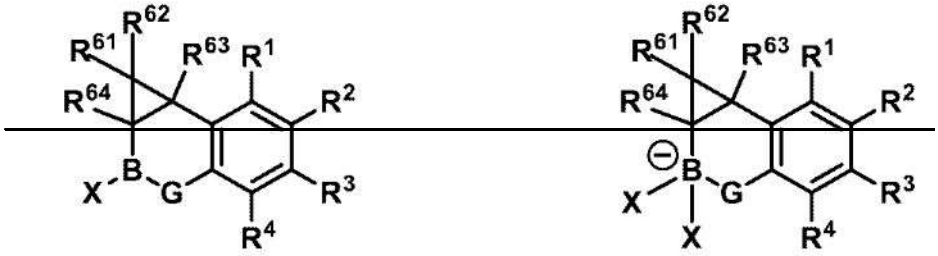
~~[Claims]~~

Claims

~~[Claim 1]~~

~~A compound represented by formula (1a) or (1b):~~

~~[Chemical Formula 733]~~



(1a) (1b)

~~or a pharmaceutically acceptable salt thereof~~

~~wherein~~

~~G is an oxygen atom, a sulfur atom, or $-NR^{a1}-$,~~

~~X is a hydroxyl group, an optionally substituted alkoxy group, or $-NR^{a2}R^{b1}$,~~

~~R^{a1}, R^{a2}, and R^{b1} are the same or different, each independently a hydrogen atom, a hydroxyl group, an optionally substituted hydrocarbyl group, or an optionally substituted heterohydrocarbyl group,~~

~~wherein R^{a2} and R^{b1} together may form an optionally substituted nitrogen-containing non-aryl heterocycle,~~

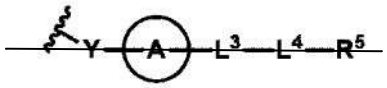
~~L^1 is a single bond, an oxygen atom, a sulfur atom, $-SO-$, $-SO_2-$, an optionally substituted hydrocarbylene group, or an optionally substituted heterohydrocarbylene group,~~

~~L^2 is a single bond or an optionally substituted hydrocarbylene group,~~

~~Z is a hydrogen atom, a hydroxyl group, an optionally substituted hydrocarbyl group, or an optionally substituted heterohydrocarbyl group,~~

~~one of R^1, R^2, and R^3 is represented by formula (2):~~

~~[Chemical Formula 734]~~



(2)

wherein

Y is an oxygen atom, a sulfur atom, or $-NR^{j}-$, and R^{j} is a hydrogen atom, a hydroxyl group, or an optionally substituted hydrocarbyl group,

ring A is an optionally substituted non-aryl heterocycle,

L^{3} is an oxygen atom, a sulfur atom, an optionally substituted hydrocarbylene group, an optionally substituted heterohydrocarbylene group, optionally substituted -NH-, optionally substituted $-NH-SO_{2}-$, $-S(=O)-$, or $-S(=O)_{2}-$,

L^{4} is a single bond, an optionally substituted hydrocarbylene group, an optionally substituted heterohydrocarbylene group, or $-C(=N-OR^{h1})-$,

R^{h1} is

1) a hydrogen atom,

2) a C_{1-6} alkyl group,

3) a C_{3-10} alicyclic group,

4) C_{6-10} aryl,

5) 5- or 6-membered heteroaryl, or

6) a 4- to 10-membered non-aryl heterocycle,

(wherein each substituent from 2) to 6) is optionally substituted),

R^{5} is a hydrogen atom, a hydroxyl group, an optionally substituted hydrocarbyl group, an optionally substituted heterohydrocarbyl group, optionally substituted -NHOH, a sulfo group (sulfonic acid group), optionally substituted $-SO_{2}H$, optionally substituted $-SO_{2}-NH_{2}$, optionally substituted $-S(=O)(=NH)H$, optionally substituted $-NH-SO_{2}-H$, optionally substituted $-NH-SO_{2}-NH_{2}$, optionally substituted $-N=S(=O)H_{2}$, or optionally substituted $-NH_{2}$,

the remaining two (without the structure of formula (2) among R^{1}, R^{2}, and R^{3}) are the same or different, each independently a

hydrogen atom, halogen, a hydroxyl group, an optionally substituted hydrocarbyl group, or an optionally substituted heterohydrocarbyl group,

R^4 is

1) $-C(=O)R^8$,

2) $-SO_2-L^6-R^8$,

(wherein R^8 in 1) and 2) is a hydroxyl group, an optionally substituted hydrocarbyl group, or an optionally substituted heterohydrocarbyl group, and L^6 is a single bond or an optionally substituted hydrocarbylene group),

3) $-NR^{a4}R^{b3}$,

4) $-B(OR^{m1})_2$,

5) $-PO(OR^{m1})(OR^{m2})$,

6) optionally substituted heteroaryl,

7) an optionally substituted non-aryl heterocycle, or

8) a bioisostere of one of 1) to 7),

(wherein the formulas of 1), 2), 4), 5), and 6) include a carboxylic acid isostere, and 8) may include them in duplicates),

R^{a4} and R^{b3} are the same or different, each independently having the same definition as R^{a1}, R^{a2}, and R^{b1}, wherein a combination of R^{a4} and R^{b3}, when attached to the same nitrogen atom, together may form an optionally substituted nitrogen-containing non-aryl heterocycle,

R^{m1} is a hydrogen atom or an optionally substituted hydrocarbyl group,

wherein if R^{m1} is attached to a boron atom via an oxygen atom, two R^{m1}, as alkylene, together with the boron atom and two oxygen atoms, may form a non-aryl heterocycle (wherein an alkylene moiety is optionally substituted in the non-aryl heterocycle),

R^{m2} is a hydrogen atom or an optionally substituted hydrocarbyl group, and

R^{61}, R^{62}, R^{63}, and R^{64} are each independently a hydrogen atom, halogen, an optionally substituted alkyl group, or $-L^1-L^2-Z$.

~~[Claim 2]~~

~~A compound represented by formula (1a) or (1b):~~

~~[Chemical Formula 735]~~



(1a) (1b)

~~or a pharmaceutically acceptable salt thereof~~

~~wherein~~

~~G is an oxygen atom, a sulfur atom, or $-NR^{a1}-$,~~

~~X is a hydroxyl group, an optionally substituted alkoxy group, or $-NR^{a2}R^{b1}$,~~

~~R^{a1}, R^{a2}, and R^{b1} are the same or different, each independently a hydrogen atom, a hydroxyl group, an optionally substituted hydrocarbyl group, or an optionally substituted heterohydrocarbyl group,~~

~~wherein R^{a2} and R^{b1} together may form an optionally substituted nitrogen-containing non-aryl heterocycle,~~

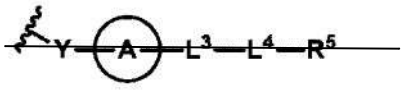
~~L^1 is a single bond, an oxygen atom, a sulfur atom, $-SO-$, $-SO_2-$, an optionally substituted hydrocarbylene group, or an optionally substituted heterohydrocarbylene group,~~

~~L^2 is a single bond or an optionally substituted hydrocarbylene group,~~

~~Z is a hydrogen atom, a hydroxyl group, an optionally substituted hydrocarbyl group, or an optionally substituted heterohydrocarbyl group,~~

~~one of R^1, R^2, and R^3 is represented by formula (2):~~

~~[Chemical Formula 736]~~



(2)

wherein

Y is an oxygen atom, a sulfur atom, or $-NR^j-$, and R^j is a hydrogen atom, a hydroxyl group, or an optionally substituted hydrocarbyl group,

ring A is an optionally substituted non-aryl heterocycle,

L^3 is an oxygen atom, a sulfur atom, an optionally substituted hydrocarbylene group, an optionally substituted heterohydrocarbylene group, $-S(=O)-$, or $-S(=O)_2-$,

L^4 is a single bond, an optionally substituted hydrocarbylene group, or $-C(=N-OR^{h1})-$,

R^{h1} is

1) a hydrogen atom,

2) a C_{1-6} alkyl group,

3) a C_{3-10} alicyclic group,

4) C_{6-10} aryl,

5) 5- or 6-membered heteroaryl, or

6) a 4- to 10-membered non-aryl heterocycle,

(wherein each substituent from 2) to 6) is optionally substituted),

R^5 is a hydrogen atom, a hydroxyl group, an optionally substituted hydrocarbyl group, or an optionally substituted heterohydrocarbyl group,

the remaining two (without the structure of formula (2) among R^1, R^2, and R^3) are the same or different, each independently a hydrogen atom, halogen, a hydroxyl group, an optionally substituted hydrocarbyl group, or an optionally substituted heterohydrocarbyl group,

R^4 is

1) $-C(=O)R^8$,

2) $-SO_2-L^6-R^8$,

~~(wherein R^8 in 1) and 2) is a hydroxyl group, an optionally substituted hydrocarbyl group, or an optionally substituted heterohydrocarbyl group, and L^6 is a single bond or an optionally substituted hydrocarbylene,~~

~~3) $-NR^{a4}R^{b3}$,~~

~~4) $-B(OR^{m1})_2$,~~

~~5) $-PO(OR^{m1})(OR^{m2})$,~~

~~6) optionally substituted heteroaryl,~~

~~7) an optionally substituted non-aryl heterocycle, or~~

~~8) a bioisostere of one of 1) to 7),~~

~~(wherein the formulas of 1), 2), 4), 5), and 6) include a carboxylic acid isostere, and 8) may include them in duplicates),~~

~~R^{a4} and R^{b3} are the same or different, each independently having the same definition as R^{a1}, R^{a2}, and R^{b1}, wherein a combination of R^{a4} and R^{b3}, when attached to the same nitrogen atom, together may form an optionally substituted nitrogen-containing non-aryl heterocycle,~~

~~R^{m1} is a hydrogen atom or an optionally substituted hydrocarbyl group,~~

~~wherein if R^{m1} is attached to a boron atom via an oxygen atom, two R^{m1}, as alkylene, together with the boron atom and two oxygen atoms, may form a non-aryl heterocycle (wherein an alkylene moiety is optionally substituted in the non-aryl heterocycle),~~

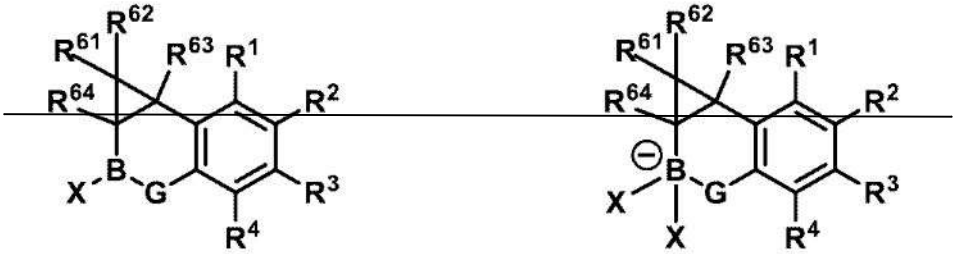
~~R^{m2} is a hydrogen atom or an optionally substituted hydrocarbyl group, and~~

~~R^{61}, R^{62}, R^{63}, and R^{64} are each independently a hydrogen atom, halogen, an optionally substituted alkyl group, or $-L^1-L^2-Z$.~~

~~[Claim 3]~~

~~The compound or the pharmaceutically acceptable salt thereof according to claim 1 or 2, represented by formula (1a) or (1b):~~

~~[Chemical Formula 737]~~



(1a) (1b)

~~wherein~~

~~G is an oxygen atom, a sulfur atom, or $-NR^{a1}-$,~~

~~X is a hydroxyl group, an optionally substituted C_{1-6} alkoxy group, or $-NR^{a2}R^{b1}$,~~

~~R^{a1}, R^{a2}, and R^{b1} are the same or different, each independently~~

~~1) a hydrogen atom,~~

~~2) a C_{1-6} alkyl group,~~

~~3) a C_{3-10} alicyclic group,~~

~~4) C_{6-10} aryl,~~

~~5) 5- or 6-membered heteroaryl,~~

~~6) a 4- to 10-membered non-aryl heterocycle,~~

~~7) a C_{1-6} alkylcarbonyl group,~~

~~8) a C_{3-10} alicyclic carbonyl group,~~

~~9) a C_{6-10} arylcarbonyl group,~~

~~10) a 5- or 6-membered heteroarylcarbonyl group,~~

~~11) a C_{1-6} alkylsulfonyl group,~~

~~12) a C_{3-10} alicyclic sulfonyl group,~~

~~13) a C_{6-10} arylsulfonyl group,~~

~~14) a 5- or 6-membered heteroarylsulfonyl group, or~~

~~15) $-OR^{c1}$,~~

~~(wherein each substituent from 2) to 14) is optionally substituted),~~

~~wherein R^{a2} and R^{b1} together may form an optionally substituted 4- to 10-membered nitrogen-containing non-aryl heterocycle,~~

~~R^{c1} is~~

1) a hydrogen atom,

2) a C_{1-6} alkyl group,

3) a C_{3-10} alicyclic group,

4) C_{6-10} aryl,

5) 5- or 6-membered heteroaryl, or

6) a 4- to 10-membered non-aryl heterocycle,

(wherein each substituent from 2) to 6) is optionally substituted),

L^1 is a single bond, an oxygen atom, a sulfur atom, -SO-, -SO_2-, -NR^{d1}-, -$NR^{d1}C(=O)$-, or -$NR^{d1}SO_2$-,

L^2 is a single bond or an optionally substituted C_{1-6} alkylene group,

Z is

1) a hydrogen atom,

2) a hydroxyl group,

3) a cyano group,

4) a carboxyl group,

5) a C_{3-10} alicyclic group,

6) C_{6-10} aryl,

7) 5- or 6-membered heteroaryl,

8) a 4- to 10-membered non-aryl heterocycle,

9) a C_{1-6} alkoxy group,

10) a C_{3-10} alicyclic oxy group,

11) a C_{6-10} aryloxy group,

12) a 5- or 6-membered heteroaryloxy group,

13) a 4- to 10-membered non-aryl heterocyclyl oxy group,

14) a C_{1-6} alkylthio group,

15) a C_{3-10} alicyclic thio group,

16) a C_{6-10} arylthio group,

17) a 5- or 6-membered heteroarylthio group,

18) a 4- to 10-membered non-aryl heterocyclyl thio group,

(wherein each substituent from 5) to 18) is optionally substituted),

19) -SO_2-$NR^{e1}R^{f1}$,

20) —NR^{e1}—$C(=O)OR^{f1}$,

21) —NR^{g1}—$C(=O)NR^{e1}R^{f1}$,

22) —NR^{e1}—$C(=S)R^{f1}$,

23) —NR^{e1}—$C(=S)OR^{f1}$,

24) —NR^{g1}—$C(=S)NR^{e1}R^{f1}$,

25) —NR^{g1}—$CR^{e1}(=NR^{f1})$,

26) —NR^{g1}—$CR^{e1}(=N-OR^{f1})$,

27) —NR^{h1}—$C(=NR^{g1})NR^{e1}R^{f1}$,

28) —NR^{h1}—$C(=N-OR^{g1})NR^{e1}R^{f1}$,

29) —NR^{i1}—$C(=NR^{h1})NR^{g1}$—$NR^{e1}R^{f1}$,

30) —NR^{i1}—$C(=N-OR^{h1})NR^{g1}$—$NR^{e1}R^{f1}$,

31) —NR^{e1}—SO_2—R^{f1},

32) —NR^{g1}—SO_2—$NR^{e1}R^{f1}$,

33) —$C(=O)OR^{e1}$,

34) —$C(=S)OR^{e1}$,

35) —$C(=S)NR^{e1}R^{f1}$,

36) —$C(=S)NR^{e1}OR^{f1}$,

37) —$C(=S)NR^{g1}$—$NR^{e1}R^{f1}$,

38) —$C(=NR^{e1})R^{f1}$,

39) —$C(=N-OR^{e1})R^{f1}$,

40) —$C(=NR^{h1})NR^{g1}$—$NR^{e1}R^{f1}$,

41) —$C(=N-OR^{h1})NR^{g1}$—$NR^{e1}R^{f1}$,

42) —$NR^{e1}R^{f1}$,

43) —NR^{g1}—$NR^{e1}R^{f1}$,

44) —$NR^{e1}OR^{f1}$,

45) —NR^{e1}—$C(=O)R^{f1}$,

46) —$C(=O)NR^{e1}R^{f1}$,

47) —$C(=O)NR^{e1}OR^{f1}$,

48) —$C(=O)NR^{g1}$—$NR^{e1}R^{f1}$,

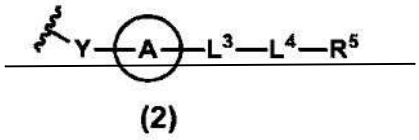
49) —$C(=O)R^{e1}$,

50) —$C(=NR^{g1})NR^{e1}R^{f1}$, or

51) —$C(=N-OR^{h1})NR^{e1}R^{f1}$,

one of R^1, R^2, and R^3 is a group represented by formula (2):

[Chemical Formula 738]



(2)

wherein

Y is an oxygen atom, a sulfur atom, or $-NR^{j}-$,

ring A is an optionally substituted 4- to 20-membered non-aryl heterocycle,

L^{3} is

1) an oxygen atom,

2) a sulfur atom,

3) $-NR^{d2}-$,

4) $-NR^{d2}C(=O)-$,

5) $-NR^{d2}SO_{2}-$,

6) a C_{1-6} alkylene group,

7) a C_{3-10} cycloalkylene group,

8) a 4- to 10-membered non-aryl heterocyclylene group,

(wherein each substituent from 6) to 8) is optionally substituted),

9) $-C(=O)-$,

10) $-S(=O)-$, or

11) $-S(=O)_{2}-$,

L^{4} is

1) a single bond,

2) a C_{1-6} alkylene group,

3) a C_{3-10} cycloalkylene group,

4) a C_{6-10} arylene group,

5) a 5- or 6-membered heteroarylene group,

6) a 4- to 10-membered non-aryl heterocyclylene group,

(wherein each substituent from 2) to 6) is optionally substituted), or

7) $-C(=N-OR^{h1})-$,

R^{5} is

1) a hydrogen atom,

2) a C_{1-6} alkyl group,

3) a C_{3-10} alicyclic group,

4) a 4- to 10-membered non-aryl heterocycle,

5) C_{6-10} aryl,

6) 5- to 10-membered heteroaryl,

7) a C_{1-6} alkylthio group,

(wherein each substituent from 2) to 7) is optionally substituted, and if two substituents further substituted with the substituent of 1), 2), or 3) are each substituted on adjacent atoms within a ring, the two substituents together may further form a condensed ring structure),

8) $-NR^{e1}OH$,

9) a carboxyl group (-C(=O)OH),

10) a carboxylic acid isostere (wherein the carboxylic acid isostere comprises an ester group-$C(=O)OR^{20a}$),

