)cyclopropanecarboxylic acid;
- (S)-2-(((Z)-(2-(((2R,3S)-2-((1H-1,2,4-triazol-1-yl)methyl)-4-oxo-1-sulfoazetidin-3-yl)amino)-1-(2-aminothiazol-4-yl)-2-oxoethylidene)amino)oxy)-3-(4-(N-((1R,5S,6s)-3-azabicyclo[3.1.0]hexan-6-yl)carbamimidoyl)phenoxy)propanoic acid; and

(S)-2-(((Z)-2-(((2R,3S)-2-((1H-1,2,4-triazol-1-yl)methyl)-4-oxo-1-sulfoazetidin-3-yl)amino)-1-(2-aminothiazol-4-yl)-2-oxoethylidene)amino)oxy)-3-(4-(N-(3-aminopropyl)carbamidoyl)phenoxy)propanoic acid;

or a pharmaceutically acceptable salt thereof.

18. A pharmaceutical combination, comprising a compound of claim 1 and a second therapeutic agent.

19. The pharmaceutical combination of claim 18, wherein the second therapeutic agent is a beta-lactamase inhibitor.

20. The pharmaceutical combination of claim 18, wherein the compound is selected from:

1-(((Z)-2-(((2R,3S)-2-((4-(aminomethyl)-2-oxoimidazolidin-1-yl)methyl)-4-oxo-1-sulfoazetidin-3-yl)amino)-1-(2-aminothiazol-4-yl)-2-oxoethylidene)amino)oxy)cyclopropanecarboxylic acid;

1-(((Z)-2-(((2R,3S)-2-(((R)-5-((3-(2-aminoethyl)ureido)methyl)-2-oxooxazolidin-3-yl)methyl)-4-oxo-1-sulfoazetidin-3-yl)amino)-1-(2-aminothiazol-4-yl)-2-oxoethylidene)amino)oxy)cyclopropanecarboxylic acid;

1-(((Z)-2-((1-(2-aminothiazol-4-yl)-2-oxo-2-(((3S,4R)-2-oxo-4-((2-oxoimidazolidin-1-yl)methyl)-1-sulfoazetidin-3-yl)amino)ethylidene)amino)oxy)cyclopropanecarboxylic acid;

1-(((Z)-2-(((2R,3S)-2-(((R)-5-((2-aminoethyl)amino)methyl)-2-oxooxazolidin-3-yl)methyl)-4-oxo-1-sulfoazetidin-3-yl)amino)-1-(2-aminothiazol-4-yl)-2-oxoethylidene)amino)oxy)cyclopropanecarboxylic acid;

1-(((Z)-2-(((2R,3S)-2-(((R)-5-(aminomethyl)-2-oxooxazolidin-3-yl)methyl)-4-oxo-1-sulfoazetidin-3-yl)amino)-1-(2-aminothiazol-4-yl)-2-oxoethylidene)amino)oxy)-cyclopropanecarboxylic acid;

1-(((Z)-(1-(2-aminothiazol-4-yl)-2-oxo-2-(((3S,4R)-2-oxo-4-((2-oxooxazolidin-3-yl)methyl)-1-sulfoazetidin-3-yl)amino)ethylidene)amino)oxy)cyclopropanecarboxylic acid; and

1-(((Z)-(1-(2-aminothiazol-4-yl)-2-(((2R,3S)-2-(((R)-5-(guanidinomethyl)-2-oxooxazolidin-3-yl)methyl)-4-oxo-1-sulfoazetidin-3-yl)amino)-2-oxoethylidene)amino)oxy)-cyclopropanecarboxylic acid,
or a pharmaceutically acceptable salt thereof.

