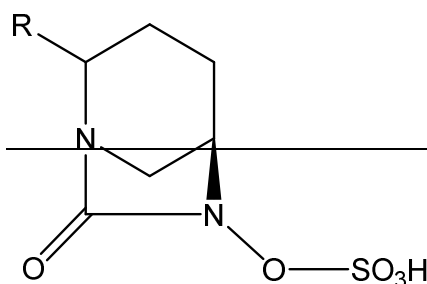


CLAIMS

1. — A compound which is a diazabicyclooctanone of Formula (I) or a pharmaceutically acceptable salt thereof:

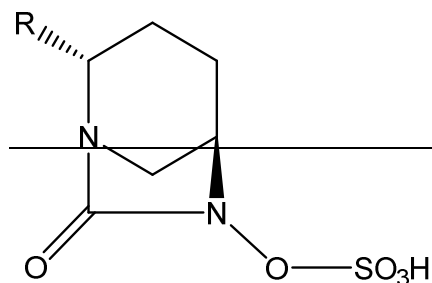


[FORMULA (I)]

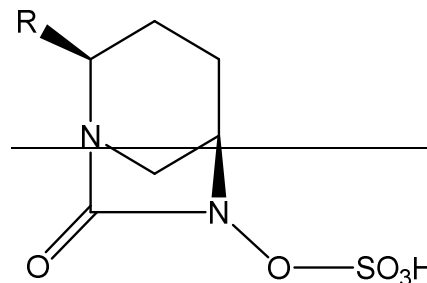
wherein

- R is selected from halogen, $C(O)R^1$, C_{1-4} -alkyl and $L-X-R^1$, wherein the C_{1-4} -alkyl group is substituted with at least one halogen atom and is optionally further substituted with one or two substituents R^2 ;
- R^1 is C_{1-4} -alkyl which is substituted with at least one halogen atom and is optionally further substituted with one or two substituents R^2 ;
- each R^2 is independently selected from OH; C_{1-4} -alkoxy which is unsubstituted or substituted with one or more halogen atoms; $C(O)R^3$; $C(O)OH$; $C(O)OR^3$; 6 to 10-membered aryl; 5 to 6 membered heteroaryl; and 4 to 6 membered heterocyclyl; wherein the aryl, heteroaryl and heterocyclyl groups are unsubstituted or substituted with one, two or three substituents selected from halogen, OH, $C(O)R^3$, $C(O)OH$, $C(O)OR^3$ and C_{1-4} -alkyl and C_{1-4} -alkoxy groups which are themselves unsubstituted or substituted with one or more halogen atoms;
- R^3 is C_{1-4} -alkyl which is unsubstituted or substituted with one or more halogen atoms;
- L is a bond or is a C_{1-2} -alkylene group which is unsubstituted or is substituted with at least one halogen atom; and
- X is O or $S(O)_z$ wherein z is 0, 1 or 2.

2. — A compound according to claim 1, wherein said compound is a diazabicyclooctanone of Formula (II) or a pharmaceutically acceptable salt thereof or Formula (III) or a pharmaceutically acceptable salt thereof:



Formula (III)



Formula (III)

wherein R is halogen.

3. A compound according to claim 1 or claim 2, wherein R is fluorine or chlorine;

5 wherein preferably said compound is selected from

— (2R,5R) 2 fluoro 7 oxo 1,6 diazabicyclo[3.2.1]octan 6 yl hydrogen sulphate;

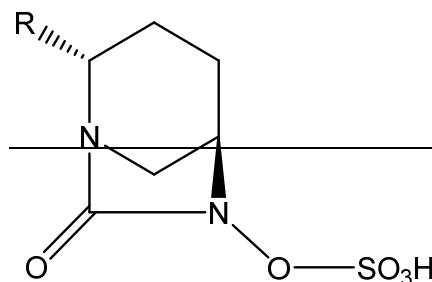
— (2S, 5R) 2 fluoro 7 oxo 1, 6 diazabicyclo [3.2.1] octan 6 yl hydrogen sulphate;

— (2R,5R) 2 chloro 7 oxo 1,6 diazabicyclo[3.2.1]octan 6 yl hydrogen sulphate;

and pharmaceutically acceptable salts thereof.

10

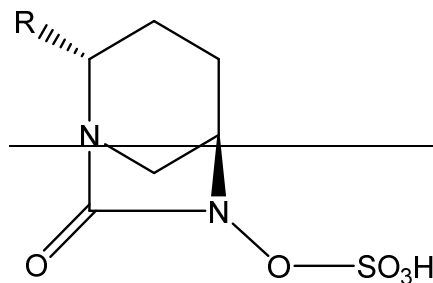
4. A compound according to claim 1 which is a diazabicyclooctanone of Formula (II) or a pharmaceutically acceptable salt thereof:



[FORMULA (II)]

15 wherein R is as defined in claim 1.