11) a sulfo group (sulfonic acid group),

12) $-SO_2R^{e1}$,

13) $-SO_2-NR^{e1}R^{f1}$,

14) $-S(=O)(=NR^{f1})R^{e1}$,

15) $-NR^{e1}-C(=O)R^{f1}$,

16) $-NR^{e1}-C(=O)OR^{f1}$,

17) $-NR^{g1}-C(=O)NR^{e1}R^{f1}$,

18) $-NR^{e1}-SO_2-R^{f1}$,

19) $-NR^{g1}-SO_2-NR^{e1}R^{f1}$,

20) $-N=S(=O)R^{e1}R^{f1}$,

21) $-C(=O)NR^{50}R^{51}$, or

22) $-NR^{e1}R^{f1}$ (wherein if R^5 is the substituent of 22), $-L^3-L^4-R^5$ is not $-(CH_2)_{1-4}NR^{e1}R^{f1}$ (wherein R^{e1} and R^{f1} are a hydrogen atom, optionally substituted C_{1-4} alkyl, an optionally substituted C_{3-7} alicyclic group, an optionally substituted 4- to 10-membered non-aryl heterocyclic group, optionally substituted C_{6-10} aryl, or optionally substituted 5- to 10-membered heteroaryl)),

R^{20a} is

1) a C_{1-6} alkyl group,

2) a C_{3-10} alicyclic group,

3) C_{6-10} aryl,

4) 5- or 6-membered heteroaryl, or

5) a 4- to 10-membered non-aryl heterocycle,

(wherein each substituent from 1) to 5) is optionally substituted),

R^{50} represents

1) a hydrogen atom,

2) a C_{1-6} alkyl group,

3) a hydroxyl group,

4) C_{1-6} alkoxy group,

5) a C_{3-6} cycloalkoxy group,

6) a C_{3-6} alicyclic group,

7) a 4- to 6-membered non-aryl heterocycle,

8) C_{6-10} aryl,

9) 5- to 10-membered heteroaryl,

10) 4- to 6-membered non-aryl heterocyclyl oxy,

11) C_{6-10} aryloxy,

12) 5- to 10-membered heteroaryloxy,

13) a C_{1-6} alkylsulfonyl group,

14) a C_{3-6} cycloalkoxysulfonyl group, or

15) a 4- to 6-membered non-aryl heterocyclyl sulfonyl group,

(wherein each substituent of 2) and 4) to 15) is optionally substituted),

R^{51} represents

1) a hydrogen atom,

2) a C_{1-6} alkyl group,

3) a C_{3-6} alicyclic group,

4) a 4- to 6-membered non-aryl heterocycle,

5) C_{6-10} aryl, or

6) 5- to 10-membered heteroaryl,

(wherein each substituent from 2) to 6) is optionally substituted), or

~~R^{50} and R^{51} together may form optionally substituted 4- to 7-membered nitrogen-containing non-aryl heterocycle,~~

~~the remaining two (without the structure of formula (2) among R^1, R^2, and R^3) are the same or different, each independently a hydrogen atom, a halogen atom, an optionally substituted C_{1-6} alkyl group, an optionally substituted C_{1-6} alkoxy group, an optionally substituted C_{1-6} alkylthio group, optionally substituted 5- or 6-membered heteroaryl, or $-NR^{a3}R^{b2}$,~~

~~R^{d1}, R^{d2}, R^{e1}, R^{f1}, R^{g1}, R^{h1}, R^{i1}, and R^j are the same or different, each independently~~

~~1) a hydrogen atom,~~

~~2) a C_{1-6} alkyl group,~~

~~3) a C_{3-10} alicyclic group,~~

~~4) C_{6-10} aryl,~~

~~5) 5- or 6-membered heteroaryl, or~~

~~6) a 4- to 10-membered non-aryl heterocycle,~~

~~(wherein each substituent from 2) to 6) is optionally substituted),~~

~~a combination of R^{e1} and R^{f1}, when attached to the same nitrogen atom, together may form an optionally substituted 4- to 10-membered nitrogen-containing non-aryl heterocycle,~~

~~R^4 is~~

~~1) $-C(=O)R^8$,~~

~~2) $-SO_2-L^6-R^8$,~~

~~(wherein R^8 in 1) and 2) is $-NR^{a5}R^{b4}$, $-NR^{a5}-L^7-B(OR^{m1})_2$, $-OR^{m1}$, or an optionally substituted C_{1-6} alkyl group, and L^6 is a single bond or $-NR^{a6}-$),~~

~~3) $-NR^{a4}R^{b3}$,~~

~~4) $-B(OR^{m1})_2$,~~

~~5) $-PO(OR^{m1})(OR^{m2})$,~~

~~6) optionally substituted 5-membered heteroaryl,~~

~~7) an optionally substituted 5-membered non-aryl heterocycle, or~~

~~8) a bioisostere of one of 1) to 7),~~

(wherein the formulas of 2), 4), 5), and 6) include a carboxylic acid isostere, and 8) may include them in duplicates),

R^{a3}, R^{a4}, R^{a5}, R^{a6}, R^{b2}, R^{b3}, and R^{b4} are the same or different, each independently having the same definition as R^{a1}, R^{a2}, and R^{b1},

wherein a combination of R^{a3} and R^{b2}, R^{a4} and R^{b3}, or R^{a5} and R^{b4}, when attached to the same nitrogen atom, together may form an optionally substituted 4- to 10-membered nitrogen-containing non-aryl heterocycle,

R^{m1} is

1) a hydrogen atom,

2) a C_{1-6} alkyl group,

3) a C_{3-10} alicyclic group,

4) C_{6-10} aryl,

5) 5- or 6-membered heteroaryl, or

6) a 4- to 10-membered non-aryl heterocycle,

(wherein each substituent from 2) to 6) is optionally substituted),

wherein if R^{m1} is attached to a boron atom via an oxygen atom, two R^{m1}, as C_{2-4} alkylene, together with the boron atom and two oxygen atoms, may form a 5- to 7-membered non-aryl heterocycle (wherein an alkylene moiety is optionally substituted in the non-aryl heterocycle),

R^{m2} is a hydrogen atom, an optionally substituted C_{1-6} alkyl group, or an optionally substituted C_{3-10} alicyclic group,

L^7 is an optionally substituted C_{1-3} alkylene group,

R^{61}, R^{62}, and R^{63} are each independently a hydrogen atom, halogen, or an optionally substituted C_{1-6} alkyl group, and

R^{64} is a hydrogen atom, halogen, an optionally substituted C_{1-6} alkyl group, or $-L^1-L^2-Z$.

[Claim 4]

The compound or the pharmaceutically acceptable salt thereof according to any one of claims 1 to 3, wherein L^3 is

1) a C_{1-6} alkylene group,

2) a C_{3-10} cycloalkylene group, or

3) a 4- to 10-membered non-aryl heterocyclylene group,
(wherein each substituent from 1) to 3) is optionally substituted), and

L^4 is a single bond or an optionally substituted C_{1-5} alkylene group.

[Claim 5]

The compound or the pharmaceutically acceptable salt thereof according to any one of claims 1 to 4, wherein

L^3 is an optionally substituted C_{1-4} alkylene group, and

L^4 is a single bond or an optionally substituted C_{1-3} alkylene group.

[Claim 6]

The compound or the pharmaceutically acceptable salt thereof according to any one of claims 1 to 5, wherein

L^3 is $-(CR^{30}R^{31})_{n1}-$,

R^{30} and R^{31} are each independently, or if there are multiple instances of each of them, all of them independently represent

1) a hydrogen atom,

2) $-NR^{a7}R^{a8}$,

3) a C_{1-4} alkyl group,

4) C_{6-10} aryl,

5) 5- to 10-membered heteroaryl,

6) a C_{3-6} alicyclic group,

7) a 4- to 10-membered non-aryl heterocycle,

(wherein each substituent from 3) to 7) is optionally substituted), or

8) $-OR^{c2}$, or

R^{30} and R^{31}, together with the carbon atom to which they are attached, form a C_{3-6} alicyclic group or a 4- to 6-membered non-aryl heterocycle,

R^{a7} and R^{a8} are the same or different, each independently

1) a hydrogen atom,

2) a C_{1-6} alkyl group,

3) a C_{3-10} alicyclic group,

4) C_{6-10} aryl,

5) 5- or 6-membered heteroaryl,

6) a 4- to 10-membered non-aryl heterocycle,

7) a C_{1-6} alkylcarbonyl group,

8) a C_{3-10} alicyclic carbonyl group,

9) a C_{6-10} arylcarbonyl group,

10) a 5- or 6-membered heteroarylcarbonyl group,

11) a C_{1-6} alkylsulfonyl group,

12) a C_{3-10} alicyclic sulfonyl group,

13) a C_{6-10} arylsulfonyl group,

14) a 5- or 6-membered heteroarylsulfonyl group, or

15) $-OR^{c3}$,

(wherein each substituent from 2) to 14) is optionally substituted),

wherein R^{a7} and R^{a8} together may form an optionally substituted 4- to 10-membered nitrogen-containing non-aryl heterocycle,

R^{c2} and R^{c3} are each independently

1) a hydrogen atom,

2) a C_{1-6} alkyl group,

3) a C_{3-10} alicyclic group,

4) C_{6-10} aryl,

5) 5- or 6-membered heteroaryl, or

6) a 4- to 10-membered non-aryl heterocycle,

(wherein each substituent from 2) to 6) is optionally substituted),

n1 is an integer 1, 2, 3, or 4,

L^4 is $-(CR^{40}R^{41})_{n2}-$,

R^{40} and R^{41} each independently, or if there are multiple instances of each of them, all of them independently represent

1) a hydrogen atom,

2) $-NR^{a9}R^{a10}$,

3) a C_{1-4} alkyl group,

4) C_{6-10} aryl,

5) 5- to 10-membered heteroaryl,

6) a C_{3-6} alicyclic group,

7) a 4- to 10-membered non-aryl heterocycle,

(wherein each substituent from 3) to 7) is optionally substituted), or

8) $-OR^{e4}$, or

R^{40} and R^{41}, together with the carbon atom to which they are attached, form a C_{3-6} alicyclic group or a 4- to 6-membered non-aryl heterocycle,

R^{a9} and R^{a10} are the same or different, each independently

1) a hydrogen atom,

2) a C_{1-6} alkyl group,

3) a C_{3-10} alicyclic group,

4) C_{6-10} aryl,

5) 5- or 6-membered heteroaryl,

6) a 4- to 10-membered non-aryl heterocycle,

7) a C_{1-6} alkylcarbonyl group,

8) a C_{3-10} alicyclic carbonyl group,

9) a C_{6-10} arylcarbonyl group,

10) a 5- or 6-membered heteroarylcarbonyl group,

11) a C_{1-6} alkylsulfonyl group,

12) a C_{3-10} alicyclic sulfonyl group,

13) a C_{6-10} arylsulfonyl group,

14) a 5- or 6-membered heteroarylsulfonyl group,

(wherein each substituent from 2) to 14) is optionally substituted), or

15) $-OR^{e5}$,

wherein R^{a9} and R^{a10} together may form an optionally substituted 4- to 10-membered nitrogen-containing non-aryl heterocycle,

R^{e4} and R^{e5} are each independently defined the same as R^{e2} and R^{e3}, and

n2 is an integer 0 (i.e., when L^4 is a single bond), 1, 2, or 3.

[Claim 7]

The compound or the pharmaceutically acceptable salt thereof according to any one of claims 1 to 6, wherein

$-L^3-L^4-$ is an optionally substituted C_{1-2} alkylene group.

[Claim 8]

The compound or the pharmaceutically acceptable salt thereof according to any one of claims 1 to 7, wherein $-L^3-L^4-$ is a C_{1-2} alkylene group optionally substituted with a C_{1-3} alkyl group, an amino group, or a hydroxymethyl group, or a plurality of the same or different groups thereamong (wherein two C_{1-3} alkyl groups, when attached to the same carbon atom, together with the carbon atom to which they are attached, may form a C_{3-6} alicyclic group).

[Claim 9]

The compound or the pharmaceutically acceptable salt thereof according to any one of claims 1 to 8, wherein

R^5 is

1) a C_{3-10} alicyclic group,

2) C_{6-10} aryl,

3) 5- to 10-membered heteroaryl,

4) a C_{1-6} alkylthio group,

(wherein each substituent from 1) to 4) is optionally substituted, and if two substituents further substituted with the substituent of 2) or 3) are each substituted on adjacent atoms within a ring, the two substituents together may further form a condensed ring structure),

5) $-NR^{e1}OH$,

6) $-C(=O)NR^{50}R^{51}$,

7) $-SO_2-NR^{e1}R^{f1}$,

8) $-NR^{e1}-SO_2-R^{f1}$,

9) $-C(=O)OR^{20}$, or

10) -$NR^{e1}R^{f1}$ (wherein if R^5 is the substituent of 10), L^3 and/or L^4 is a C_{1-6} alkylene group that is necessarily substituted with one or more groups other than a hydrogen atom (wherein L^3 or L^4, together with said substituent, may form a C_{3-10} alicyclic group or a 4- to 10-membered non-aryl heterocycle)), and

R^{20} is

1) a hydrogen atom,

2) a C_{1-6} alkyl group,

3) a C_{3-10} alicyclic group,

4) C_{6-10} aryl,

5) 5- or 6-membered heteroaryl, or

6) a 4- to 10-membered non-aryl heterocycle,

(wherein each substituent from 2) to 6) is optionally substituted). [Claim 10]

The compound or the pharmaceutically acceptable salt thereof according to any one of claims 1 to 9, wherein

R^5 is

1) C_{6-10} aryl,

2) 5- to 10-membered heteroaryl,

3) $-C(=O)NR^{50}R^{51}$,

4) $-C(=O)OR^{20}$, or

5) -$NR^{e1}R^{f1}$ (wherein if R^5 is the substituent of 5), L^3 and/or L^4 is a C_{1-6} alkylene group that is necessarily substituted with one or more groups other than a hydrogen atom, and together with said substituent forms at least one C_{3-10} alicyclic group or 4- to 10-membered non-aryl heterocycle),

(wherein each substituent from 1) to 2) is optionally substituted, and any two groups thereof, when each is attached to adjacent atoms within a ring, together may further form a condensed ring structure). [Claim 11]

~~The compound or the pharmaceutically acceptable salt thereof according to any one of claims 1 to 10, wherein Z-L^2-L^1- is an optionally substituted C_{1-6} alkylthio group.~~

~~[Claim 12]~~

~~The compound or the pharmaceutically acceptable salt thereof according to any one of claims 1 to 11, wherein R^{61}, R^{62}, R^{63}, and R^{64} are each independently a hydrogen atom, a fluorine atom, or a C_{1-3} alkyl group optionally substituted with a fluorine atom.~~

~~[Claim 13]~~

~~The compound or the pharmaceutically acceptable salt thereof according to any one of claims 1 to 12, wherein R^{61}, R^{62}, R^{63}, and R^{64} are each independently a hydrogen atom or a fluorine atom.~~

~~[Claim 14]~~

~~The compound or the pharmaceutically acceptable salt thereof according to any one of claims 1 to 13, wherein G is an oxygen atom.~~

~~[Claim 15]~~

~~The compound or the pharmaceutically acceptable salt thereof according to any one of claims 1 to 14, wherein X is a hydroxyl group or an optionally substituted C_{1-6} alkoxy group.~~

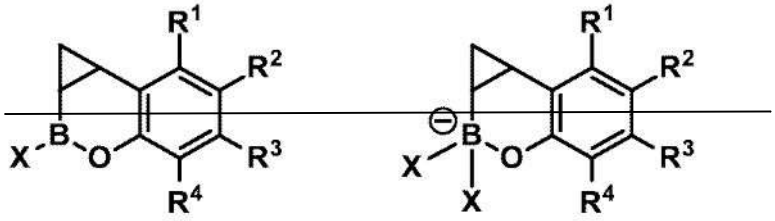
~~[Claim 16]~~

~~The compound or the pharmaceutically acceptable salt thereof according to any one of claims 1 to 15, wherein X is a hydroxyl group.~~

~~[Claim 17]~~

~~The compound or the pharmaceutically acceptable salt thereof according to any one of claims 1 to 16, wherein the compounds of formulas (1a) and (1b) are represented by formulas (3a) and (3b), respectively:~~

~~[Chemical Formula 739]~~



(3a) (3b)

wherein X, R^1, R^2, and R^3 are defined the same as any one of claims 1 to 16, and

R^4 is selected from the group consisting of

1) $-C(=O)OR^{m1}$ (wherein R^{m1} is a hydrogen atom, a C_{1-6} alkyl group, a C_{3-10} alicyclic group, C_{6-10} aryl, 5- or 6-membered heteroaryl, or a 4- to 10-membered non-aryl heterocycle, wherein the C_{1-6} alkyl group, the C_{3-10} alicyclic group, the C_{6-10} aryl, the 5- or 6-membered heteroaryl, and the 4- to 10-membered non-aryl heterocycle are each optionally substituted), and

2) a bioisostere of 1).

[Claim 18]

The compound or the pharmaceutically acceptable salt thereof according to any one of claims 1 to 17, wherein R^4 is

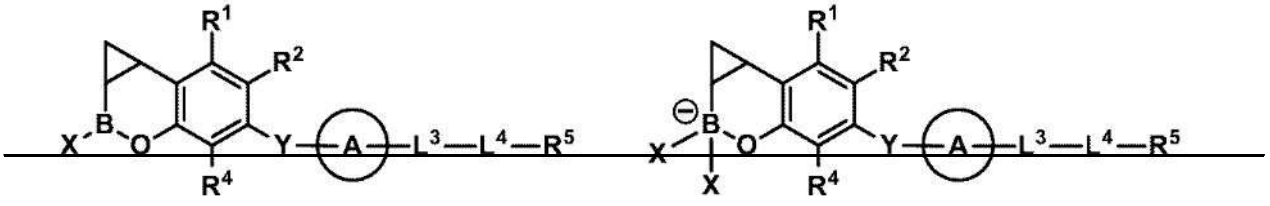
1) $-C(=O)OH$ (i.e., a carboxyl group), or

2) a carboxylic acid isostere.

[Claim 19]

The compound or the pharmaceutically acceptable salt thereof according to any one of claims 1 to 18, wherein the compounds of formulas (1a) and (1b) or the compounds of formulas (3a) and (3b) are represented by formulas (4a) and (4b), respectively:

[Chemical Formula 740]



(4a) (4b)

wherein X, R^4, Y, ring A, L^3, L^4, and R^5 are defined the same as any one of claims 1 to 18, and

R^1 and R^2 are the same or different, each independently a hydrogen atom, a halogen atom, a C_{1-6} alkyl group, a C_{1-6} alkoxy group, or a C_{1-6} alkylthio group (wherein the C_{1-6} alkyl group, C_{1-6} alkoxy group, and C_{1-6} alkylthio group are optionally substituted).

[Claim 20]

The compound or the pharmaceutically acceptable salt thereof according to any one of claims 1 to 19, wherein ring A is an optionally substituted 4- to 10-membered non-aryl heterocycle.

[Claim 21]

The compound or the pharmaceutically acceptable salt thereof according to any one of claims 1 to 20, wherein ring A is an optionally substituted 4- to 7-membered non-aryl heterocycle.

[Claim 22]

The compound or the pharmaceutically acceptable salt thereof according to any one of claims 1 to 21, wherein Y is an oxygen atom or a sulfur atom.