21. The pharmaceutical combination of claim **18**, wherein the compound is selected from:

1-(((Z)-(1-(2-aminothiazol-4-yl)-2-(((2R,3S)-2-((4-(guanidinomethyl)-2H-1,2,3-triazol-2-yl)methyl)-4-oxo-1-sulfoazetidin-3-yl)amino)-2-oxoethylidene)amino)oxy)-cyclopropanecarboxylic acid;

1-(((Z)-(2-(((2R,3S)-2-((4-(aminomethyl)-1H-1,2,3-triazol-1-yl)methyl)-4-oxo-1-sulfoazetidin-3-yl)amino)-1-(2-aminothiazol-4-yl)-2-oxoethylidene)amino)oxy)cyclopropanecarboxylic acid;

(S)-2-(((Z)-(2-(((2R,3S)-2-((1H-1,2,4-triazol-1-yl)methyl)-4-oxo-1-sulfoazetidin-3-yl)amino)-1-(2-aminothiazol-4-yl)-2-oxoethylidene)amino)oxy)-3-(4-(N-(2-aminoethyl)carbamimidoyl)phenoxy)propanoic acid;

1-(((Z)-(1-(2-aminothiazol-4-yl)-2-(((2R,3S)-2-((4-(((3-guanidinopropyl)amino)methyl)-2H-1,2,3-triazol-2-yl)methyl)-4-oxo-1-sulfoazetidin-3-yl)amino)-2-oxoethylidene)amino)oxy)cyclopropanecarboxylic acid;

1-(((Z)-(1-(2-aminothiazol-4-yl)-2-(((2R,3S)-2-((4,5-bis(aminomethyl)-2H-1,2,3-triazol-2-yl)methyl)-4-oxo-1-sulfoazetidin-3-yl)amino)-2-oxoethylidene)amino)oxy)cyclopropanecarboxylic acid;

1-(((Z)-(2-(((2R,3S)-2-((4-((3-aminoazetidin-1-yl)methyl)-2H-1,2,3-triazol-2-yl)methyl)-4-oxo-1-sulfoaze-

tidin-3-yl)amino)-1-(2-aminothiazol-4-yl)-2-oxoethylidene)amino)oxy)cyclopropanecarboxylic acid;
 1-(((Z)-(1-(2-aminothiazol-4-yl)-2-oxo-2-(((3S,4R)-2-oxo-4-((4-(((S)-pyrrolidin-3-ylamino)methyl)-2H-1,2,3-triazol-2-yl)methyl)-1-sulfoazetidin-3-yl)amino)ethylidene)amino)oxy)cyclopropanecarboxylic acid;
 (S)-2-(((Z)-(2-(((2R,3S)-2-((1H-1,2,4-triazol-1-yl)methyl)-4-oxo-1-sulfoazetidin-3-yl)amino)-1-(2-aminothiazol-4-yl)-2-oxoethylidene)amino)oxy)-3-(4-(N-((1R,5S,6s)-3-azabicyclo[3.1.0]hexan-6-yl)carbamimidoyl)phenoxy)propanoic acid; and
 (S)-2-(((Z)-(2-(((2R,3S)-2-((1H-1,2,4-triazol-1-yl)methyl)-4-oxo-1-sulfoazetidin-3-yl)amino)-1-(2-aminothiazol-4-yl)-2-oxoethylidene)amino)oxy)-3-(4-(N-(3-aminopropyl)carbamimidoyl)phenoxy)propanoic acid;

or a pharmaceutically acceptable salt thereof.

22. The compound of claim 1, which is 1-(((Z)-(1-(2-aminothiazol-4-yl)-2-oxo-2-(((3S,4R)-2-oxo-4-((2-oxooxazolidin-3-yl)methyl)-1-sulfoazetidin-3-yl)amino)ethylidene)amino)oxy)cyclopropanecarboxylic acid, or a pharmaceutically acceptable salt thereof.

23. The pharmaceutical composition of claim 16, wherein the compound is 1-(((Z)-(1-(2-aminothiazol-4-yl)-2-oxo-2-(((3S,4R)-2-oxo-4-((2-oxooxazolidin-3-yl)methyl)-1-sulfoazetidin-3-yl)amino)ethylidene)amino)oxy)cyclopropanecarboxylic acid, or a pharmaceutically acceptable salt thereof.

24. The pharmaceutical combination of claim 20, wherein the compound is 1-(((Z)-(1-(2-aminothiazol-4-yl)-2-oxo-2-(((3S,4R)-2-oxo-4-((2-oxooxazolidin-3-yl)methyl)-1-sulfoazetidin-3-yl)amino)ethylidene)amino)oxy)cyclopropanecarboxylic acid, or a pharmaceutically acceptable salt thereof.