5. A compound according to claim 1 or claim 4 which is a diazabicyclooctanone of Formula (II) or a pharmaceutically acceptable salt thereof:



[FORMULA (II)]

wherein

- R is selected from $C(O)R^1$ and C_{1-4} alkyl, wherein the C_{1-4} alkyl group is substituted with at least one halogen atom and is optionally further substituted with one or two substituents R^2 ;
 - R^1 is C_{1-4} alkyl which is substituted with at least one halogen atom and is optionally further substituted with one or two substituents R^2 ;
 - each R^2 is independently selected from OH; C_{1-4} alkoxy which is unsubstituted or substituted with one or more halogen atoms; $C(O)R^3$; $C(O)OH$; $C(O)OR^3$; 6 to 10 membered aryl; 5 to 6 membered heteroaryl; and 4 to 6 membered heterocyclyl; wherein the aryl, heteroaryl and heterocyclyl groups are unsubstituted or substituted with one, two or three substituents selected from halogen, OH, $C(O)R^3$, $C(O)OH$, $C(O)OR^3$ and C_{1-4} alkyl and C_{1-4} alkoxy groups which are themselves unsubstituted or substituted with one or more halogen atoms;
 - R^3 is C_{1-4} alkyl which is unsubstituted or substituted with one or more halogen atoms.
6. A compound according to claim 4 or claim 5, wherein:
- i) R is selected from $C(O)R^1$ and C_{1-4} alkyl, wherein the C_{1-4} alkyl group is substituted with at least one halogen atom and is optionally further substituted with one substituent R^2 ;
- or
- ii) R^1 is C_{1-4} alkyl which is substituted with at least one halogen atom and is optionally further substituted with one substituent selected from OH and C_{1-4} alkoxy which is itself unsubstituted or substituted with one or more halogen atoms; wherein preferably R^1 is C_{1-2} alkyl, wherein the C_{1-2} alkyl group is substituted with at least two halogen atoms selected from fluorine and chlorine;

or

iii) — The compound is as defined in claim 4 and R is L-X-R, wherein

— L is a bond or is an unsubstituted C₁-alkylene group;

— X is O or S; and

5 — R¹ is a C₁-alkyl group substituted by 1, 2 or 3 halogen groups;
wherein preferably R is selected from ~~CH₂-O-CF₃ and S-CF₃~~;

7. — A compound according to any one of claims 4 to 6, wherein each R² is
independently selected from OH; C₁₋₂-alkoxy which is itself unsubstituted or substituted
10 with one or more halogen atoms; C(O)OR³, wherein R³ is unsubstituted C₁₋₂-alkyl; and
unsubstituted 5- to 6-membered heteroaryl;
preferably each R² is independently selected from OH; OMe; C(O)OMe; and unsubstituted
thiazolyl.

15 8. — A compound according to claim 4 or claim 5, wherein:

A:

— R is selected from C(O)R¹ and C₁₋₄-alkyl, wherein the C₁₋₄-alkyl group is
substituted with at least one halogen atom and is optionally further substituted with
one substituent R²;

20 — R¹ is C₁₋₄-alkyl which is substituted with at least one halogen atom and is optionally
further substituted with one substituent selected from OH and C₁₋₄-alkoxy, the C₁₋₄
alkyl group being unsubstituted or substituted with one or more halogen atoms; and
— R² is selected from OH; C₁₋₂-alkoxy which is itself unsubstituted or substituted with
one or more halogen atoms; C(O)OR³, wherein R³ is unsubstituted C₁₋₂-alkyl; and
25 unsubstituted 5- to 6-membered heteroaryl;

or

B:

30 — R is selected from C(O)R¹ and C₁₋₄-alkyl, preferably C₁₋₂-alkyl, wherein the alkyl
group is substituted with at least one halogen atom and is optionally further
substituted with one substituent R²;

- R¹ is C₁₋₂-alkyl, wherein the C₁₋₂-alkyl group is substituted with at least two halogen atoms selected from fluorine or chlorine; and
- R² is selected from OH; OMe; C(O)OMe; and unsubstituted thiazolyl.

5 9. — A compound according to any one of claims 4 to 8, wherein:

- i) — R is C₁₋₂-alkyl, wherein the C₁₋₂-alkyl group is substituted with at least one halogen atom and is optionally further substituted with one substituent R²;

or

- 10 ii) — R is selected from CF₃, CHF₂, CHCl₂, CCl₃, CH₂F, CF₂CH₃, CF₂CH₂CO₂Me, COCF₃, CF₂-thiazolyl, CF₂CH₂OCH₃, CF₂CH₂CH₂OH, CH(OH)CF₃, CH₂CF₃ and CF₂-oxetanyl, preferably from CF₃, CHF₂ and CHCl₂.

10. — A pharmaceutical composition comprising a compound according to any one of the preceding claims and a pharmaceutically acceptable carrier or diluent and optionally
15 further comprising (i) an antibiotic agent and/or (ii) a metallo-β-lactamase inhibitor.

11. — A combination of a compound according to any one of claims 1 to 9 and one or more of (i) an antibiotic agent and (ii) a metallo-β-lactamase inhibitor.

20 12. — A compound according to any one of claims 1 to 9 for use in the treatment or prevention of bacterial infection by co-administration with an antibiotic agent and/or a metallo-β-lactamase inhibitor.

25 13. — A composition, combination or compound for use according to any one of claims 10 to 12, wherein the antibiotic agent is a carbapenem antibiotic, preferably the antibiotic agent is meropenem.