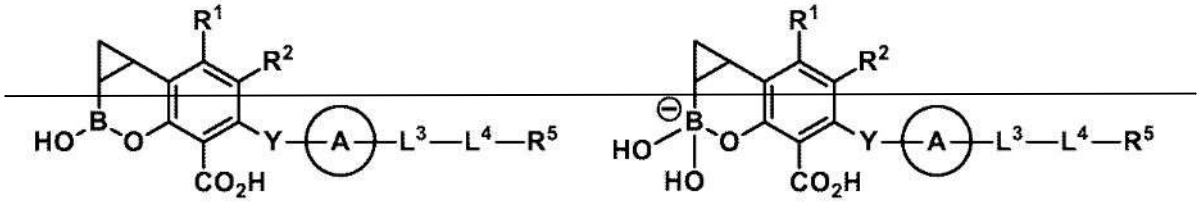
[Claim 23]

The compound or the pharmaceutically acceptable salt thereof according to any one of claims 1 to 22, wherein Y is an oxygen atom.

[Claim 24]

The compound or the pharmaceutically acceptable salt thereof according to any one of claims 1 to 23, wherein the compounds of formulas (1a) and (1b), the compounds of formulas (3a) and (3b), or the compounds of formulas (4a) and (4b) are represented by formulas (5a) and (5b), respectively:

[Chemical Formula 741]



(5a) (5b)

~~wherein R^1, R^2, Y, L^3, L^4, and R^5 are defined the same as any one of claims 1 to 23, and ring A is an optionally substituted 4- to 6-membered nitrogen-containing non-aryl heterocycle.~~

~~[Claim 25]~~

~~The compound or the pharmaceutically acceptable salt thereof according to any one of claims 1 to 3 and 11 to 24, wherein L^3 is -C(=O)- or -$S(=O)_2$-.~~

~~[Claim 26]~~

~~The compound or the pharmaceutically acceptable salt thereof according to any one of claims 1 to 3 and 11 to 25, wherein L^3 is -C(=O)-.~~

~~[Claim 27]~~

~~The compound or the pharmaceutically acceptable salt thereof according to any one of claims 1 to 3 and 11 to 26, wherein L^4 is a single bond, -C(=N-OR^{h1})-, or an optionally substituted C_{1-6} alkylene group, wherein R^{h1} is an optionally substituted C_{1-6} alkyl group.~~

~~[Claim 28]~~

~~The compound or the pharmaceutically acceptable salt thereof according to any one of claims 1 to 27, wherein R^1 and R^2 are the same or different, each independently selected from the group consisting of~~

~~1) a hydrogen atom,~~

~~2) a halogen atom,~~

~~3) a C_{1-6} alkyl group,~~

~~4) a C_{1-6} alkoxy group, and~~

~~5) a C_{1-6} alkylthio group,~~

~~(wherein each substituent from 3) to 5) is optionally substituted).~~

~~[Claim 29]~~

~~The compound or the pharmaceutically acceptable salt thereof according to any one of claims 1 to 28, wherein R^1 and R^2 are the same or different, each independently selected from the group consisting of~~

~~1) a hydrogen atom,~~

~~2) a halogen atom,~~

~~3) a C_{1-6} alkyl group,~~

~~4) a C_{1-6} alkoxy group, and~~

~~5) a C_{1-6} alkylthio group,~~

~~(wherein each substituent from 3) to 5) is optionally substituted with a halogen atom).~~

~~[Claim 30]~~

~~The compound or the pharmaceutically acceptable salt thereof according to any one of claims 1 to 29, wherein R^1 and R^2 are the same or different, each independently selected from the group consisting of~~

~~1) a hydrogen atom,~~

~~2) a halogen atom, and~~

~~3) a C_{1-6} alkyl group optionally substituted with a halogen atom.~~

~~[Claim 31]~~

~~The compound or the pharmaceutically acceptable salt thereof according to any one of claims 1 to 30, wherein R^1 and R^2 are the same or different, each independently selected from the group consisting of~~

~~1) a hydrogen atom,~~

~~2) a fluorine atom, and~~

~~3) a C_{1-3} alkyl group optionally substituted with a fluorine atom.~~

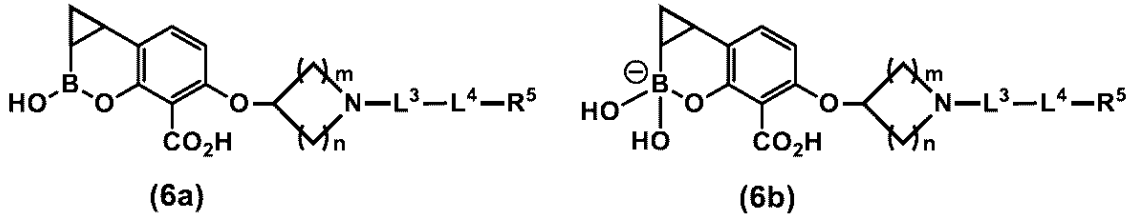
~~[Claim 32]~~

~~The compound or the pharmaceutically acceptable salt thereof according to any one of claims 1 to 31, wherein R^1 and R^2 are both hydrogen atoms~~.

~~[Claim 33]~~

1. A compound [~~The compound or the pharmaceutically acceptable salt thereof according to any one of claims 1 to 32, wherein the compounds of formulas (1a) and (1b), the compounds of formulas (3a) and (3b), the compounds of formulas (4a) and (4b), or the compounds of formulas (5a) and (5b) are~~] represented by formula ~~formulas~~ (6a) or ~~and~~ (6b)~~, respectively~~:

[Chemical Formula 742]



(6a) (6b)

, or a pharmaceutically acceptable salt thereof,

wherein

~~L^3, L^4, and R^5 are defined the same as any one of claims 1 to 32,~~ L^3 is an optionally substituted hydrocarbylene group, an optionally substituted heterohydrocarbylene group, -S(=O)-, or -$S(=O)_2$-,

L^4 is a single bond, an optionally substituted hydrocarbylene group, an optionally substituted heterohydrocarbylene group, or -$C(=N\text{-}OR^{h1})$-,

R^{h1} is

1) a hydrogen atom,

2) a $C_{1\text{-}6}$ alkyl group,

3) a $C_{3\text{-}10}$ alicyclic group,

4) $C_{6\text{-}10}$ aryl,

5) 5- or 6-membered heteroaryl, or

6) a 4- to 10-membered non-aryl heterocycle,

(wherein each substituent from 2) to 6) is optionally substituted),

R^5 is a hydrogen atom, a hydroxyl group, an optionally substituted hydrocarbyl group, an optionally substituted heterohydrocarbyl group, optionally substituted -NHOH, a sulfo group (sulfonic acid group), optionally substituted -SO_2H, optionally substituted -SO_2-

NH_2, optionally substituted -S(=O)(=NH)H, optionally substituted -NH-SO_2-H, optionally substituted -NH-SO_2-NH_2, optionally substituted -N=S(=O)H_2, or optionally substituted -NH_2,

m is an integer 1~~, 2, or 3~~, and

n is an integer 1.~~, 2, or 3, and~~

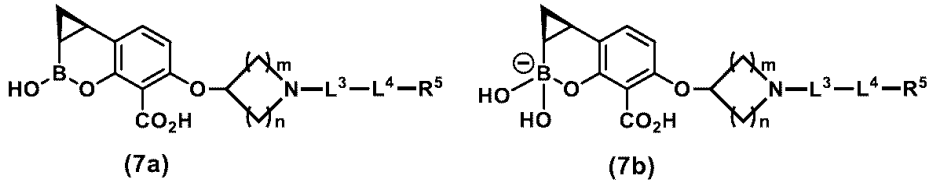
~~m + n is 2, 3, or 4.~~

~~[Claim 34]~~

2. The compound or the pharmaceutically acceptable salt thereof according to claim 1~~33~~, wherein the compounds of formulas (6a) and (6b) are enantiomers represented by

formulas (7a) and (7b):

[Chemical Formula 743]

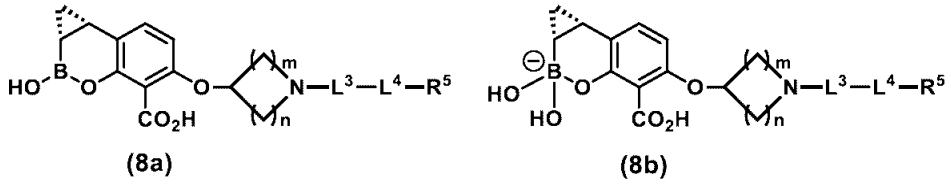


(7a) (7b)

or

formulas (8a) and (8b):

[Chemical Formula 744]



(8a) (8b)

, respectively,

wherein

L^3, L^4, and R^5 are defined the same as ~~any one of~~ claim~~s~~ ~~1 to 33~~1, and

m and n are defined the same as claim ~~33~~1.

~~[Claim 35]~~

3. The compound or the pharmaceutically acceptable salt thereof according to claim 1, wherein

L^3 is -C(=O)-, an optionally substituted C_{1-6} alkylene group, or an optionally substituted 4- to 10-membered non-aryl heterocyclylene.

~~[Claim 35]~~

~~The compound or the pharmaceutically acceptable salt thereof according to any one of claims 1 to 34, wherein m is 1 or 2, n is 1 or 2, and m + n is 2 or 3.~~

~~[Claim 36]~~

~~The compound or the pharmaceutically acceptable salt thereof according to any one of claims 1 to 35, wherein m is 1, and n is 1.~~

~~[Claim 37]~~

4. The compound or the pharmaceutically acceptable salt thereof according to claim 1, ~~any one of claims 1 to 6, 9 to 24, and 28 to 36~~, wherein

L^3 is $-(CR^{30}R^{31})_{n1}-$ or 4- to 10-membered non-aryl heterocyclylene,

R^{30} and R^{31} each independently, or if there are multiple instances of each of them, all of them independently represent

1) a hydrogen atom,
2) an optionally substituted C_{1-4} alkyl group, or
3) optionally substituted C_{6-10} aryl,

n1 is 1, 2, or 3,

L^4 is a single bond or $-(CR^{40}R^{41})_{n2}-$,

R^{40} and R^{41} each independently, or if there are multiple instances of each of them, all of them independently represent

1) a hydrogen atom,
2) $-NR^{a9}R^{a10}$,
3) an optionally substituted C_{1-4} alkyl group, or
4) $-OR^{c4}$ or

R^{40} and R^{41}, together with the carbon atom to which they are attached, form a C_{3-6} alicyclic group or a 4- to 6-membered non-aryl heterocycle,

R^{a9}, R^{a10}, and R^{c4} are the same or different, each independently

1) a hydrogen atom,
2) an optionally substituted C_{1-6} alkyl group, or
3) an optionally substituted C_{3-10} alicyclic group,

wherein R^{a9} and R^{a10} together may form an optionally substituted 4- to 10-membered nitrogen-containing non-aryl heterocycle, and

n2 is 0, 1, or 2.

~~[Claim 38]~~

5. The compound or the pharmaceutically acceptable salt thereof according to claim 4~~37~~, wherein n1 is 1 or 2, and n2 is 0 or 1.

~~[Claim 39]~~

6. The compound or the pharmaceutically acceptable salt thereof according to claim 1 ~~any one of claims 1 to 6, 9 to 24, and 28 to 38~~, wherein

L^3 is $-CR^{30}R^{31}-$ or 4- to 10-membered non-aryl heterocyclylene,

R^{30} and R^{31} each independently represent,

1) a hydrogen atom,

2) a C_{1-4} alkyl group (wherein the group is optionally substituted with halogen, $-NR^{a11}R^{a12}$, or $-OR^{c6}$), or

3) C_6 aryl (wherein the group is optionally substituted with halogen, $-NR^{a13}R^{a14}$, $-OR^{c7}$, or a C_{1-3} alkyl group (wherein the group is optionally substituted with halogen, $-NR^{a15}R^{a16}$, or $-OR^{c8}$)),

L^4 is a single bond or $-(CR^{40}R^{41})_{n2}-$,

R^{40} and R^{41} each independently represent

1) a hydrogen atom,

2) $-NR^{a9}R^{a10}$,

3) a C_{1-4} alkyl group (wherein the group is optionally substituted with halogen, $-NR^{a17}R^{a18}$, or $-OR^{c9}$), or

4) $-OR^{c4}$, or

R^{40} and R^{41}, together with the carbon atom to which they are attached, form a C_{3-6} alicyclic group,

R^{a9}, R^{a10}, R^{a11}, R^{a12}, R^{a13}, R^{a14}, R^{a15}, R^{a16}, R^{a17}, R^{a18}, R^{c4}, R^{c6}, R^{c7}, R^{c8}, and R^{c9} are the same or different, each independently representing

1) a hydrogen atom, or

2) a C_{1-4} alkyl group (wherein the group is optionally substituted with halogen, $-NR^{a19}R^{a20}$, or $-OR^{c10}$),

R^{a19}, R^{a20}, and R^{c10} are the same or different, each independently representing

1) a hydrogen atom, or

2) a C_{1-4} alkyl group (wherein the group is optionally substituted with halogen),

wherein each combination of R^{a9} and R^{a10}, R^{a11} and R^{a12}, R^{a13} and R^{a14}, R^{a15} and R^{a16}, R^{a17} and R^{a18}, or R^{a19} and R^{a20} together may form an optionally substituted 4- to 7-membered nitrogen-containing non-aryl heterocycle, and

n2 is 0 or 1.

~~[Claim 40]~~

7. The compound or the pharmaceutically acceptable salt thereof according to claim 1 ~~any one of claims 1 to 6, 9 to 24, and 28 to 39~~, wherein

L^3 is $-CH_2-$, $-CH(CH_2NH_2)-$, or $-CH(CH_2OH)-$, and

L^4 is a single bond, $-CH_2-$, $-CH(NH_2)-$, $-CMe(NH_2)-$, $-CEt(NH_2)-$, $-C(iso\text{-}Pr)(NH_2)-$, $-CH(CH_2NH_2)-$, $-CH(OH)-$, $-CH(CH_2OH)-$, $-C(CH_2OH)_2-$, or

[Chemical Formula 745]



.

~~[Claim 41]~~

8. The compound or the pharmaceutically acceptable salt thereof according to claim 1 ~~any one of claims 1 to 6, 9 to 24, and 28 to 39~~, wherein L^3 is 4- to 10-membered non-aryl heterocyclylene.

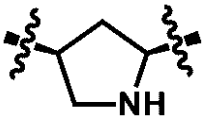
~~[Claim 42]~~

9. The compound or the pharmaceutically acceptable salt thereof according to claim 1 ~~any one of claims 1 to 6, 9 to 24, 28 to 39, and 41~~, wherein L^3 is 5-membered non-aryl heterocyclylene.

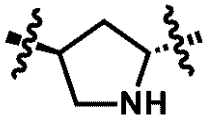
~~[Claim 43]~~

10. The compound or the pharmaceutically acceptable salt thereof according to claim 1 ~~any one of claims 1 to 6, 9 to 24, 28 to 39, and 41 to 42~~, wherein L^3 is

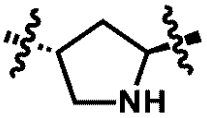
[Chemical Formula 746]



[Chemical Formula 747]

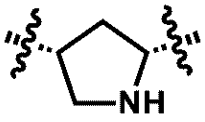


[Chemical Formula 748]



or

[Chemical Formula 749]



.

~~[Claim 44]~~

11. The compound or the pharmaceutically acceptable salt thereof according to claim 1 ~~any one of claims 1 to 6, 9 to 24, 28 to 39, and 41 to 43~~, wherein L^4 is a single bond.

~~[Claim 45]~~

12. The compound or the pharmaceutically acceptable salt thereof according to claim 1 ~~any one of claims 1 to 24 and 28 to 40~~, wherein R^5 is

1) C_{6-10} aryl, or

2) 5- to 10-membered heteroaryl,

(wherein each substituent from 1) to 2) is optionally substituted, and if two substituents further substituted with the substituent of 1) or 2) are each substituted on adjacent atoms within a ring, the two substituents together may further form a condensed ring structure).

~~[Claim 46]~~

13. The compound or the pharmaceutically acceptable salt thereof according to claim 1 ~~any one of claims 1 to 24 and 28 to 45~~, wherein

R^5 is C_6 aryl (i.e., phenyl) or 5-membered, 6-membered, 9-membered, or 10-membered heteroaryl,

each group of R^5 is optionally substituted with each of R^{6a} or R^{6b} at all chemically substitutable positions on a carbon atom or a nitrogen atom within a ring thereof,

wherein R^{6a}, which are substituents on the carbon atom, if there are multiple instances on the same ring, are all independently selected from the group consisting of

1) a hydrogen atom,

2) a hydroxyl group,

3) a cyano group,

4) halogen,

5) a C_{1-4} alkyl group,

6) a C_{3-10} alicyclic group,

7) a C_{1-4} alkoxy group,

8) a C_{3-10} alicyclic oxy group,

9) a C_{6-10} aryloxy group,

10) a 5- or 6-membered heteroaryloxy group,

11) a 4- to 10-membered non-aryl heterocyclyl oxy group,

(wherein each substituent from 5) and 11) is optionally substituted),

12) $-SO_2-NR^{e2}R^{f2}$,

13) $-NR^{g2}-CR^{e2}(=NR^{f2})$,

14) $-NR^{g2}-CR^{e2}(=N-OR^{f2})$,

15) $-NR^{h2}-C(=NR^{g2})NR^{e2}R^{f2}$,

16) $-NR^{h2}-C(=N-OR^{g2})NR^{e2}R^{f2}$,

17) $-NR^{i2}-C(=NR^{h2})NR^{g2}-NR^{e2}R^{f2}$,

18) $-NR^{i2}-C(=N-OR^{h2})NR^{g2}-NR^{e2}R^{f2}$,

19) $-C(=NR^{e2})R^{f2}$,

20) $-C(=N-OR^{e2})R^{f2}$,

21) $-C(=NR^{h2})-NR^{e2}R^{f2}$,

22) $-C(=NR^{h2})NR^{g2}-NR^{e2}R^{f2}$,

23) $-C(=N-OR^{h2})NR^{g2}-NR^{e2}R^{f2}$,

24) $-NR^{e2}R^{f2}$,

25) $-NR^{g2}-NR^{e2}R^{f2}$,

26) $-NR^{e2}OR^{f2}$,

27) $-NR^{e2}-C(=O)R^{f2}$,

28) $-C(=O)NR^{e2}R^{f2}$,

29) $-C(=O)NR^{e2}OR^{f2}$,

30) $-C(=O)NR^{g2}-NR^{e2}R^{f2}$,

31) $-C(=O)R^{e2}$,

32) $-C(=O)OR^{e2}$, and

33) $-C(=N-OR^{h2})NR^{e2}R^{f2}$,

R^{6b}, which are substituents on the nitrogen atom, if there are multiple instances on the same ring, are all independently selected from the group consisting of

1) a hydrogen atom,

2) a hydroxyl group,

3) a C_{1-4} alkyl group

(wherein the alkyl group is optionally substituted),

4) a C_{3-10} alicyclic group

(wherein the alicyclic group is optionally substituted),

5) $-C(=NR^{e2})R^{f2}$,

6) $-C(=N-OR^{e2})R^{f2}$,

7) $-SO_2-NR^{e2}R^{f2}$,

8) $-C(=NR^{h2})-NR^{e2}R^{f2}$,

9) $-C(=NR^{h2})NR^{g2}-NR^{e2}R^{f2}$,

10) $-C(=N-OR^{h2})NR^{g2}-NR^{e2}R^{f2}$,

11) $-C(=O)NR^{e2}R^{f2}$,

12) $-C(=O)NR^{e2}OR^{f2}$,

13) $-C(=O)NR^{g2}-NR^{e2}R^{f2}$,

14) $-C(=O)R^{e2}$, and

15) $-C(=N—OR^{h2})NR^{e2}R^{f2}$, or

if a combination of two R^{6a} or R^{6a} and R^{6b} are each substituted on adjacent atoms within a ring, the two substituents together may form an optionally substituted 5- to 6-membered heteroaryl ring or an optionally substituted 5- to 7-membered non-aryl heterocycle, which further fuses to an attachment moiety between the adjacent atoms within the ring,

R^{e2}, R^{f2}, R^{g2}, R^{h2}, and R^{i2} are the same or different, each independently

1) a hydrogen atom,

2) a C_{1-6} alkyl group,

3) a C_{3-10} alicyclic group,

4) C_{6-10} aryl,

5) 5- or 6-membered heteroaryl, or

6) a 4- to 10-membered non-aryl heterocycle,

(wherein each substituent from 2) to 6) is optionally substituted), and

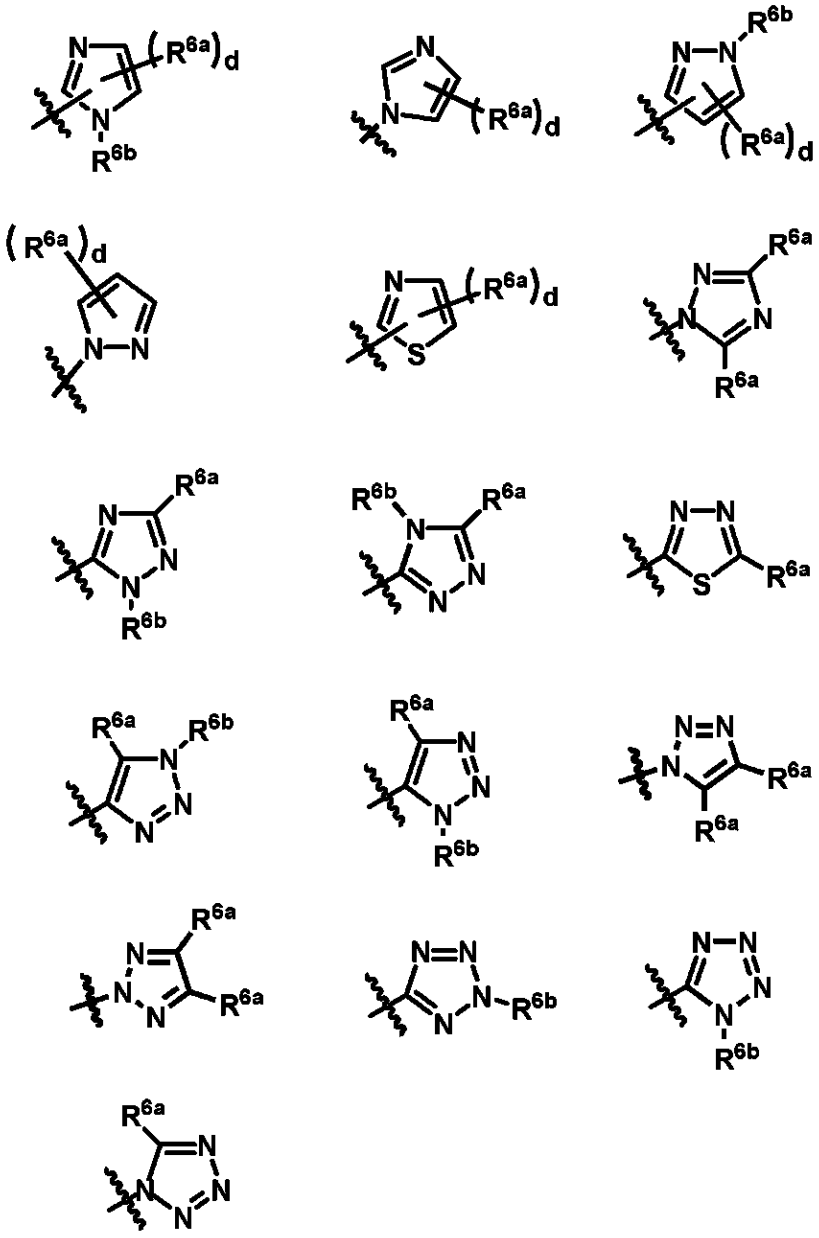
a combination of R^{e2} and R^{f2}, when attached to the same nitrogen atom, together may form an optionally substituted 4- to 10-membered nitrogen-containing non-aryl heterocycle.

~~[Claim 47]~~

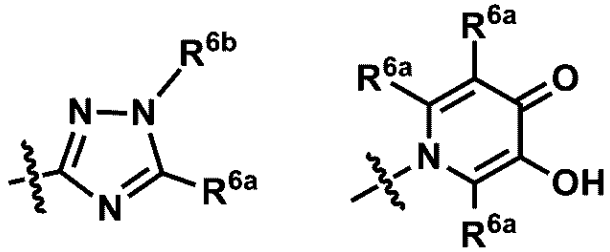
14. The compound or the pharmaceutically acceptable salt thereof according to claim 1 ~~any one of claims 1 to 24 and 28 to 46~~, wherein

R^5 is C_6 aryl or 5-membered, 6-membered, 9-membered, or 10-membered heteroaryl selected from the group consisting of

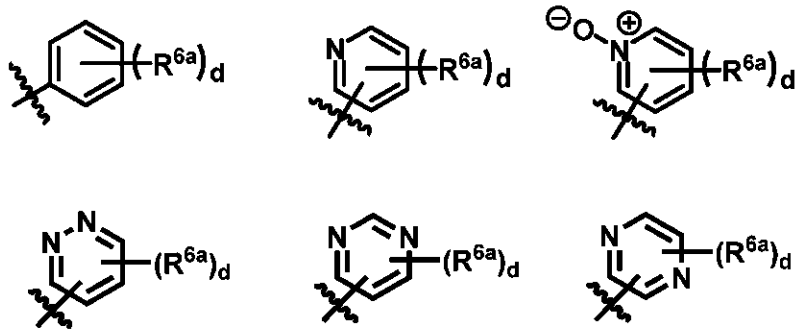
[Chemical Formula 750]



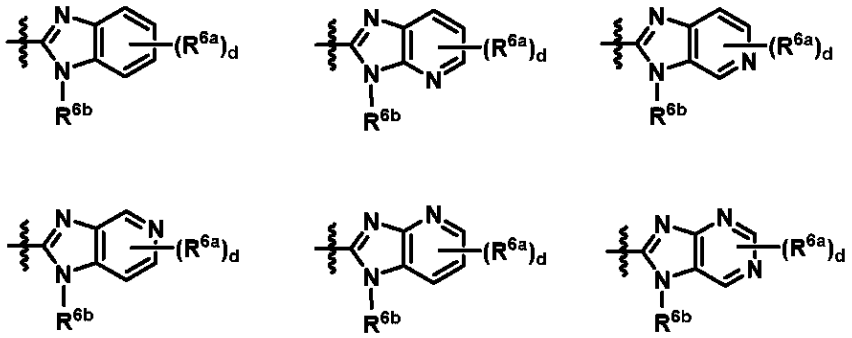
[Chemical Formula 751]

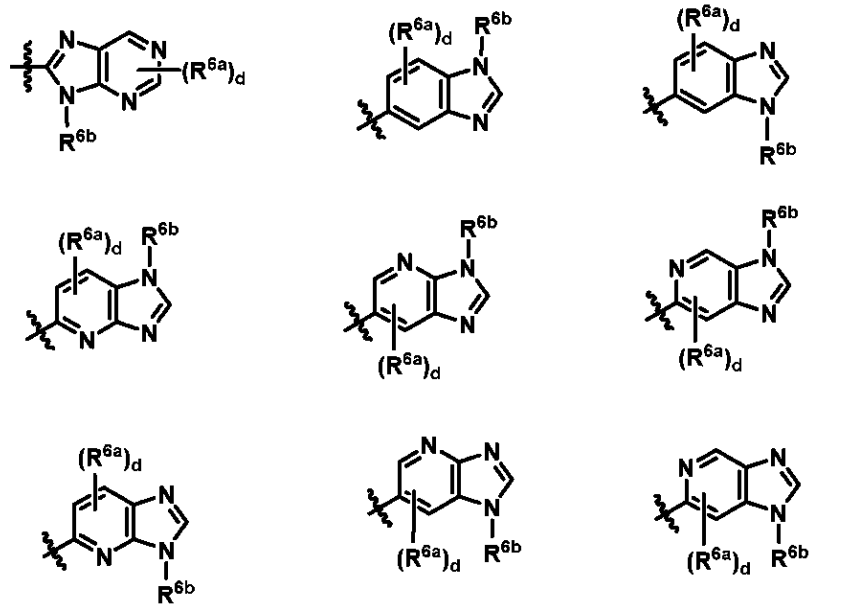


[Chemical Formula 752]

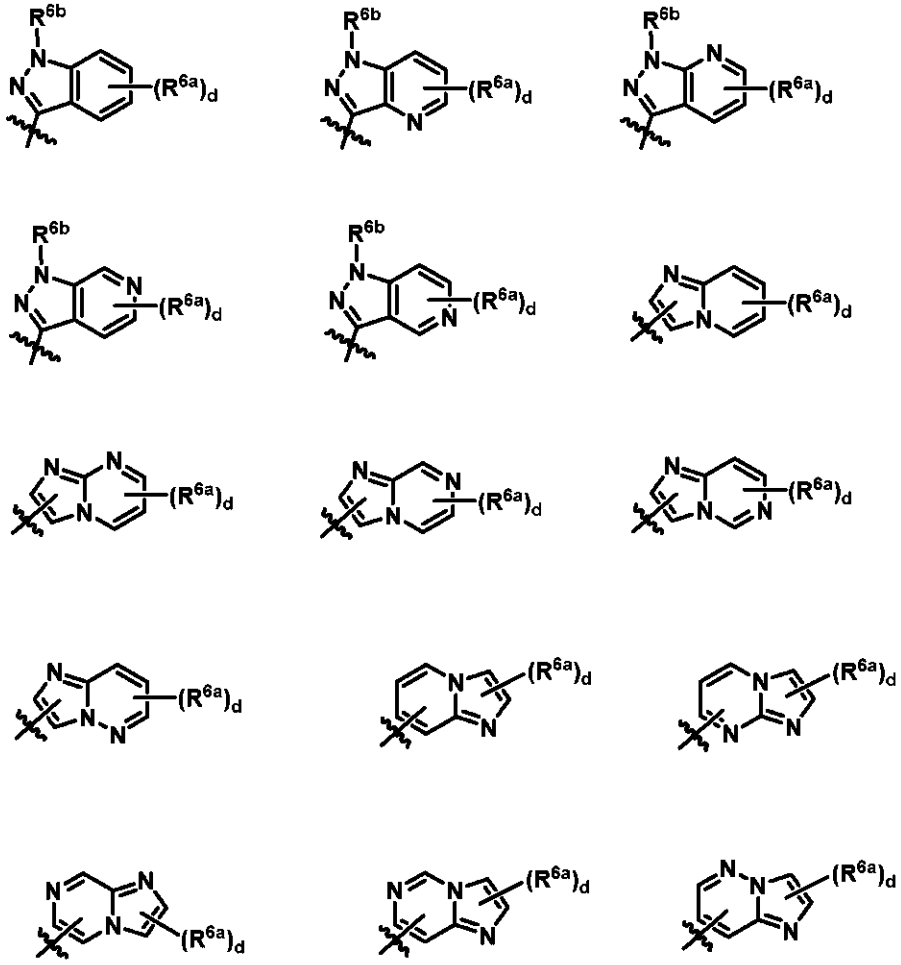


[Chemical Formula 753]

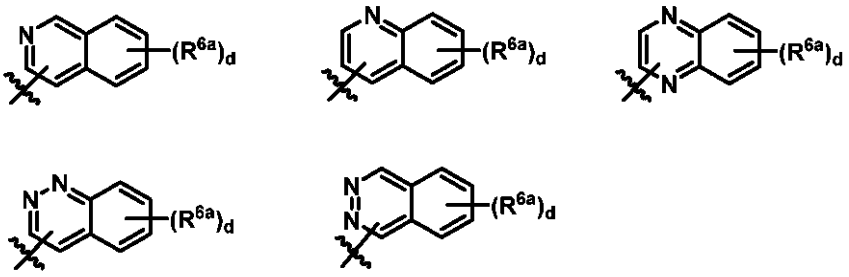




[Chemical Formula 754]



[Chemical Formula 755]



d is the number of chemically substitutable positions on a ring of each group by R^{6a}, ~~and~~

~~each R^{6a} and each R^{6b} are defined the same as claim 46~~

wherein R^{6a}, which are substituents on the carbon atom, if there are multiple instances on the same ring, are all independently selected from the group consisting of

1) a hydrogen atom,

2) a hydroxyl group,

3) a cyano group,

4) halogen,

5) a C_{1-4} alkyl group,

6) a C_{3-10} alicyclic group,

7) a C_{1-4} alkoxy group,

8) a C_{3-10} alicyclic oxy group,

9) a C_{6-10} aryloxy group,

10) a 5- or 6-membered heteroaryloxy group,

11) a 4- to 10-membered non-aryl heterocyclyl oxy group,

(wherein each substituent from 5) and 11) is optionally substituted),

12) $-SO_2-NR^{e2}R^{f2}$,

13) $-NR^{g2}-CR^{e2}(=NR^{f2})$,

14) $-NR^{g2}-CR^{e2}(=N-OR^{f2})$,

15) $-NR^{h2}-C(=NR^{g2})NR^{e2}R^{f2}$,

16) $-NR^{h2}-C(=N-OR^{g2})NR^{e2}R^{f2}$,

17) $-NR^{i2}-C(=NR^{h2})NR^{g2}-NR^{e2}R^{f2}$,

18) $-NR^{i2}-C(=N-OR^{h2})NR^{g2}-NR^{e2}R^{f2}$,

19) $-C(=NR^{e2})R^{f2}$,

20) $-C(=N-OR^{e2})R^{f2}$,

21) $-C(=NR^{h2})-NR^{e2}R^{f2}$,

22) $-C(=NR^{h2})NR^{g2}-NR^{e2}R^{f2}$,

23) $-C(=N-OR^{h2})NR^{g2}-NR^{e2}R^{f2}$,

24) $-NR^{e2}R^{f2}$,

25) $-NR^{g2}-NR^{e2}R^{f2}$,

26) $-NR^{e2}OR^{f2}$,

27) $-NR^{e2}-C(=O)R^{f2}$,

28) $-C(=O)NR^{e2}R^{f2}$,

29) $-C(=O)NR^{e2}OR^{f2}$,

30) $-C(=O)NR^{g2}-NR^{e2}R^{f2}$,

31) $-C(=O)R^{e2}$,

32) $-C(=O)OR^{e2}$, and

33) $-C(=N-OR^{h2})NR^{e2}R^{f2}$,

R^{6b}, which are substituents on the nitrogen atom, if there are multiple instances on the same ring, are all independently selected from the group consisting of

1) a hydrogen atom,

2) a hydroxyl group,

3) a C_{1-4} alkyl group

(wherein the alkyl group is optionally substituted),

4) a C_{3-10} alicyclic group

(wherein the alicyclic group is optionally substituted),

5) $-C(=NR^{e2})R^{f2}$,

6) $-C(=N-OR^{e2})R^{f2}$,

7) $-SO_2-NR^{e2}R^{f2}$,

8) $-C(=NR^{h2})-NR^{e2}R^{f2}$,

9) $-C(=NR^{h2})NR^{g2}-NR^{e2}R^{f2}$,

10) $-C(=N-OR^{h2})NR^{g2}-NR^{e2}R^{f2}$,

11) $-C(=O)NR^{e2}R^{f2}$,

12) $-C(=O)NR^{e2}OR^{f2}$,

13) $-C(=O)NR^{g2}-NR^{e2}R^{f2}$,

14) $-C(=O)R^{e2}$, and

15) $-C(=N-OR^{h2})NR^{e2}R^{f2}$, or

if a combination of two R^{6a} or R^{6a} and R^{6b} are each substituted on adjacent atoms within a ring, the two substituents together may form an optionally substituted 5- to 6-membered heteroaryl ring or an optionally substituted 5- to 7-membered non-aryl heterocycle, which further fuses to an attachment moiety between the adjacent atoms within the ring,

R^{e2}, R^{f2}, R^{g2}, R^{h2}, and R^{i2} are the same or different, each independently

1) a hydrogen atom,

2) a C_{1-6} alkyl group,

3) a C_{3-10} alicyclic group,

4) C_{6-10} aryl,

5) 5- or 6-membered heteroaryl, or

6) a 4- to 10-membered non-aryl heterocycle,

(wherein each substituent from 2) to 6) is optionally substituted), and

a combination of R^{e2} and R^{f2}, when attached to the same nitrogen atom, together may form an optionally substituted 4- to 10-membered nitrogen-containing non-aryl heterocycle.

~~[Claim 48]~~

15. The compound or the pharmaceutically acceptable salt thereof according to claim 13~~46 or 47~~, wherein

R^{6a}, if there are multiple instances on the same ring, are all independently selected from the group consisting of

1) a hydrogen atom,

2) a hydroxyl group,

3) halogen,

4) a C_{1-4} alkyl group,

(wherein the alkyl group is optionally substituted with $NR^{e2}R^{f2}$, $-C(=O)OR^{f2}$, $-C(=O)NR^{e2}R^{f2}$, $-C(=O)NR^{e2}(OR^{f2})$, or a hydroxyl group),

5) a C_{1-4} alkoxy group,

6) $-NR^{e2}R^{f2}$,

7) $-C(=O)NR^{e2}R^{f2}$, and

8) $-C(=O)OR^{e2}$, and

each of R^{6b}, if there are multiple instances on the same ring, are all independently selected from the group consisting of

1) a hydrogen atom,

2) a hydroxyl group, and

3) a C_{1-4} alkyl group,

(wherein the alkyl group is optionally substituted with $NR^{e2}R^{f2}$, $-C(=O)OR^{f2}$, $-C(=O)NR^{e2}R^{f2}$, $-C(=O)NR^{e2}(OR^{f2})$, or a hydroxyl group).