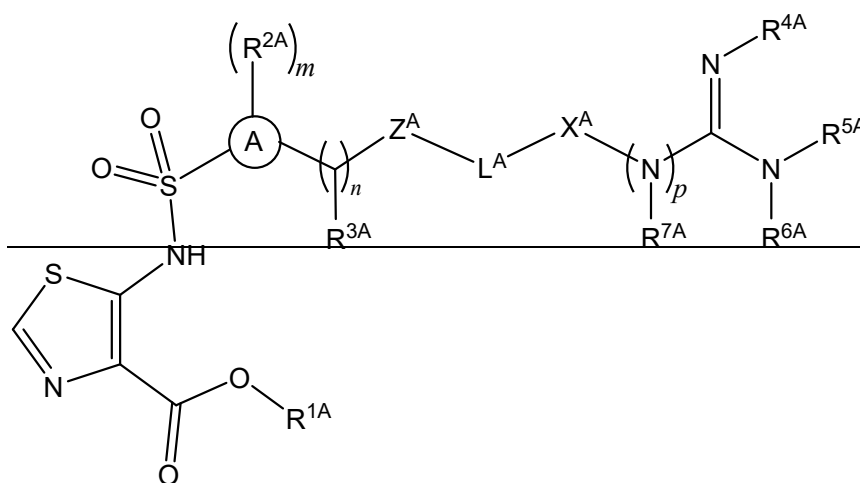
14. — A compound according to any one of claims 1 to 9, or a composition or combination according to any one of claims 10, 11 or 13 for use in

- 30 i) — the removal or reduction of antibiotic resistance in Gram-negative bacteria; and/or
ii) — the treatment or prevention of bacterial infection.

15. — A compound, composition or combination for use according to any one of claims

12 to 14 wherein the Gram negative bacteria are selected from Enterobacteriaceae, Pseudomonadaceae and Moraxellaceae, or the bacterial infection is caused by bacteria selected from Enterobacteriaceae, Pseudomonadaceae and Moraxellaceae, preferably (a) the bacteria selected from Enterobacteriaceae, Pseudomonadaceae and Moraxellaceae are selected from *Klebsiella pneumoniae*, *Escherichia coli*, *Enterobacter Cloacae*, *Pseudomonas aeruginosa*, *Burkholderia cepacia* and *Acinetobacter baumannii*; and/or (b) the bacterial infection is caused by Carbapenem Resistant Enterobacteriaceae.

16. — A composition, combination, or compound for use according to any one of claims 10 to 15 wherein the metallo β lactamase inhibitor is a compound of Formula (A) or a pharmaceutically acceptable salt thereof



[FORMULA (A)]

wherein

- 15 R^{1A} is selected from H, R^{1b} and $\text{CH}_2\text{OC}(\text{O})\text{R}^{1b}$, wherein R^{1b} is selected from an unsubstituted C_1 to C_4 -alkyl group and phenyl;
- A is a cyclic group selected from C_6 to C_{10} -aryl, 5- to 10-membered heteroaryl, and 4- to 10-membered carbocyclic and heterocyclic groups;
- each R^{2A} is independently selected from:
 - 20 (iv) halo or R^8 ;
 - (v) C_{1-3} -alkyl, $\text{O}(\text{C}_{1-3}$ -alkyl), $\text{S}(\text{C}_{1-3}$ -alkyl), $\text{SO}(\text{C}_{1-3}$ -alkyl) or $\text{SO}_2(\text{C}_{1-3}$ -alkyl), any of which may optionally be substituted with 1, 2 or 3 halo substituents and/or one R^8 -substituent; and

(vi) $\text{NR}^a\text{C}(\text{O})\text{R}^e$, and $\text{NR}^a\text{C}(\text{O})\text{NR}^b\text{R}^e$, wherein each R^a and R^b is independently selected from hydrogen and unsubstituted C_{1-2} -alkyl and each R^e is unsubstituted C_{1-2} -alkyl;

and

5 ~~• each R^8 is independently selected from CN , OH , $\text{C}(\text{O})\text{NR}^f\text{R}^g$, NR^fR^g , $\text{NR}^{10}\text{C}(\text{NR}^{11})\text{R}^{12}$, $\text{C}(\text{NR}^{10})\text{NR}^{11}\text{R}^{12}$, and $\text{NR}^{10}\text{C}(\text{NR}^{11})\text{NR}^{12}\text{R}^{13}$; wherein each of R^f and R^g is independently H or unsubstituted C_{1-2} -alkyl;~~

~~○ m is 0, 1, 2 or 3~~

10 ~~○ R^{3A} is selected from hydrogen and a C_1 to C_3 -alkyl group which is unsubstituted or is substituted with 1, 2 or 3 substituents selected from halogen, OR^{10} , and $\text{NR}^{10}\text{R}^{11}$;~~