~~[Claim 49]~~

~~The compound or the pharmaceutically acceptable salt thereof according to any one of claims 1 to 24 and 28 to 48, wherein R^{e2} and R^{f2} are the same or different, each independently a hydrogen atom,~~

~~an optionally substituted C_{1-6} alkyl group, or an optionally substituted C_{3-10} alicyclic group.~~

~~[Claim 50]~~

~~The compound or the pharmaceutically acceptable salt thereof according to any one of claims 1 to 24 and 28 to 49, wherein R^{e2} and R^{f2} are the same or different, each independently a hydrogen atom or an optionally substituted C_{1-6} alkyl group.~~

~~[Claim 51]~~

~~The compound or the pharmaceutically acceptable salt thereof according to any one of claims 1 to 24 and 28 to 50, wherein R^{e2} and R^{f2} are hydrogen atoms.~~

~~[Claim 52]~~

~~The compound or the pharmaceutically acceptable salt thereof according to any one of claims 46 to 51, wherein R^{6a} is $-NR^{e2}R^{f2}$, and one of R^{e2} and R^{f2} is a hydrogen atom and the other is a C_{1-4} alkyl group (wherein the alkyl group is optionally substituted with an amino group or a hydroxyl group)~~]

~~[Claim 53]~~

16. The compound or the pharmaceutically acceptable salt thereof according to claim 1 ~~any one of claims 1 to 24 and 28 to 44~~, wherein R^5 is $-C(=O)NR^{50}R^{51}$.

~~[Claim 54]~~

17. The compound or the pharmaceutically acceptable salt thereof according to claim 1 ~~any one of claims 1 to 24, 28 to 40, and 53~~, wherein

R^{50} represents

1) a hydrogen atom,
2) an optionally substituted C_{1-4} alkyl group,
3) a hydroxyl group,
4) an optionally substituted C_{1-4} alkoxy group, or
5) an optionally substituted C_{1-6} alkylsulfonyl group,

R^{51} represents

1) a hydrogen atom, or

2) an optionally substituted C_{1-4} alkyl group, or

R^{50} and R^{51} together may form a 4- to 6-membered nitrogen-containing non-aryl heterocycle.

~~[Claim 55]~~

~~The compound or the pharmaceutically acceptable salt thereof according to any one of claims 1 to 24, 28 to 40, and 53 to 54, wherein~~

~~R^{50} represents~~

~~1) a hydrogen atom,~~

~~2) a C_{1-4} alkyl group (wherein the group is optionally substituted with halogen, a C_{3-6} alicyclic group, $-NR^{a21}R^{a22}$, or $-OR^{e11}$),~~

~~3) a hydroxyl group,~~

~~4) a C_{1-4} alkoxy group (wherein the group is optionally substituted with halogen, a C_{3-6} alicyclic group, $-NR^{a23}R^{a24}$, or $-OR^{e12}$), or~~

~~5) a C_{1-4} alkylsulfonyl group (wherein the group is optionally substituted with halogen, a C_{3-6} alicyclic group, $-NR^{a21}R^{a22}$, or $-OR^{e11}$),~~

~~R^{a21}, R^{a22}, R^{a23}, R^{a24}, R^{e11}, and R^{e12} are the same or different, each independently representing~~

~~1) a hydrogen atom, or~~

~~2) a C_{1-4} alkyl group (wherein the group is optionally substituted with halogen),~~

~~wherein each combination of R^{a21} and R^{a22} or R^{a23} and R^{a24} together may form an optionally substituted 4- to 7-membered nitrogen-containing non-aryl heterocycle, and~~

~~R^{51} is a hydrogen atom or C_{1-4} alkyl (wherein the group is optionally substituted with halogen).~~]

~~[Claim 56]~~

18. The compound or the pharmaceutically acceptable salt thereof according to claim 1 ~~any one of claims 1 to 24, 28 to 40, and 53 to 55~~, wherein

R^{50} represents

1) a hydrogen atom,

2) a C_{1-4} alkyl group (wherein the group is optionally substituted with a cyclopropyl group, $-NH_2$, -NHMe, $-C(=O)NH_2$, $-C(=O)NHMe$, $-C(=O)NMe_2$, or a -hydroxyl group),

3) a hydroxyl group,

4) a C_{1-4} alkoxy group (wherein the group is optionally substituted with a cyclopropyl group, $-NH_2$, -NHMe, or a -hydroxyl group), or

5) a C_{1-4} alkylsulfonyl group, and

R^{51} is a hydrogen atom.

~~[Claim 57]~~

19. The compound or the pharmaceutically acceptable salt thereof according to claim 1 ~~any one of claims 1 to 24 and 28 to 40~~, wherein R^5 is $-C(=O)OR^{20}$.

~~[Claim 58]~~

20. The compound or the pharmaceutically acceptable salt thereof according to claim 19~~57~~, wherein R^{20} is

1) a hydrogen atom, or

2) an optionally substituted C_{1-4} alkyl group.

~~[Claim 59]~~

21. The compound or the pharmaceutically acceptable salt thereof according to claim 17~~56~~ ~~or 58~~, wherein

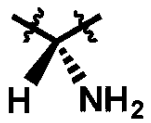
L^3 is $-CH_2-$, and

L^4 is a single bond, $-CH(NH_2)-$, or $-CMe(NH_2)-$.

~~[Claim 60]~~

22. The compound or the pharmaceutically acceptable salt thereof according to claim ~~59~~21, wherein L^4 is

[Chemical Formula 756]



,

[Chemical Formula 757]



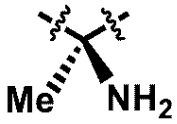
,

[Chemical Formula 758]



, or

[Chemical Formula 759]

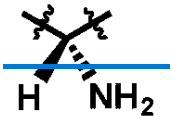


.

~~[Claim 61]~~

~~The compound or the pharmaceutically acceptable salt thereof according to claim 59 or 60, wherein L^4 is~~

~~[Chemical Formula 760]~~



~~or~~

~~[Chemical Formula 761]~~



~~.~~

~~[Claim 62]~~

23. The compound or the pharmaceutically acceptable salt thereof according to ~~any one of claims~~ claim ~~57~~ 19~~to 61~~, wherein R^{20} is a hydrogen atom.

~~[Claim 63]~~

24. The compound or the pharmaceutically acceptable salt thereof according to claim 1~~any one of claims 1 to 24 and 28 to 40,~~ wherein

R^5 is $-NR^{e1}R^{f1}$,

L^3 is $-CH_2-$,

L^4 is $-CR^{40}R^{41}-$, and

R^{40} and R^{41} are each independently a C_{1-4} alkyl group substituted with a hydroxyl group, or together with the carbon atom to which they are attached, form a C_{3-6} alicyclic group.

~~[Claim 64]~~

25. The compound or the pharmaceutically acceptable salt thereof according to claim 24~~63~~, wherein

R^{e1} and R^{f1} are the same or different, each independently

1) a hydrogen atom, or

2) an optionally substituted C_{1-3} alkyl group, and

L^4 is

[Chemical Formula 762]



.

~~[Claim 65]~~

26. The compound or the pharmaceutically acceptable salt thereof according to claim ~~63~~24, wherein

R^{e1} and R^{f1} are the same or different, each independently

1) a hydrogen atom, or

2) an optionally substituted C_{1-3} alkyl group, and

L^4 is a C_{1-4} alkylene group substituted with a hydroxyl group.

~~[Claim 66]~~

27. The compound or the pharmaceutically acceptable salt thereof according to claim 1~~any one of claims 1 to 3 and 11 to 36~~, wherein L^4 is a single bond, or a C_{1-6} alkylene group optionally substituted with $-NR^{21}R^{22}$ or $=NOR^{23}$, wherein R^{21}, R^{22}, and R^{23} are each independently a hydrogen atom, an optionally substituted C_{1-6} alkyl group, or an optionally substituted 4- to 10-membered non-aryl heterocyclyl carbonyl group.

~~[Claim 67]~~

28. The compound or the pharmaceutically acceptable salt thereof according to claim 1~~any one of claims 1 to 3, 11 to 36, and 66~~, wherein L^4 is a single bond, $-CH_2-$, $-CH(NH_2)-$, $-CMe(NH_2)-$, $-CH(NHMe)-$, $-CD(NH_2)-$(wherein D represents a heavy hydrogen atom), $-CH_2CH_2-$, or

-CH(NH_2)-CH_2-, wherein if an amino group is present in L^4, carbon that attaches to the amino group attaches to L^3.

~~[Claim 68]~~

29. The compound or the pharmaceutically acceptable salt thereof according to claim ~~67~~28, wherein

L^3 is -C(=O)-, and

L^4 is a single bond, -CH_2-, -CH(NH_2)-, -CMe(NH_2)-, or -CH(NH_2)-CH_2-.

~~[Claim 69]~~

30. The compound or the pharmaceutically acceptable salt thereof according to claim ~~68~~29, wherein L^4 is one of the following isomeric structures:

[Chemical Formula 763]



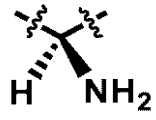
,

[Chemical Formula 764]



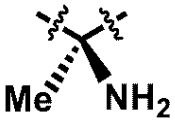
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[Chemical Formula 765]



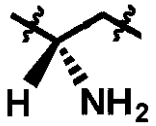
,

[Chemical Formula 766]



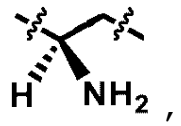
,

[Chemical Formula 767]

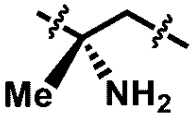


,

[Chemical Formula 768]

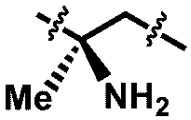


[Chemical Formula 769]



, or

[Chemical Formula 770]

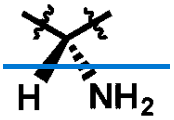


.

~~[Claim 70]~~

~~The compound or the pharmaceutically acceptable salt thereof according to claim 68 or 69, wherein L^4 is~~

~~[Chemical Formula 771]~~



~~or~~

~~[Chemical Formula 772]~~

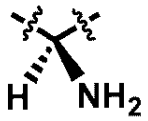


~~.~~

~~[Claim 71]~~

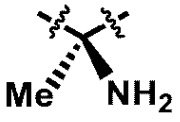
31. The compound or the pharmaceutically acceptable salt thereof according to claim ~~68~~ 29~~or 69~~, wherein L^4 is

[Chemical Formula 773]



or

[Chemical Formula 774]



.

~~[Claim 72]~~

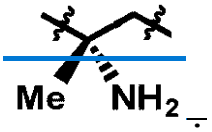
~~The compound or the pharmaceutically acceptable salt thereof according to claim 68 or 69, wherein L^4 is~~

~~[Chemical Formula 775]~~



~~or~~

~~[Chemical Formula 776]~~

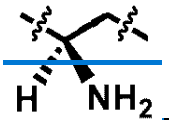


~~.~~

~~[Claim 73]~~

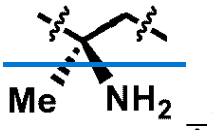
~~The compound or the pharmaceutically acceptable salt thereof according to claim 68 or 69, wherein L^4 is~~

~~[Chemical Formula 777]~~



~~or~~

~~[Chemical Formula 778]~~



~~.]~~

~~[Claim 74]~~

32. The compound or the pharmaceutically acceptable salt thereof according to claim 1~~any one of claims 1 to 3, 11 to 36, and 66 to 73~~, wherein R^5 is a hydrogen atom, an optionally substituted C_{1-6} alkyl group, an optionally substituted C_{3-10} alicyclic group, an optionally substituted 4- to 10-membered non-aryl heterocycle, optionally substituted C_{6-10} aryl, optionally substituted 5- or 6-membered heteroaryl, an optionally substituted C_{1-6} alkylthio group, or $-NR^{e1}OH$, wherein R^{e1} is a hydrogen atom or an optionally substituted C_{1-6} alkyl group.

~~[Claim 75]~~

~~The compound or the pharmaceutically acceptable salt thereof according to any one of claims 1 to 3, 11 to 36, and 66 to 74, wherein R^5 is optionally substituted 5- or 6-membered heteroaryl or optionally substituted C_{6-10} aryl.~~

~~[Claim 76]~~

33. The compound or the pharmaceutically acceptable salt thereof according to claim 1~~any one of claims 1 to 3, 11 to 36, and 66 to 75~~, wherein R^5 is optionally substituted 5- or 6-membered heteroaryl.

~~[Claim 77]~~

34. The compound or the pharmaceutically acceptable salt thereof according to claim 1~~any one of claims 1 to 3, 11 to 36, and 66 to 76~~, wherein R^5 is an optionally substituted C_{4-10} alicyclic group or an optionally substituted 4- to 10-membered non-aryl heterocycle.

~~[Claim 78]~~

~~The compound or the pharmaceutically acceptable salt thereof according to any one of claims 1 to 3, 11 to 36, and 66 to 74, wherein L^4 is a single bond and R^5 is $-NR^{e1}OH$, wherein R^{e1} is a hydrogen atom or an optionally substituted C_{1-6} alkyl group.~~

~~[Claim 79]~~

35. The compound or the pharmaceutically acceptable salt thereof according to claim 1~~any one of claims 1 to 3 and 11 to 36~~, wherein

L^4 is

1) $-(CH_2)_p-CR^{10}(NHR^{11})-$,

2) $-(CH_2)_q-CR^{12}R^{13}-$, or

3) $-(CH_2)_p-CR^{10}(NHR^{11})-(CH_2)_q-CR^{12}R^{13}-$ (wherein p and q are independently 0 or 1),

R^{10} is

1) a hydrogen atom,

2) a carboxyl group, or

3) $-C(=O)NR^{10a}R^{10b}$,

R^{11} is

1) a hydrogen atom,

2) $-C(=O)R^{11a}$, or

3) an optionally substituted 5- or 6-membered non-aryl heterocyclyl carbonyl group,

wherein if R^{10} is $-C(=O)NR^{10a}R^{10b}$, R^{10b} and R^{11} together may form $-CH_2CH_2-$,

R^{12} is

1) a hydrogen atom, or

2) an optionally substituted C_{1-4} alkyl group,

R^{13} is

1) a hydrogen atom,

2) a hydroxyl group,

3) an optionally substituted C_{1-4} alkyl group,

4) a sulfanyl group,

5) a carboxyl group,

6) an optionally substituted C_{1-4} alkylthio group,

7) $-NR^{13a}R^{13b}$,

8) $-NR^{13a}-C(=O)R^{13b}$,

9) an optionally substituted 5- or 6-membered non-aryl heterocyclyl carbonylamino group,

10) $-NR^{13a}-C(=O)NR^{13b}R^{13c}$,

11) $-C(=O)NR^{13a}R^{13b}$,

12) $-C(=O)NR^{13a}OR^{13b}$,

13) $-S(=O)_2-R^{13a}$,

14) $-S(=O)_2-NR^{13a}R^{13b}$,

15) $-C(=O)NR^{13a}-S(=O)_2-R^{13b}$, or

16) $-C(=O)NR^{13a}-S(=O)_2-NR^{13b}R^{13c}$, and

R^{10a}, R^{10b}, R^{11a}, R^{13a}, R^{13b}, and R^{13c} are each independently a hydrogen atom or an optionally substituted C_{1-4} alkyl group.

~~[Claim 80]~~

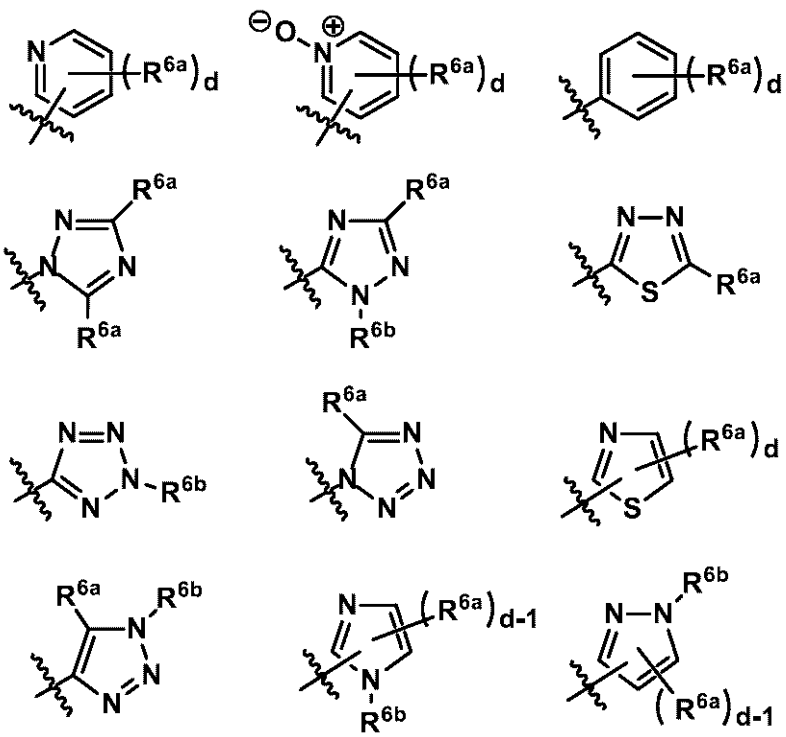
36. The compound or the pharmaceutically acceptable salt thereof according to claim ~~79~~35, wherein R^5 is a hydrogen atom or an optionally substituted C_{1-4} alkyl group.