~~○ n is 0 or 1~~

15 ~~○ Z^A is a bond or is selected from $\text{NR}^{10}\text{C}(\text{O})$, $\text{C}(\text{O})\text{NR}^{10}$, $\text{NR}^{10}\text{C}(\text{O})\text{NR}^{11}$, $\text{NR}^{10}\text{C}(\text{O})\text{O}$, $\text{OC}(\text{O})\text{NR}^{10}$, $\text{NR}^{10}\text{C}(\text{O})\text{S}$, $\text{SC}(\text{O})\text{NR}^{10}$, $\text{NR}^{10}\text{C}(\text{NR}^{11})$, $\text{C}(\text{NR}^{10})\text{NR}^{11}$, $\text{NR}^{10}\text{C}(\text{NR}^{11})\text{NR}^{12}$, $\text{NR}^{10}\text{C}(\text{N}^+\text{R}^{11}\text{R}^{12})$, $\text{C}(\text{N}^+\text{R}^{10}\text{R}^{11})\text{NR}^{12}$, $\text{NR}^{10}\text{C}(\text{N}^+\text{R}^{11}\text{R}^{12})\text{NR}^{13}$, $\text{NR}^{10}\text{C}(\text{NR}^{11})\text{O}$, $\text{OC}(\text{NR}^{10})\text{NR}^{11}$, $\text{NR}^{10}\text{C}(\text{N}^+\text{R}^{11}\text{R}^{12})\text{O}$, $\text{OC}(\text{N}^+\text{R}^{10}\text{R}^{11})\text{NR}^{12}$, $\text{NR}^{10}\text{C}(\text{NR}^{11})\text{S}$, $\text{SC}(\text{NR}^{10})\text{NR}^{11}$, $\text{NR}^{10}\text{C}(\text{N}^+\text{R}^{11}\text{R}^{12})\text{S}$, $\text{SC}(\text{N}^+\text{R}^{10}\text{R}^{11})\text{NR}^{12}$, $\text{C}(\text{O})\text{NR}^{15}$, $\text{NR}^{10}\text{C}(\text{O})\text{NR}^{15}$, $\text{OC}(\text{O})\text{NR}^{15}$, $\text{SC}(\text{O})\text{NR}^{15}$, $\text{C}(\text{NR}^{10})\text{NR}^{15}$, $\text{NR}^{10}\text{C}(\text{NR}^{11})\text{NR}^{15}$, $\text{C}(\text{N}^+\text{R}^{10}\text{R}^{11})\text{NR}^{15}$, $\text{NR}^{10}\text{C}(\text{N}^+\text{R}^{11}\text{R}^{12})\text{NR}^{15}$, $\text{OC}(\text{NR}^{10})\text{NR}^{15}$, $\text{OC}(\text{N}^+\text{R}^{10}\text{R}^{11})\text{NR}^{15}$, $\text{SC}(\text{NR}^{10})\text{NR}^{15}$, and $\text{SC}(\text{N}^+\text{R}^{10}\text{R}^{11})\text{NR}^{15}$.~~

20 ~~○ L^A is a bond or is selected from C_{1-4} -alkylene, C_{2-4} -alkenylene, C_{2-4} -alkynylene, C_{1-3} -alkylene (C_{3-6} -cycloalkylene) C_{1-3} -alkylene, C_{1-4} -alkylene (C_{3-6} -cycloalkylene) and (C_{3-6} -cycloalkylene) C_{1-4} -alkylene, wherein L is unsubstituted or is substituted with 1 or 2 substituents selected from halogen, OR^{10} , and $\text{NR}^{10}\text{R}^{11}$; or L is $\text{C}(\text{R}^{10})=\text{N}$;~~

~~○ X^A is a bond or, when L is other than a bond or $\text{C}(\text{R}^{10})=\text{N}$, X is a bond or is selected from NR^{10} , O , $\text{NR}^{10}\text{C}(\text{NR}^{11})$, and $\text{C}(\text{NR}^{10})$;~~

~~○ p is 0 or 1;~~

30 ~~○ R^{4A} is selected from H, CN and C_1 to C_3 -alkyl which is unsubstituted or is substituted with 1, 2 or 3 substituents selected from halogen, OR^{10} , $\text{NR}^{10}\text{R}^{11}$, and CN ;~~

~~—— or R^{4A} is joined together with R^{5A} to form, together with the atoms to which~~

they are attached, a 5- to 6-membered heterocyclic group comprising at least one saturated carbon atom in the ring, said heterocyclic group being unsubstituted or substituted with 1 or 2 substituents selected from unsubstituted C₁-to-C₂-alkyl, halogen, OR¹⁰, NR¹⁰R¹¹, and CN;

5 ~~○ R^{5A} is selected from H, CN and C₁-to-C₃-alkyl which is unsubstituted or is substituted with 1, 2 or 3 substituents selected from halogen, OR¹⁰, NR¹⁰R¹¹, and CN;~~

~~—— or R^{5A} is joined together with R^{4A} to form, together with the atoms to which they are attached, a 5- to 6-membered heterocyclic group comprising at least one saturated carbon atom in the ring, said heterocyclic group being unsubstituted or substituted with 1 or 2 substituents selected from unsubstituted C₁-to-C₂-alkyl, halogen, OR¹⁰, NR¹⁰R¹¹, and CN;~~

~~—— or R^{5A} is joined together with R⁶ to form, together with the atoms to which they are attached, a 5- to 6-membered heterocyclic group comprising at least one saturated carbon atom in the ring, said heterocyclic group being unsubstituted or substituted with 1 or 2 substituents selected from unsubstituted C₁-to-C₂-alkyl, halogen, OR¹⁰, NR¹⁰R¹¹, and CN;~~