~~[Claim 81]~~

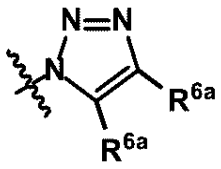
37. The compound or the pharmaceutically acceptable salt thereof according to claim 1~~any one of claims 1 to 3, 11 to 36, and 66 to 76~~, wherein

R^5 is selected from the group consisting of

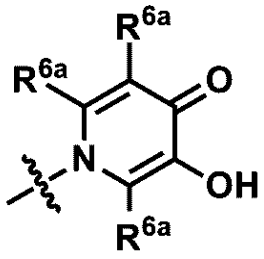
[Chemical Formula 779]



[Chemical Formula 780]



[Chemical Formula 781]



,

subscript d is the number of substitutable positions on a ring of R^5,

each R^{6a} is independently selected from the group consisting of

1) a hydrogen atom,
2) a hydroxyl group,
3) a cyano group,
4) a nitro group,
5) halogen,
6) a C_{1-4} alkyl group,
7) a C_{3-10} alicyclic group,
8) a C_{1-4} alkoxy group,
9) a C_{3-10} alicyclic oxy group,
10) a C_{6-10} aryloxy group,
11) a 5- or 6-membered heteroaryloxy group,
12) a 4- to 10-membered non-aryl heterocyclyl oxy group,
(wherein each substituent from 6) to 12) is optionally substituted),
13) $-SO_2-NR^{e2}R^{f2}$,
14) $-NR^{g2}-CR^{e2}(=NR^{f2})$,
15) $-NR^{g2}-CR^{e2}(=N-OR^{f2})$,
16) $-NR^{h2}-C(=NR^{g2})NR^{e2}R^{f2}$,
17) $-NR^{h2}-C(=N-OR^{g2})NR^{e2}R^{f2}$,
18) $-NR^{i2}-C(=NR^{h2})NR^{g2}-NR^{e2}R^{f2}$,
19) $-NR^{i2}-C(=N-OR^{h2})NR^{g2}-NR^{e2}R^{f2}$,
20) $-C(=NR^{e2})R^{f2}$,
21) $-C(=N-OR^{e2})R^{f2}$,
22) $-C(=NR^{h2})-NR^{e2}R^{f2}$,
23) $-C(=NR^{h2})NR^{g2}-NR^{e2}R^{f2}$,
24) $-C(=N-OR^{h2})NR^{g2}-NR^{e2}R^{f2}$,
25) $-NR^{e2}R^{f2}$,
26) $-NR^{g2}-NR^{e2}R^{f2}$,
27) $-NR^{e2}OR^{f2}$,
28) $-NR^{e2}-C(=O)R^{f2}$,
29) $-C(=O)NR^{e2}R^{f2}$,
30) $-C(=O)NR^{e2}OR^{f2}$,
31) $-C(=O)NR^{g2}-NR^{e2}R^{f2}$,
32) $-C(=O)R^{e2}$,

33) $-C(=O)OR^{e2}$, and

34) $-C(=N-OR^{h2})NR^{e2}R^{f2}$, and

each R^{6b} is independently selected from the group consisting of

1) a hydrogen atom,

2) a hydroxyl group,

3) a C_{1-4} alkyl group

(wherein the alkyl group is optionally substituted),

4) a C_{3-10} alicyclic group

(wherein the alicyclic group is optionally substituted),

5) $-C(=NR^{e2})R^{f2}$,

6) $-C(=N-OR^{e2})R^{f2}$,

7) $-SO_2-NR^{e2}R^{f2}$,

8) $-C(=NR^{h2})-NR^{e2}R^{f2}$,

9) $-C(=NR^{h2})NR^{g2}-NR^{e2}R^{f2}$,

10) $-C(=N-OR^{h2})NR^{g2}-NR^{e2}R^{f2}$,

11) $-C(=O)NR^{e2}R^{f2}$,

12) $-C(=O)NR^{e2}OR^{f2}$,

13) $-C(=O)NR^{g2}-NR^{e2}R^{f2}$,

14) $-C(=O)R^{e2}$, and

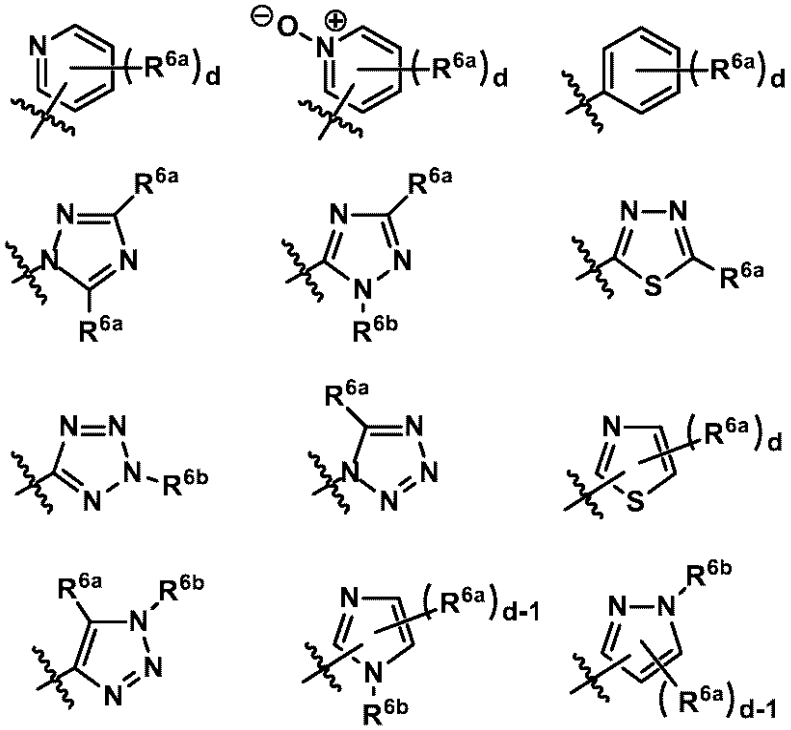
15) $-C(=N-OR^{h2})NR^{e2}R^{f2}$.

~~[Claim 82]~~

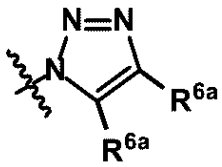
38. The compound or the pharmaceutically acceptable salt thereof according to claim 1~~any one of claims 1 to 3, 11 to 36, 66 to 76, and 81~~, wherein

R^5 is 5- or 6-membered aryl or heteroaryl selected from the group consisting of

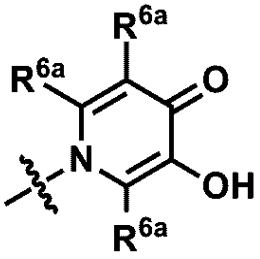
[Chemical Formula 782]



[Chemical Formula 783]



[Chemical Formula 784]



,

subscript d is the number of substitutable positions on a ring of R^5,

each R^{6a} is independently selected from the group consisting of

1) a hydrogen atom,

2) a hydroxyl group,

3) halogen,

4) a C_{1-4} alkyl group

(wherein the alkyl group is optionally substituted with $NR^{e2}R^{f2}$, a 5- or 6-membered non-aryl heterocycle, $-C(=O)OR^{f2}$, or a hydroxyl group),

5) a C_{1-4} alkoxy group,

6) $-NR^{e2}R^{f2}$, and

7) $-C(=O)OR^{e2}$, and

each R^{6b} is independently selected from the group consisting of

1) a hydrogen atom,

2) a hydroxyl group, and

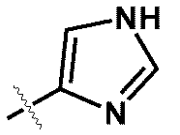
3) a C_{1-4} alkyl group

(wherein the alkyl group is optionally substituted with $NR^{e2}R^{f2}$, $-C(=O)NR^{e2}R^{f2}$, $-C(=O)OR^{f2}$, or a hydroxyl group).

~~[Claim 83]~~

39. The compound or the pharmaceutically acceptable salt thereof according to claim 1~~any one of claims 1 to 3, 11 to 36, 66 to 76, and 81 to 82~~, wherein R^5 is

[Chemical Formula 785]



.

~~[Claim 84]~~

~~The compound or the pharmaceutically acceptable salt thereof according to any one of claims 1 to 3, 11 to 36, 66 to 76, and 81 to 82, wherein R^{e2} and R^{f2} are the same or different, each independently a hydrogen atom, an optionally substituted C_{1-6} alkyl group, or an optionally substituted C_{3-10} alicyclic group.~~

~~[Claim 85]~~

~~The compound or the pharmaceutically acceptable salt thereof according to any one of claims 1 to 3, 11 to 36, 66 to 76, 81 to 82, and 84, wherein R^{e2} and R^{f2} are the same or different, each independently a hydrogen atom or an optionally substituted C_{1-6} alkyl group.~~

~~[Claim 86]~~

~~The compound or the pharmaceutically acceptable salt thereof according to any one of claims 1 to 3, 11 to 36, 66 to 76, 81 to 82, and 84 to 85, wherein R^{e2} and R^{f2} are hydrogen atoms.~~

~~[Claim 87]~~

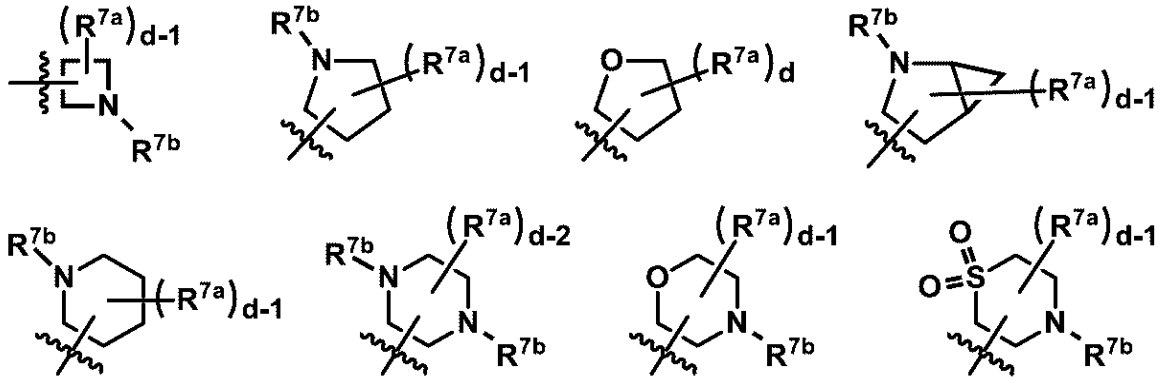
~~The compound or the pharmaceutically acceptable salt thereof according to any one of claims 81 to 82 and 84 to 85, wherein R^{6a} is $-NR^{e2}R^{f2}$, and one of R^{e2} and R^{f2} is a hydrogen atom and the other is a C_{1-4} alkyl group (wherein the alkyl group is optionally substituted with an amino group or a hydroxyl group).~~

~~[Claim 88]~~

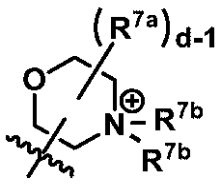
40. The compound or the pharmaceutically acceptable salt thereof according to claim 1~~any one of claims 1 to 3, 11 to 36, 66 to 74, and 77~~, wherein

R^5 is a 4- to 6-membered non-aryl heterocycle selected from the group consisting of

[Chemical Formula 786]



[Chemical Formula 787]



,

subscript d is the number of substitutable positions on a ring of R^5,

each R^{7a} is independently selected from the group consisting of

1) a hydrogen atom,
2) a hydroxyl group,
3) a cyano group,
4) halogen,
5) a C_{1-4} alkyl group,
6) a C_{3-10} alicyclic group,
7) a C_{1-4} alkoxy group,
8) a C_{3-10} alicyclic oxy group,
9) a C_{6-10} aryloxy group,
10) a 5- or 6-membered heteroaryloxy group,
11) a 4- to 10-membered non-aryl heterocyclyl oxy group,
(wherein each substituent from 5) and 11) is optionally substituted),
12) $-SO_2-NR^{e3}R^{f3}$,
13) $-NR^{g2}-CR^{e3}(=NR^{f3})$,
14) $-NR^{g2}-CR^{e3}(=N-OR^{f3})$,
15) $-NR^{h2}-C(=NR^{g2})NR^{e3}R^{f3}$,
16) $-NR^{h2}-C(=N-OR^{g2})NR^{e3}R^{f3}$,
17) $-NR^{i2}-C(=NR^{h2})NR^{g2}-NR^{e3}R^{f3}$,
18) $-NR^{i2}-C(=N-OR^{h2})NR^{g2}-NR^{e3}R^{f3}$,
19) $-C(=NR^{e3})R^{f3}$,
20) $-C(=N-OR^{e3})R^{f3}$,
21) $-C(=NR^{h2})-NR^{e3}R^{f3}$,
22) $-C(=NR^{h2})NR^{g2}-NR^{e3}R^{f3}$,
23) $-C(=N-OR^{h2})NR^{g2}-NR^{e3}R^{f3}$,
24) $-NR^{e3}R^{f3}$,
25) $-NR^{g2}-NR^{e3}R^{f3}$,
26) $-NR^{e3}OR^{f3}$,
27) $-NR^{e3}-C(=O)R^{f3}$,
28) $-C(=O)NR^{e3}R^{f3}$,
29) $-C(=O)NR^{e3}OR^{f3}$,
30) $-C(=O)NR^{g2}-NR^{e3}R^{f3}$,
31) $-C(=O)R^{e3}$,
32) $-C(=O)OR^{e3}$, and

33) $-C(=N-OR^{h2})NR^{e3}R^{f3}$,

each R^{7b} is independently selected from the group consisting of

1) a hydrogen atom,

2) a hydroxyl group,

3) a C_{1-4} alkyl group

(wherein the alkyl group is optionally substituted),

4) a C_{3-10} alicyclic group

(wherein the alicyclic group is optionally substituted),

5) $-C(=NR^{e3})R^{f3}$,

6) $-C(=N-OR^{e3})R^{f3}$,

7) $-SO_2-NR^{e3}R^{f3}$,

8) $-C(=NR^{h2})-NR^{e3}R^{f3}$,

9) $-C(=NR^{h2})NR^{g2}-NR^{e3}R^{f3}$,

10) $-C(=N-OR^{h2})NR^{g2}-NR^{e3}R^{f3}$,

11) $-C(=O)NR^{e3}R^{f3}$,

12) $-C(=O)NR^{e3}OR^{f3}$,

13) $-C(=O)NR^{g2}-NR^{e3}R^{f3}$,

14) $-C(=O)R^{e3}$, and

15) $-C(=N-OR^{h2})NR^{e3}R^{f3}$, and

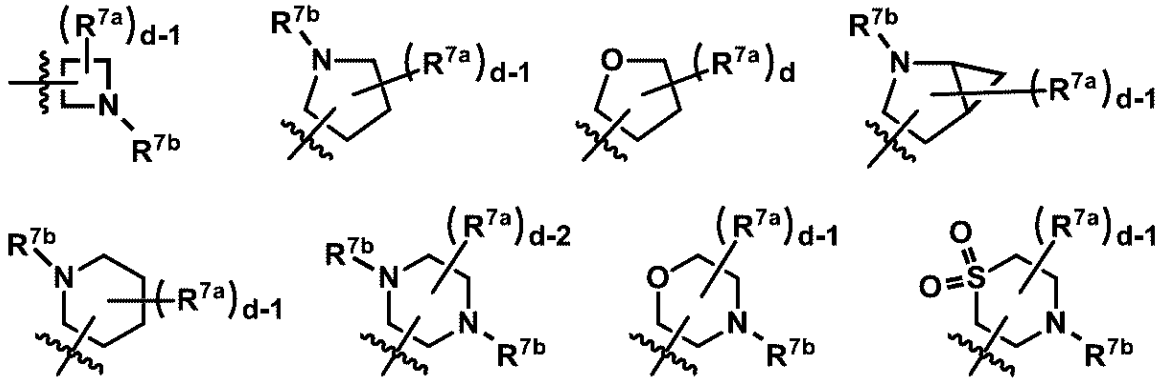
R^{e3}, R^{f3}, R^{g2}, R^{h2}, and R^{i2} are defined the same as R^{e2}, R^{f2}, R^{g2}, R^{h2}, and R^{i2} according to claim 13~~3~~.

~~[Claim 89]~~

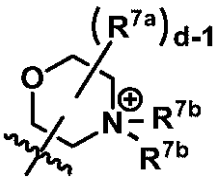
41. The compound or the pharmaceutically acceptable salt thereof according to claim 1~~any one of claims 1 to 3, 11 to 36, 66 to 74, 77, and 88~~, wherein

R^5 is a 4- to 6-membered non-aryl heterocycle selected from the group consisting of

[Chemical Formula 788]



[Chemical Formula 789]



,

subscript d is the number of substitutable positions on a ring of R^5,

each R^{7a} is independently selected from the group consisting of

1) a hydrogen atom,

2) a hydroxyl group,

3) halogen,

4) a C_{1-4} alkyl group

(wherein the alkyl group is optionally substituted with $NR^{e3}R^{f3}$, a 5- or 6-membered non-aryl heterocycle, $-C(=O)OR^{f3}$, or a hydroxyl group),

5) a C_{1-4} alkoxy group,

6) $-NR^{e3}R^{f3}$,

7) $-C(=O)OR^{e3}$,

8) C_{6-10} aryl, and

9) $-C(=O)NR^{e3}R^{f3}$,

each R^{7b} is independently selected from the group consisting of

1) a hydrogen atom,

2) a hydroxyl group, and

3) a C_{1-4} alkyl group

(wherein the alkyl group is optionally substituted with $NR^{e3}R^{f3}$, $-C(=O)OR^{f3}$, or a hydroxyl group), and

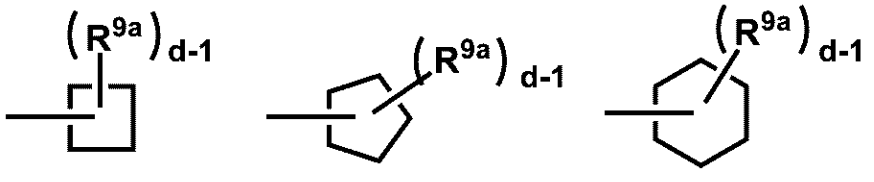
wherein R^{e3} and R^{f3} are ~~defined the same as R^{e2} and R^{f2} according to any one of claims 84 to 86~~ the same or different, each independently a hydrogen atom, an optionally substituted C_{1-6} alkyl group, or an optionally substituted C_{3-10} alicyclic group.

~~[Claim 90]~~

42. The compound or the pharmaceutically acceptable salt thereof according to claim 1~~any one of claims 1 to 3, 11 to 36, 66 to 74, and 77~~, wherein

R^5 is C_{4-6} cycloalkyl selected from the group consisting of

[Chemical Formula 790]



,

subscript d is the number of substitutable positions on a ring of R^5,

each R^{9a} is independently selected from the group consisting of

1) a hydrogen atom,

2) a hydroxyl group,

3) a cyano group,

4) halogen,

5) a C_{1-4} alkyl group,

6) a C_{3-10} alicyclic group,

7) a C_{1-4} alkoxy group,

8) a C_{3-10} alicyclic oxy group,

9) a C_{6-10} aryloxy group,

10) a 5- or 6-membered heteroaryloxy group,

11) a 4- to 10-membered non-aryl heterocyclyl oxy group,

(wherein each substituent from 5) and 11) is optionally substituted),

12) $-SO_2-NR^{e3}R^{f3}$,

13) $-NR^{g2}-CR^{e3}(=NR^{f3})$,

14) $-NR^{g2}-CR^{e3}(=N-OR^{f3})$,

15) $-NR^{h2}-C(=NR^{g2})NR^{e3}R^{f3}$,

16) $-NR^{h2}-C(=N-OR^{g2})NR^{e3}R^{f3}$,

17) $-NR^{i2}-C(=NR^{h2})NR^{g2}-NR^{e3}R^{f3}$,

18) $-NR^{i2}-C(=N-OR^{h2})NR^{g2}-NR^{e3}R^{f3}$,

19) $-C(=NR^{e3})R^{f3}$,

20) $-C(=N-OR^{e3})R^{f3}$,

21) $-C(=NR^{h2})-NR^{e3}R^{f3}$,

22) $-C(=NR^{h2})NR^{g2}-NR^{e3}R^{f3}$,

23) $-C(=N-OR^{h2})NR^{g2}-NR^{e3}R^{f3}$,

24) $-NR^{e3}R^{f3}$,

25) $-NR^{g2}-NR^{e3}R^{f3}$,

26) $-NR^{e3}OR^{f3}$,

27) $-NR^{e3}-C(=O)R^{f3}$,

28) $-C(=O)NR^{e3}R^{f3}$,

29) $-C(=O)NR^{e3}OR^{f3}$,

30) $-C(=O)NR^{g2}-NR^{e3}R^{f3}$,

31) $-C(=O)R^{e3}$,

32) $-C(=O)OR^{e3}$, and

33) $-C(=N-OR^{h2})NR^{e3}R^{f3}$, and

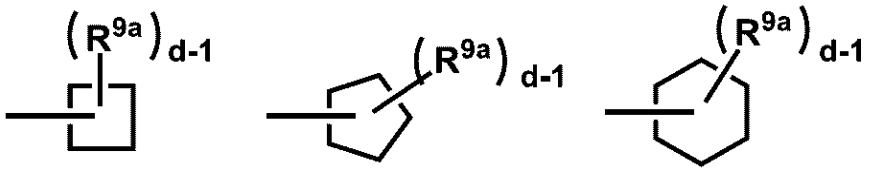
R^{e3}, R^{f3}, R^{g2}, R^{h2}, and R^{i2} are [~~defined the same as R^{e2} and R^{f2} according to claim 3~~] the same or different, each independently a hydrogen atom, an optionally substituted C_{1-6} alkyl group, or an optionally substituted C_{3-10} alicyclic group.

~~[Claim 91]~~

43. The compound or the pharmaceutically acceptable salt thereof according to claim 1~~any one of claims 1 to 3, 11 to 36, 66 to 74, 77, and 90~~, wherein

R^5 is C_{4-6} cycloalkyl selected from the group consisting of

[Chemical Formula 791]



,

subscript d is the number of substitutable positions on a ring of R^5,

each R^{9a} is independently selected from the group consisting of

1) a hydrogen atom,

2) a hydroxyl group,

3) halogen,

4) a C_{1-4} alkyl group

(wherein the alkyl group is optionally substituted with $NR^{e3}R^{f3}$, a 5- or 6-membered non-aryl heterocycle, $-C(=O)OR^{f3}$, or a hydroxyl group),

5) a C_{1-4} alkoxy group,

6) $-NR^{e3}R^{f3}$,

7) $-C(=O)OR^{e3}$,

8) C_{6-10} aryl, and

9) $-C(=O)NR^{e3}R^{f3}$, and

R^{e3} and R^{f3} are [~~defined the same as R^{e2} and R^{f2} according to any one of claims 75 to 77~~] the same or different, each independently a hydrogen atom, an optionally substituted C_{1-6} alkyl group, or an optionally substituted C_{3-10} alicyclic group.

~~[Claim 92]~~

~~The compound or the pharmaceutically acceptable salt thereof according to any one of claims 1 to 3, 11 to 36, and 79 to 80, wherein~~

~~L^4 is $-CH(NH_2)-CHR^{13}-$, wherein carbon that attaches to the NH_2 attaches to L^3,~~

~~R^5 is a hydrogen atom, and~~

~~R^{13} is~~

~~1) $-NH-C(=O)CH_3$,~~

~~2) $-NH-C(=O)NH_2$,~~

~~3) $-NH-C(=O)CH(NH_2)-CH_2C(=O)NH_2$,~~

~~4) $-NH-C(=O)CH_2-NH_2$,~~

~~5) $-NH-C(=O)CH(NH_2)-CH_2OH$, or~~

~~6) a pyrrolidin-2-ylcarbonylamino group.~~

~~[Claim 93]~~

~~The compound or the pharmaceutically acceptable salt thereof according to any one of claims 1 to 3, 11 to 36, and 79 to 80, wherein L^4 is $-CH(NH_2)-CR^{12}R^{13}-$, wherein carbon that attaches to the NH_2 attaches to L^3,~~

~~R^5 is a hydrogen atom or methyl,~~

~~R^{12} is a hydrogen atom or methyl, and~~

~~R^{13} is a benzylthio group or a sulfanyl group.~~

~~[Claim 94]~~

~~The compound or the pharmaceutically acceptable salt thereof according to any one of claims 1 to 3, 11 to 36, and 79 to 80, wherein~~

~~L^4 is $-CH(NH_2)-(CH_2)_q-CHR^{13}-$, wherein q is 0 or 1, and carbon that attaches to the NH_2 attaches to L^3,~~

~~R^5 is a hydrogen atom, and~~

~~R^{13} is~~

~~1) a carboxyl group,~~

~~2) $-C(=O)NH_2$,~~

~~3) $-C(=O)NH(CH_3)$,~~

~~4) $-C(=O)N(CH_3)_2$,~~

~~5) $-C(=O)NH-(CH_2)_2-OH$,~~

~~6) $-C(=O)NH-(CH_2)_2-NH_2$,~~

~~7) $-C(=O)NH-S(=O)_2-CH_3$,~~

~~8) $-C(=O)NHOH$,~~

~~9) $-S(=O)_2-NH_2$,~~

~~10) $-S(=O)_2-CH_3$, or~~

~~11) a hydroxyl group.~~

~~[Claim 95]~~

~~The compound or the pharmaceutically acceptable salt thereof according to any one of claims 1 to 3, 11 to 36, and 79 to 80, wherein~~

~~L^4 is $-CH(NHR^{11})-CH_2-$, wherein carbon that attaches to the NHR^{11} attaches to L^3,~~

~~R^5 is hydrogen, and~~

~~R^{11} is~~

~~1) $-C(=O)CH(NH_2)-CH_2C(=O)NH_2$,~~

~~2) $-C(=O)CH_2-NH_2$,~~

~~3) $-C(=O)CH(CH_3)-NH_2$,~~

~~4) $-C(=O)CH(NH_2)-CH_2OH$, or~~

~~5) pyrrolidin-2-ylcarbonyl.~~

~~[Claim 96]~~

~~The compound or the pharmaceutically acceptable salt thereof according to any one of claims 1 to 3, 11 to 36, and 79 to 80, wherein~~

~~L^4 is $-CH(NHR^{11})-CH(COOH)-$, wherein carbon that attaches to the NHR^{11} attaches to L^3,~~

~~R^5 is hydrogen, and~~

~~R^{11} is~~

~~1) $-C(=O)CH(NH_2)-CH_2C(=O)NH_2$,~~

~~2) $-C(=O)CH_2-NH_2$,~~

~~3) $-C(=O)CH(CH_3)-NH_2$,~~

~~4) $-C(=O)CH(NH_2)-CH_2OH$, or~~

~~5) pyrrolidin-2-ylcarbonyl.~~

~~[Claim 97]~~

~~The compound or the pharmaceutically acceptable salt thereof according to any one of claims 1 to 3, 11 to 36, and 79 to 80, wherein~~

~~L^4 is $-CHR^{13}-$ or $-CH_2-CHR^{13}-$,~~

~~R^5 is hydrogen, and~~

~~R^{13} is $-C(=O)NH_2$ or $-C(=O)NHOH$.~~

~~[Claim 98]~~

~~The compound or the pharmaceutically acceptable salt thereof according to any one of claims 1 to 3, 11 to 36, and 79 to 80, wherein~~

~~L^4 is $-CH_2-CR^{10}(NH_2)-$, wherein the CH_2 group attaches to L^3,~~

~~R^5 is hydrogen, and~~

~~R^{10} is a carboxy group or $-C(=O)NH_2$.~~

~~[Claim 99]~~

~~The compound or the pharmaceutically acceptable salt thereof according to any one of claims 1 to 3, 11 to 36, and 79 to 80, wherein~~

~~L^4 is $-(CH_2)_p-CR^{10}(NHR^{11})-(CH_2)_q-CHR^{13}-$ or $-CHR^{13}-(CH_2)_q-CR^{10}(NHR^{11})-(CH_2)_p-$, wherein q is 0 or 1,~~

~~R^5 is hydrogen,~~

~~(1) if L^4 is $-CHR^{13}-(CH_2)_q-CR^{10}(NHR^{11})-(CH_2)_p-$,~~

~~carbon of the $-CHR^{13}-$ group attaches to L^3,~~

~~p is 0,~~

~~R^{10} is a hydrogen atom, a carboxyl group, or $-C(=O)NHR^{10b}$,~~

~~R^{11} is a hydrogen atom,~~

~~R^{10b} is a hydrogen atom,~~

~~wherein if R^{10} is $-C(=O)NHR^{10b}$, R^{10b} and R^{11} together may form $-CH_2CH_2-$, and~~

~~R^{13} is a hydrogen atom,~~

~~(2) if L^4 is $-(CH_2)_p-CR^{10}(NHR^{11})-(CH_2)_q-CHR^{13}-$,~~

~~carbon of the $-(CH_2)_p-$ group attaches to L^3,~~

~~p is 1,~~

~~R^{10} and R^{11} are both hydrogen atoms,~~

~~R^{13} is a carboxyl group or $-C(=O)NR^{13a}R^{13b}$, and~~

~~R^{13a} and R^{13b} are each independently a hydrogen atom or an optionally substituted C_{1-4} alkyl group.~~]

~~[Claim 100]~~

44. The compound or the pharmaceutically acceptable salt thereof according to claim 1~~any one of claims 1 to 3, 11 to 36, and 79 to 80~~, wherein

L^4 is $-CR^{12}(NH_2)-$,

R^{12} is a hydrogen atom or a methyl group, and

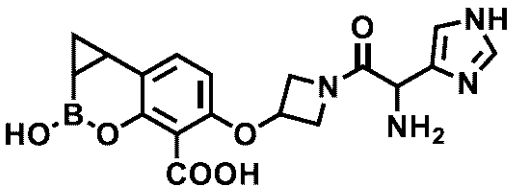
R^5 is a C_{1-4} alkyl group optionally substituted with a hydroxyl group.

~~[Claim 101]~~

45. The compound or the pharmaceutically acceptable salt thereof according to claim 1~~ or 2~~, selected from the group consisting of the compounds represented by the following names or structural formulas:

5-({1-[amino(1H-imidazol-4-yl)acetyl]azetidin-3-yl}oxy)-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

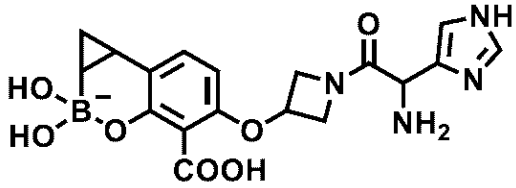
[Chemical Formula 792]



,

9-[1-[2-amino-2-(1H-imidazol-4-yl)acetyl]azetidin-3-yl]oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(11),7,9-triene-8-carboxylic acid

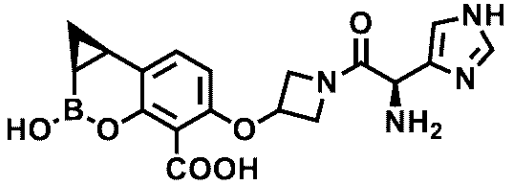
[Chemical Formula 793]



,

(1aS,7bR)-5-({1-[(2R)-2-amino-2-(1H-imidazol-4-yl)acetyl]azetidin-3-yl}oxy)-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

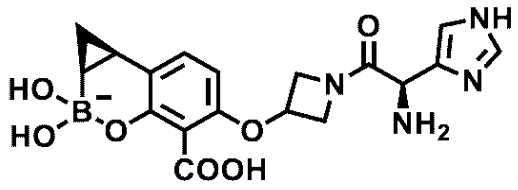
[Chemical Formula 794]



,

(2R,4S)-9-[1-[(2R)-2-amino-2-(1H-imidazol-4-yl)acetyl]azetidin-3-yl]oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(11),7,9-triene-8-carboxylic acid

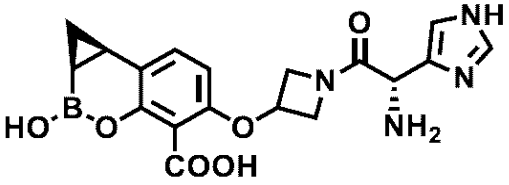
[Chemical Formula 795]



,

(1aS,7bR)-5-({1-[(2S)-2-amino-2-(1H-imidazol-4-yl)acetyl]azetidin-3-yl}oxy)-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

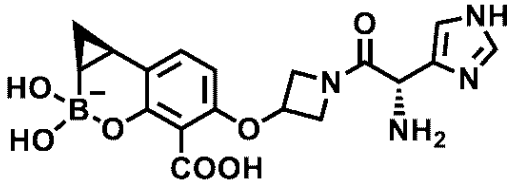
[Chemical Formula 796]



,

(2R,4S)-9-[1-[(2S)-2-amino-2-(1H-imidazol-4-yl)acetyl]azetidin-3-yl]oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(11),7,9-triene-8-carboxylic acid

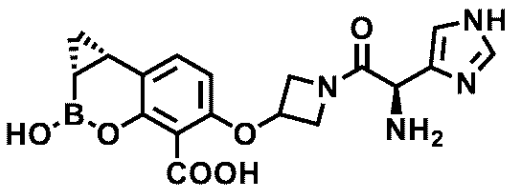
[Chemical Formula 797]



,

(1aR,7bS)-5-({1-[(2R)-2-amino-2-(1H-imidazol-4-yl)acetyl]azetidin-3-yl}oxy)-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

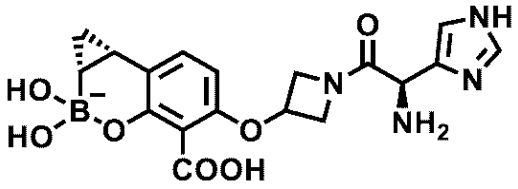
[Chemical Formula 798]



,

(2S,4R)-9-[1-[(2R)-2-amino-2-(1H-imidazol-4-yl)acetyl]azetidin-3-yl]oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(11),7,9-triene-8-carboxylic acid

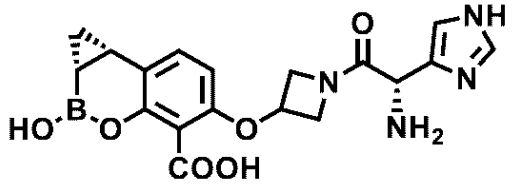
[Chemical Formula 799]



,

(1aR,7bS)-5-({1-[(2S)-2-amino-2-(1H-imidazol-4-yl)acetyl]azetidin-3-yl}oxy)-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

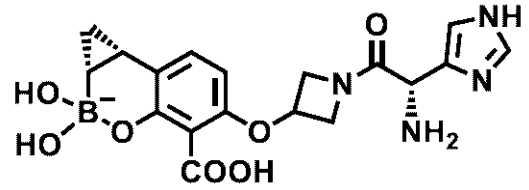
[Chemical Formula 800]



,

(2S,4R)-9-[1-[(2S)-2-amino-2-(1H-imidazol-4-yl)acetyl]azetidin-3-yl]oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(11),7,9-triene-8-carboxylic acid

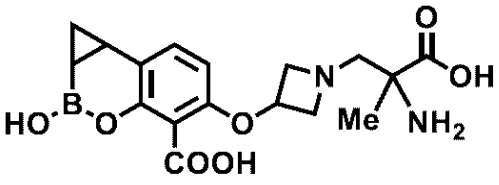
[Chemical Formula 801]



,

5-({1-(2-amino-2-carboxypropyl)azetidin-3-yl}oxy)-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

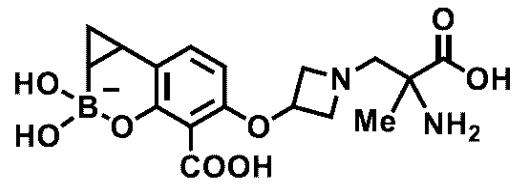
[Chemical Formula 802]



,

9-[1-(propyl 2-amino-2-carboxylate)azetidin-3-yl]oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.0^{2,4}]undeca-1(7),8,10-triene-8-carboxylate

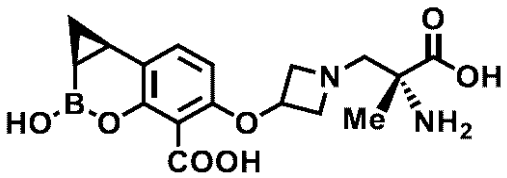
[Chemical Formula 803]



,

(1aS,7bR)-5-({1-[(2R)-2-amino-2-carboxypropyl]azetidin-3-yl}oxy)-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

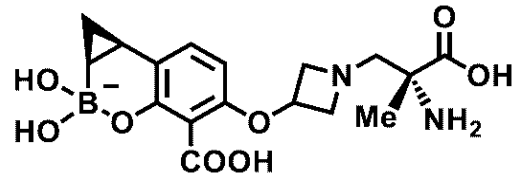
[Chemical Formula 804]



,

(2R,4S)-9-[1-[propyl (2R)-2-amino-2-carboxylate]azetidin-3-yl]oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.0^{2,4}]undeca-1(7),8,10-triene-8-carboxylate

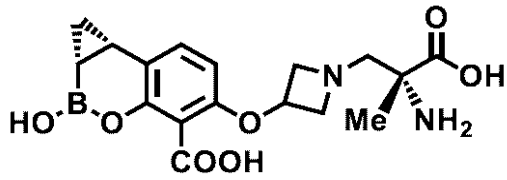
[Chemical Formula 805]



,

(1aR,7bS)-5-({1-[(2R)-2-amino-2-carboxypropyl]azetidin-3-yl}oxy)-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

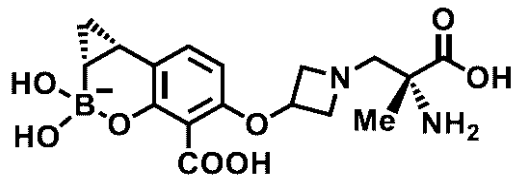
[Chemical Formula 806]



,

(2S,4R)-9-[1-[propyl (2R)-2-amino-2-carboxylate]azetidin-3-yl]oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(7),8,10-triene-8-carboxylate

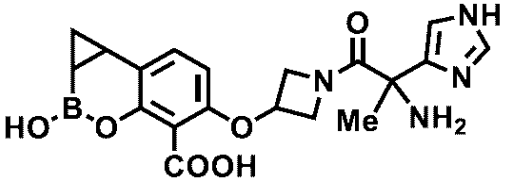
[Chemical Formula 807]



,

5-({1-[2-amino-2-(1H-imidazol-4-yl)propanoyl]azetidin-3-yl}oxy)-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

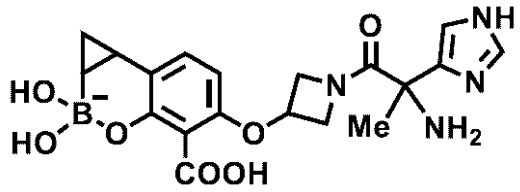
[Chemical Formula 808]



,

9-[1-[2-amino-2-(1H-imidazol-4-yl)propanoyl]azetidin-3-yl]oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(11),7,9-triene-8-carboxylic acid

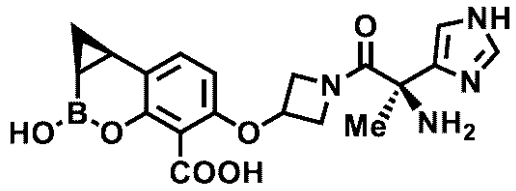
[Chemical Formula 809]



,

(1aS,7bR)-5-({1-[(2R)-2-amino-2-(1H-imidazol-4-yl)propanoyl]azetidin-3-yl}oxy)-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

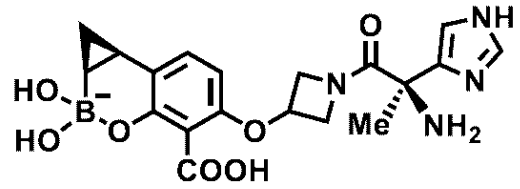
[Chemical Formula 810]



,

(2R,4S)-9-[1-[(2R)-2-amino-2-(1H-imidazol-4-yl)propanoyl]azetidin-3-yl]oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(11),7,9-triene-8-carboxylic acid