20 ~~○ R^{6A} is selected from H, CN and C₁-to-C₃-alkyl which is unsubstituted or is substituted with 1, 2 or 3 substituents selected from halogen, OR¹⁰, NR¹⁰R¹¹, and CN;~~

~~—— or R^{6A} is joined together with R^{5A} to form, together with the atoms to which they are attached, a 5- to 6-membered heterocyclic group comprising at least one saturated carbon atom in the ring, said heterocyclic group being unsubstituted or substituted with 1 or 2 substituents selected from unsubstituted C₁-to-C₂-alkyl, halogen, OR¹⁰, NR¹⁰R¹¹, and CN;~~

25 ~~—— or R^{6A} is joined together with R^{7A} if present to form, together with the atoms to which they are attached, a 5- to 6-membered heterocyclic group comprising at least one saturated carbon atom in the ring, said heterocyclic group being unsubstituted or substituted with 1 or 2 substituents selected from unsubstituted C₁-to-C₂-alkyl, halogen, OR¹⁰, NR¹⁰R¹¹, and CN;~~

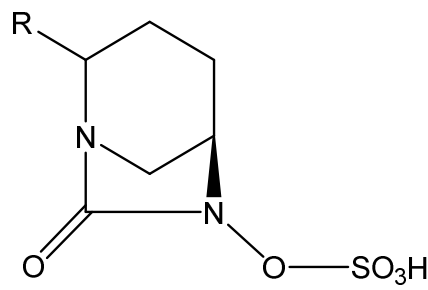
30 ~~○ R^{7A} if present is selected from H, CN and C₁-to-C₃-alkyl which is unsubstituted or is substituted with 1, 2 or 3 substituents selected from halogen, OR¹⁰, NR¹⁰R¹¹, and CN;~~

— or R^{7A} is joined together with R^{6A} to form, together with the atoms to which they are attached, a 5 to 6 membered heterocyclic group comprising at least one saturated carbon atom in the ring, said heterocyclic group being unsubstituted or substituted with 1 or 2 substituents selected from unsubstituted C_1 to C_2 alkyl, halogen, OR^{10} , $NR^{10}R^{11}$, and CN ;

- each R^{10} , R^{11} , R^{12} , R^{13} and R^{14} is independently H or methyl;
- each R^{15} is independently substituted C_1 to C_4 alkyl or unsubstituted C_2 to C_4 alkyl, wherein when R^{15} is a substituted alkyl group the alkyl group is substituted with 1, 2 or 3 substituents independently selected from halogen, CN , OR^{10} and $NR^{10}R^{11}$.

10

1. A compound which is a diazabicyclooctanone of Formula (I) or a pharmaceutically acceptable salt thereof:



15

[FORMULA (I)]

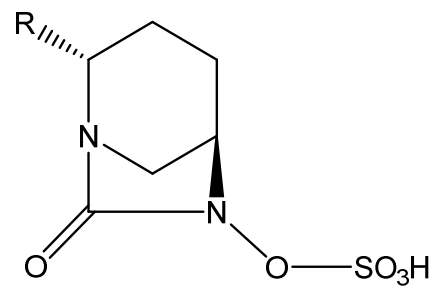
wherein

- R is selected from halogen, C_{1-4} alkyl and $L-X-R^1$, wherein the C_{1-4} alkyl group is substituted with at least one halogen atom and is optionally further substituted with one or two substituents R^2 ;
- R^1 is C_{1-4} alkyl which is substituted with at least one halogen atom and is optionally further substituted with one or two substituents R^2 ;
- each R^2 is independently a 5- to 6-membered heteroaryl group which is unsubstituted or is substituted with one, two or three substituents selected from halogen, OH , $C(O)R^3$, $C(O)OH$, $C(O)OR^3$ and C_{1-4} alkyl and C_{1-4} alkoxy groups which are themselves unsubstituted or substituted with one or more halogen atoms;
- R^3 is C_{1-4} alkyl which is unsubstituted or substituted with one or more halogen atoms;

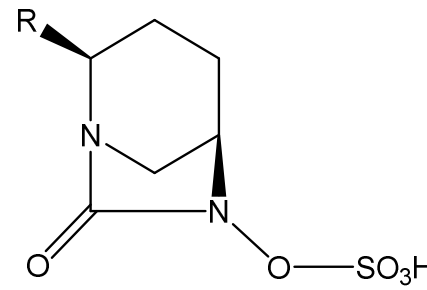
25

- L is a bond or is a C₁₋₂ alkylene group which is unsubstituted or is substituted with at least one halogen atom; and
- X is O or S(O)_z wherein z is 0, 1 or 2.

- 5 2. A compound according to claim 1, wherein said compound is a diazabicyclooctanone of Formula (II) or a pharmaceutically acceptable salt thereof or Formula (III) or a pharmaceutically acceptable salt thereof:



Formula (II)



Formula (III)

wherein R is halogen.

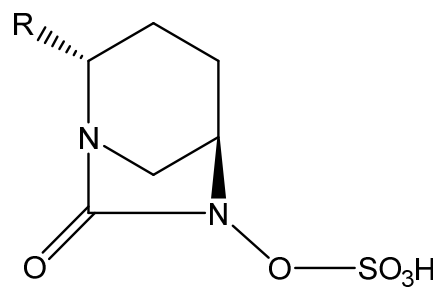
10

3. A compound according to claim 1 or claim 2, wherein R is fluorine or chlorine;
wherein preferably said compound is selected from

- (2R,5R)-2-fluoro-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl hydrogen sulphate;
- (2S, 5R)-2-fluoro-7-oxo-1, 6-diazabicyclo [3.2.1] octan-6-yl hydrogen sulphate;
- 15 - (2R,5R)-2-chloro-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl hydrogen sulphate;
and pharmaceutically acceptable salts thereof.

15

4. A compound according to claim 1 which is a diazabicyclooctanone of Formula (II) or a pharmaceutically acceptable salt thereof:

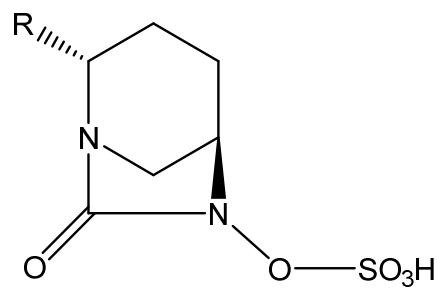


20

[FORMULA (II)]

wherein R is as defined in claim 1.

5. A compound according to claim 1 or claim 4 which is a diazabicyclooctanone of Formula (II) or a pharmaceutically acceptable salt thereof:



[FORMULA (II)]

wherein

- R is C₁₋₄ alkyl, wherein the C₁₋₄ alkyl group is substituted with at least one halogen atom and is optionally further substituted with one or two substituents R²;
- each R² is independently a 5- to 6-membered heteroaryl group which is unsubstituted or substituted with one, two or three substituents selected from halogen, OH, C(O)R³, C(O)OH, C(O)OR³ and C₁₋₄ alkyl and C₁₋₄ alkoxy groups which are themselves unsubstituted or substituted with one or more halogen atoms;
- R³ is C₁₋₄ alkyl which is unsubstituted or substituted with one or more halogen atoms.

6. A compound according to claim 4 or claim 5, wherein:

- i) R is C₁₋₄ alkyl, preferably C₁₋₂ alkyl, wherein the alkyl group is substituted with at least one halogen atom and is optionally further substituted with one substituent R²;

or

- ii) R¹ is C₁₋₂ alkyl, wherein the C₁₋₂ alkyl group is substituted with at least two halogen atoms selected from fluorine and chlorine;

or

- iii) The compound is as defined in claim 4 and R is L-X-R¹, wherein
 - L is a bond or is an unsubstituted C₁ alkylene group;
 - X is O or S; and
 - R¹ is a C₁ alkyl group substituted by 1, 2 or 3 halogen groups;

wherein preferably R is selected from -CH₂-O-CF₃ and -S-CF₃;

or

iv) R is selected from CF₃, CHF₂, CHCl₂, CCl₃, CH₂F, CF₂CH₃, CF₂-thiazolyl, and CH₂CF₃, preferably from CF₃, CHF₂ and CHCl₂.

5

7. A compound according to any one of claims 4 to 6, wherein each R² is independently unsubstituted 5- to 6-membered heteroaryl; preferably each R² is unsubstituted thiazolyl.

10

8. A compound according to claim 1, wherein said compound is (2R,5R)-2-fluoro-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl hydrogen sulphate or a pharmaceutically acceptable salt thereof.

15

9. A compound according to claim 1, which compound is sodium (2R,5R)-2-fluoro-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl sulfate.

20

10. A pharmaceutical composition comprising a compound according to any one of the preceding claims and a pharmaceutically acceptable carrier or diluent and optionally further comprising (i) an antibiotic agent and/or (ii) a metallo- β -lactamase inhibitor.

11. A combination of a compound according to any one of claims 1 to 9 and one or more of (i) an antibiotic agent and (ii) a metallo- β -lactamase inhibitor.

25

12. Use of a compound according to any one of claims 1 to 9 in the manufacture of a medicament for treating or preventing bacterial infection, wherein the medicament is to be co-administered with an antibiotic agent and/or a metallo- β -lactamase inhibitor.

30

13. A composition, combination or use according to any one of claims 10 to 12, wherein the antibiotic agent is a carbapenem antibiotic, preferably the antibiotic agent is meropenem.

14. Use of a compound according to any one of claims 1 to 9, or of a composition or combination according to any one of claims 10, 11 or 13, in the manufacture of an agent

for removing or reducing antibiotic resistance in Gram-negative bacteria.

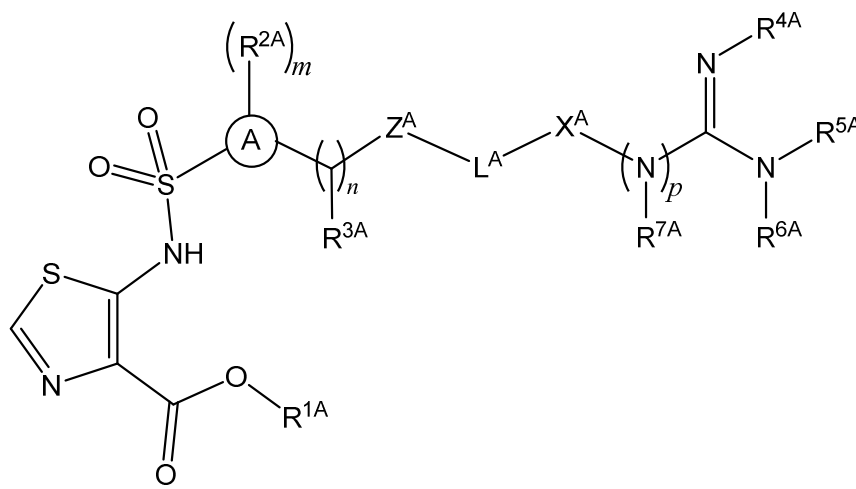
15. Use of a compound according to any one of claims 1 to 9, or of a composition or combination according to any one of claims 10, 11 or 13, in the manufacture of a medicament for treating or preventing bacterial infection.

16. Use according to any one of claims 12 to 15 wherein the Gram-negative bacteria are selected from Enterobacteriaceae, Pseudomonadaceae and Moraxellaceae, or the bacterial infection is caused by bacteria selected from Enterobacteriaceae,

10 Pseudomonadaceae and Moraxellaceae, preferably

(a) the bacteria selected from Enterobacteriaceae, Pseudomonadaceae and Moraxellaceae are selected from *Klebsiella pneumoniae*, *Escherichia coli*, *Enterobacter Cloacae*, *Pseudomonas aeruginosa*, *Burkholderia cepacia* and *Acinetobacter baumannii*; and/or
(b) the bacterial infection is caused by Carbapenem Resistant Enterobacteriaceae.

15 17. A composition, combination, or use according to any one of claims 10 to 16 wherein the metallo- β -lactamase inhibitor is a compound of Formula (A) or a pharmaceutically acceptable salt thereof



[FORMULA (A)]

wherein

- R^{1A} is selected from H, R^{1b} and $-\text{CH}_2\text{OC(O)}R^{1b}$, wherein R^{1b} is selected from an unsubstituted C_1 to C_4 alkyl group and phenyl;

- Ⓐ is a cyclic group selected from C₆ to C₁₀ aryl, 5- to 10-membered heteroaryl, and 4- to 10- membered carbocyclic and heterocyclic groups;
- each R^{2A} is independently selected from:
- (iv) halo or R⁸;
- 5 (v) C₁₋₃ alkyl, O(C₁₋₃ alkyl), S(C₁₋₃ alkyl), SO(C₁₋₃ alkyl) or SO₂(C₁₋₃ alkyl), any of which may optionally be substituted with 1, 2 or 3 halo substituents and/or one R⁸ substituent; and
- (vi) NR^aC(O)R^c, and NR^aC(O)NR^bR^c, wherein each R^a and R^b is independently selected from hydrogen and unsubstituted C₁₋₂ alkyl and each R^c is
- 10 unsubstituted C₁₋₂ alkyl;
- and
- each R⁸ is independently selected from CN, OH, -C(O)NR^fR^g, -NR^fR^g, -NR¹⁰C(NR¹¹)R¹², -C(NR¹⁰)NR¹¹R¹², and -NR¹⁰C(NR¹¹)NR¹²R¹³; wherein each of R^f and R^g is independently H or unsubstituted C₁₋₂ alkyl;
- 15 ○ m is 0, 1, 2 or 3
- R^{3A} is selected from hydrogen and a C₁ to C₃ alkyl group which is unsubstituted or is substituted with 1, 2 or 3 substituents selected from halogen, -OR¹⁰, and -NR¹⁰R¹¹;
- n is 0 or 1
- 20 ○ Z^A is a bond or is selected from -NR¹⁰C(O)-, -C(O)NR¹⁰-, -NR¹⁰C(O)NR¹¹-, -NR¹⁰C(O)O-, -OC(O)NR¹⁰, -NR¹⁰C(O)S-, -SC(O)NR¹⁰, -NR¹⁰C(NR¹¹)-, -C(NR¹⁰)NR¹¹-, -NR¹⁰C(NR¹¹)NR¹²-, -NR¹⁰C(N⁺R¹¹R¹²)-, -C(N⁺R¹⁰R¹¹)NR¹²-, -NR¹⁰C(N⁺R¹¹R¹²)NR¹³-, -NR¹⁰C(NR¹¹)O-, -OC(NR¹⁰)NR¹¹-, -NR¹⁰C(N⁺R¹¹R¹²)O-, -OC(N⁺R¹⁰R¹¹)NR¹²-, -NR¹⁰C(NR¹¹)S-, -SC(NR¹⁰)NR¹¹-, -NR¹⁰C(N⁺R¹¹R¹²)S-, -SC(N⁺R¹⁰R¹¹)NR¹²-, -C(O)NR¹⁵-, -NR¹⁰C(O)NR¹⁵-, -OC(O)NR¹⁵-, -SC(O)NR¹⁵-, -C(NR¹⁰)NR¹⁵-, -NR¹⁰C(NR¹¹)NR¹⁵-, -C(N⁺R¹⁰R¹¹)NR¹⁵-, -NR¹⁰C(N⁺R¹¹R¹²)NR¹⁵-, -OC(NR¹⁰)NR¹⁵-, -OC(N⁺R¹⁰R¹¹)NR¹⁵-, -SC(NR¹⁰)NR¹⁵, and -SC(N⁺R¹⁰R¹¹)NR¹⁵;
- 25 ○ L^A is a bond or is selected from C₁₋₄ alkylene, C₂₋₄ alkenylene, C₂₋₄ alkynylene, C₁₋₃ alkylene-(C₃₋₆cycloalkylene)-C₁₋₃ alkylene, C₁₋₄ alkylene-(C₃₋₆cycloalkylene) and (C₃₋₆cycloalkylene)-C₁₋₄ alkylene, wherein L is unsubstituted or is substituted
- 30

with 1 or 2 substituents selected from halogen, -OR¹⁰, and -NR¹⁰R¹¹; or L is -C(R¹⁰)=N-;

○ X^A is a bond or, when L is other than a bond or -C(R¹⁰)=N-, X is a bond or is selected from -NR¹⁰-, -O-, -NR¹⁰C(NR¹¹)-, and -C(NR¹⁰)-;

5 ○ p is 0 or 1;

○ R^{4A} is selected from H, -CN and C₁ to C₃ alkyl which is unsubstituted or is substituted with 1, 2 or 3 substituents selected from halogen, -OR¹⁰, -NR¹⁰R¹¹, and -CN;

10 _____ or R^{4A} is joined together with R^{5A} to form, together with the atoms to which they are attached, a 5- to 6- membered heterocyclic group comprising at least one saturated carbon atom in the ring, said heterocyclic group being unsubstituted or substituted with 1 or 2 substituents selected from unsubstituted C₁ to C₂ alkyl, halogen, -OR¹⁰, -NR¹⁰R¹¹, and -CN;

15 ○ R^{5A} is selected from H, -CN and C₁ to C₃ alkyl which is unsubstituted or is substituted with 1, 2 or 3 substituents selected from halogen, -OR¹⁰, -NR¹⁰R¹¹, and -CN;

20 _____ or R^{5A} is joined together with R^{4A} to form, together with the atoms to which they are attached, a 5- to 6- membered heterocyclic group comprising at least one saturated carbon atom in the ring, said heterocyclic group being unsubstituted or substituted with 1 or 2 substituents selected from unsubstituted C₁ to C₂ alkyl, halogen, -OR¹⁰, -NR¹⁰R¹¹, and -CN;

25 _____ or R^{5A} is joined together with R⁶ to form, together with the atoms to which they are attached, a 5- to 6- membered heterocyclic group comprising at least one saturated carbon atom in the ring, said heterocyclic group being unsubstituted or substituted with 1 or 2 substituents selected from unsubstituted C₁ to C₂ alkyl, halogen, -OR¹⁰, -NR¹⁰R¹¹, and -CN;

○ R^{6A} is selected from H, -CN and C₁ to C₃ alkyl which is unsubstituted or is substituted with 1, 2 or 3 substituents selected from halogen, -OR¹⁰, -NR¹⁰R¹¹, and -CN;

30 _____ or R^{6A} is joined together with R^{5A} to form, together with the atoms to which they are attached, a 5- to 6- membered heterocyclic group comprising at least one saturated carbon atom in the ring, said heterocyclic group being unsubstituted or substituted with 1 or 2 substituents selected from unsubstituted C₁ to C₂ alkyl,

halogen, -OR¹⁰, -NR¹⁰R¹¹, and -CN;

_____ or R^{6A} is joined together with R^{7A} if present to form, together with the atoms to which they are attached, a 5- to 6- membered heterocyclic group comprising at least one saturated carbon atom in the ring, said heterocyclic group being unsubstituted or substituted with 1 or 2 substituents selected from unsubstituted C₁ to C₂ alkyl, halogen, -OR¹⁰, -NR¹⁰R¹¹, and -CN;

- R^{7A} if present is selected from H, -CN and C₁ to C₃ alkyl which is unsubstituted or is substituted with 1, 2 or 3 substituents selected from halogen, -OR¹⁰, -NR¹⁰R¹¹, and -CN;

_____ or R^{7A} is joined together with R^{6A} to form, together with the atoms to which they are attached, a 5- to 6- membered heterocyclic group comprising at least one saturated carbon atom in the ring, said heterocyclic group being unsubstituted or substituted with 1 or 2 substituents selected from unsubstituted C₁ to C₂ alkyl, halogen, -OR¹⁰, -NR¹⁰R¹¹, and -CN;

- each R¹⁰, R¹¹, R¹², R¹³ and R¹⁴ is independently H or methyl;
- each R¹⁵ is independently substituted C₁ to C₄ alkyl or unsubstituted C₂ to C₄ alkyl, wherein when R¹⁵ is a substituted alkyl group the alkyl group is substituted with 1, 2 or 3 substituents independently selected from halogen, CN, OR¹⁰ and -NR¹⁰R¹¹.