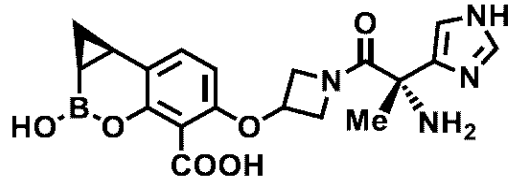
[Chemical Formula 811]



,

(1aS,7bR)-5-({1-[(2S)-2-amino-2-(1H-imidazol-4-yl)propanoyl]azetidin-3-yl}oxy)-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

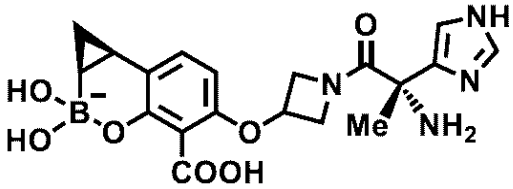
[Chemical Formula 812]



,

(2R,4S)-9-[1-[(2S)-2-amino-2-(1H-imidazol-4-yl)propanoyl]azetidin-3-yl]oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(11),7,9-triene-8-carboxylic acid

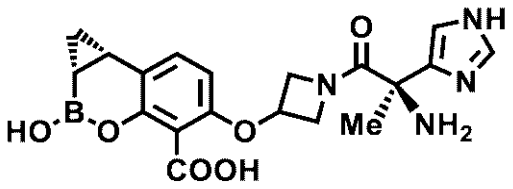
[Chemical Formula 813]



,

(1aR,7bS)-5-({1-[(2R)-2-amino-2-(1H-imidazol-4-yl)propanoyl]azetidin-3-yl}oxy)-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

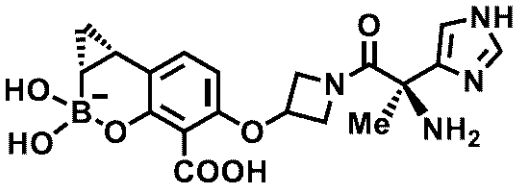
[Chemical Formula 814]



,

(2S,4R)-9-[1-[(2R)-2-amino-2-(1H-imidazol-4-yl)propanoyl]azetidin-3-yl]oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(11),7,9-triene-8-carboxylic acid

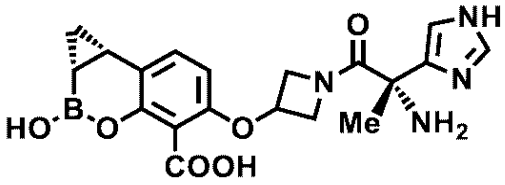
[Chemical Formula 815]



,

(1aR,7bS)-5-({1-[(2S)-2-amino-2-(1H-imidazol-4-yl)propanoyl]azetidin-3-yl}oxy)-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

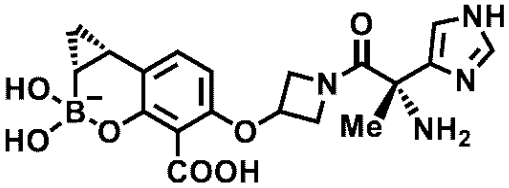
[Chemical Formula 816]



, and

(2S,4R)-9-[1-[(2S)-2-amino-2-(1H-imidazol-4-yl)propanoyl]azetidin-3-yl]oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(11),7,9-triene-8-carboxylic acid

[Chemical Formula 817]



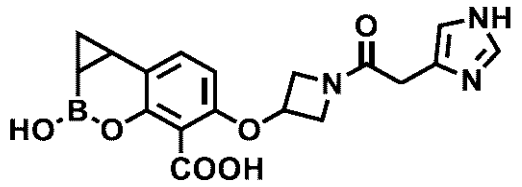
.

~~[Claim 102]~~

46. The compound or the pharmaceutically acceptable salt thereof according to claim 1~~ or 2~~, selected from the group consisting of the compounds represented by the following names or structural formulas:

2-hydroxy-5-({1-[(1H-imidazol-4-yl)acetyl]azetidin-3-yl}oxy)-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

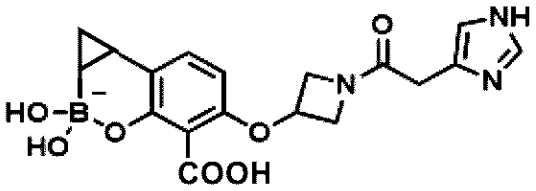
[Chemical Formula 818]



,

5,5-dihydroxy-9-{1-[(1H-imidazol-4-yl)acetyl]azetidin-3-yl}oxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(11),7,9-triene-8-carboxylic acid

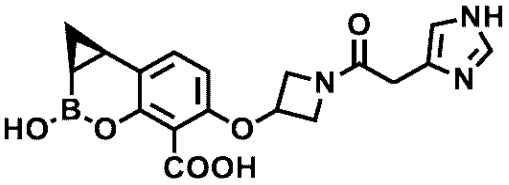
[Chemical Formula 819]



,

(1aS,7bR)-2-hydroxy-5-({1-[(1H-imidazol-4-yl)acetyl]azetidin-3-yl}oxy)-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

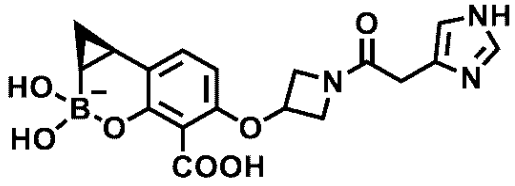
[Chemical Formula 820]



,

(2R,4S)-5,5-dihydroxy-9-{1-[(1H-imidazol-4-yl)acetyl]azetidin-3-yl}oxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(11),7,9-triene-8-carboxylic acid

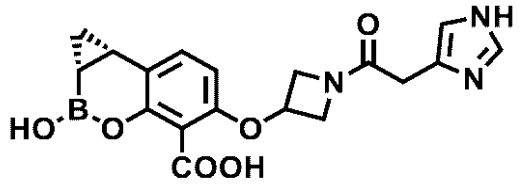
[Chemical Formula 821]



,

(1aR,7bS)-2-hydroxy-5-({1-[(1H-imidazol-4-yl)acetyl]azetidin-3-yl}oxy)-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

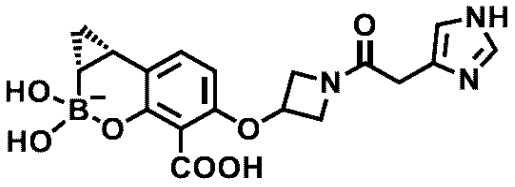
[Chemical Formula 822]



,

(2S,4R)-5,5-dihydroxy-9-{1-[(1H-imidazol-4-yl)acetyl]azetidin-3-yl}oxy-6-oxa-5-boranuidatricyclo[5.4.0.0^{2,4}]undeca-1(11),7,9-triene-8-carboxylic acid

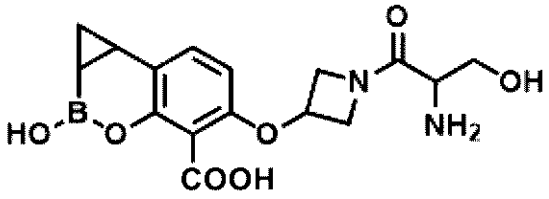
[Chemical Formula 823]



,

2-hydroxy-5-[(1-serylazetidin-3-yl)oxy]-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

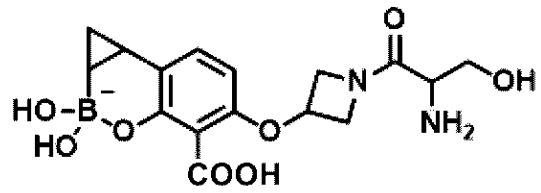
[Chemical Formula 824]



,

5,5-dihydroxy-9-(1-serylazetidin-3-yl)oxy-6-oxa-5-boranuidatricyclo[5.4.0.0^{2,4}]undeca-1(11),7,9-triene-8-carboxylic acid

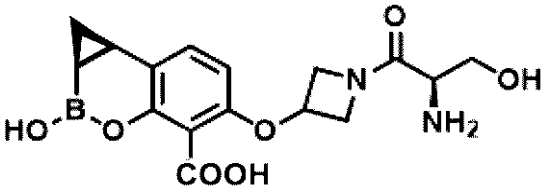
[Chemical Formula 825]



,

(1aS,7bR)-2-hydroxy-5-[(1-D-serylazetidin-3-yl)oxy]-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

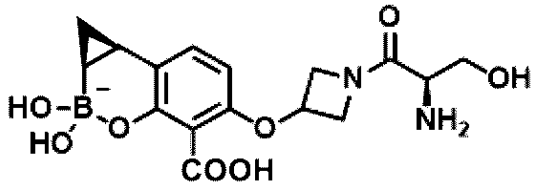
[Chemical Formula 826]



,

(2R,4S)-5,5-dihydroxy-9-(1-D-serylazetidin-3-yl)oxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(11),7,9-triene-8-carboxylic acid

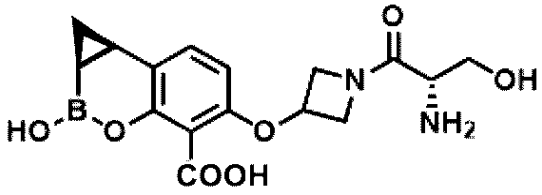
[Chemical Formula 827]



,

(1aS,7bR)-2-hydroxy-5-[(1-L-serylazetidin-3-yl)oxy]-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

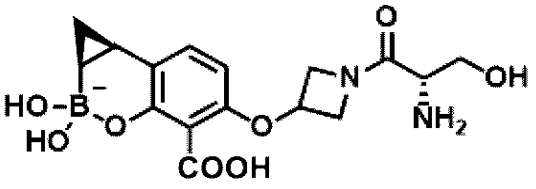
[Chemical Formula 828]



,

(2R,4S)-5,5-dihydroxy-9-(1-L-serylazetidin-3-yl)oxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(11),7,9-triene-8-carboxylic acid

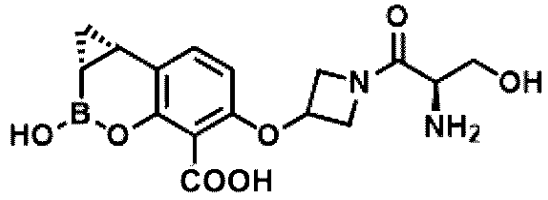
[Chemical Formula 829]



,

(1aR,7bS)-2-hydroxy-5-[(1-D-serylazetidin-3-yl)oxy]-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

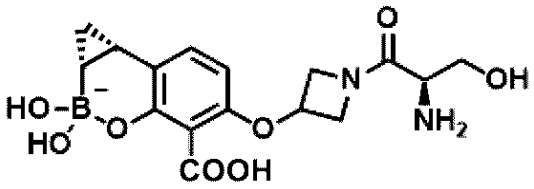
[Chemical Formula 830]



,

(2S,4R)-5,5-dihydroxy-9-(1-D-serylazetidin-3-yl)oxy-6-oxa-5-boranuidatricyclo[5.4.0.0^{2,4}]undeca-1(11),7,9-triene-8-carboxylic acid

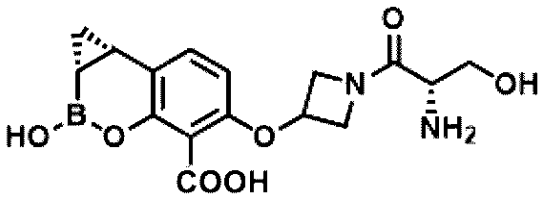
[Chemical Formula 831]



,

(1aR,7bS)-2-hydroxy-5-[(1-L-serylazetidin-3-yl)oxy]-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

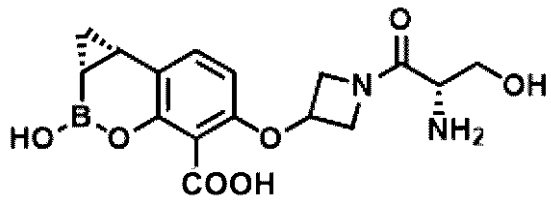
[Chemical Formula 832]



,

(2S,4R)-5,5-dihydroxy-9-(1-L-serylazetidin-3-yl)oxy-6-oxa-5-boranuidatricyclo[5.4.0.0^{2,4}]undeca-1(11),7,9-triene-8-carboxylic acid

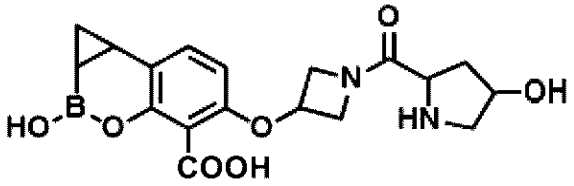
[Chemical Formula 833]



,

2-hydroxy-5-({1-[4-hydroxy-prolyl]azetidin-3-yl}oxy)-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

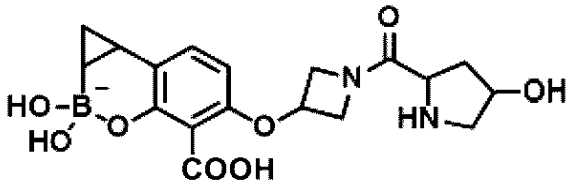
[Chemical Formula 834]



,

5,5-dihydroxy-9-{1-[4-hydroxy-prolyl]azetidin-3-yl}oxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(11),7,9-triene-8-carboxylic acid

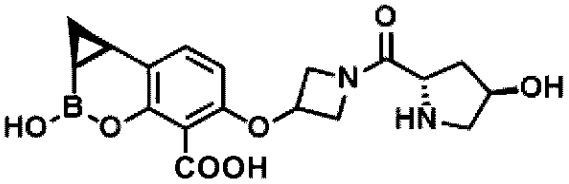
[Chemical Formula 835]



,

(1aS,7bR)-2-hydroxy-5-({1-[(4R)-4-hydroxy-L-prolyl]azetidin-3-yl}oxy)-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

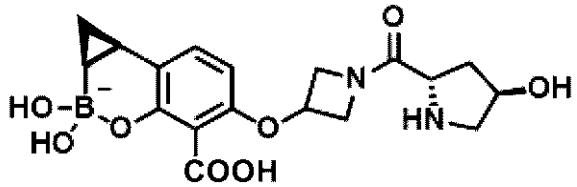
[Chemical Formula 836]



,

(2R,4S)-5,5-dihydroxy-9-{1-[(4R)-4-hydroxy-L-prolyl]azetidin-3-yl}oxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(11),7,9-triene-8-carboxylic acid

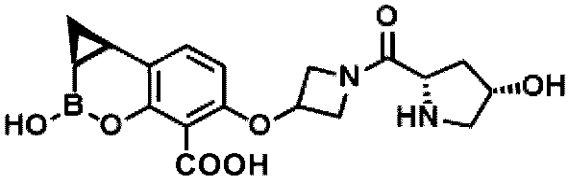
[Chemical Formula 837]



,

(1aS,7bR)-2-hydroxy-5-({1-[(4S)-4-hydroxy-L-prolyl]azetidin-3-yl}oxy)-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

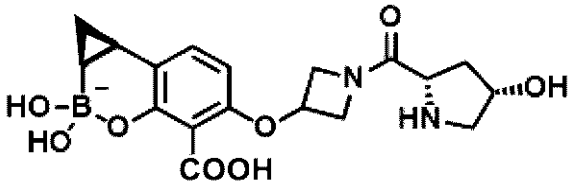
[Chemical Formula 838]



,

(2R,4S)-5,5-dihydroxy-9-{1-[(4S)-4-hydroxy-L-prolyl]azetidin-3-yl}oxy-6-oxa-5-boranuidatricyclo[5.4.0.0^{2,4}]undeca-1(11),7,9-triene-8-carboxylic acid

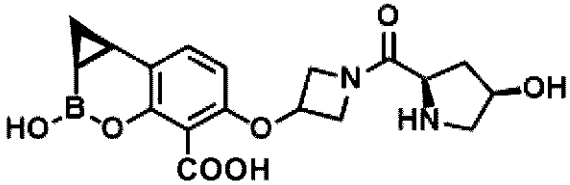
[Chemical Formula 839]



,

(1aS,7bR)-2-hydroxy-5-({1-[(4R)-4-hydroxy-D-prolyl]azetidin-3-yl}oxy)-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

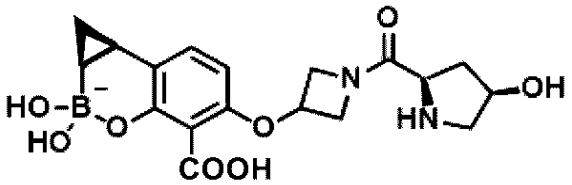
[Chemical Formula 840]



,

(2R,4S)-5,5-dihydroxy-9-{1-[(4R)-4-hydroxy-D-prolyl]azetidin-3-yl}oxy-6-oxa-5-boranuidatricyclo[5.4.0.0^{2,4}]undeca-1(11),7,9-triene-8-carboxylic acid

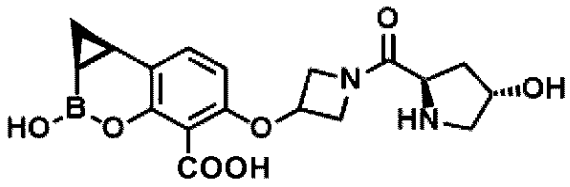
[Chemical Formula 841]



,

(1aS,7bR)-2-hydroxy-5-({1-[(4S)-4-hydroxy-D-prolyl]azetidin-3-yl}oxy)-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

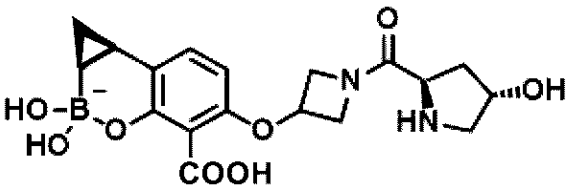
[Chemical Formula 842]



,

(2R,4S)-5,5-dihydroxy-9-{1-[(4S)-4-hydroxy-D-prolyl]azetidin-3-yl}oxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(11),7,9-triene-8-carboxylic acid

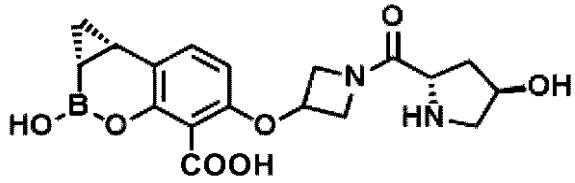
[Chemical Formula 843]



,

(1aR,7bS)-2-hydroxy-5-({1-[(4R)-4-hydroxy-L-prolyl]azetidin-3-yl}oxy)-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

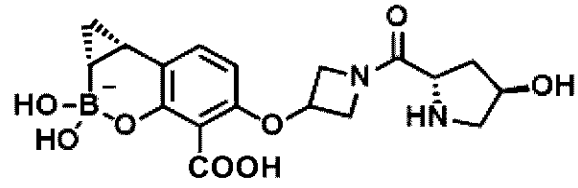
[Chemical Formula 844]



,

(2S,4R)-5,5-dihydroxy-9-{1-[(4R)-4-hydroxy-L-prolyl]azetidin-3-yl}oxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(11),7,9-triene-8-carboxylic acid

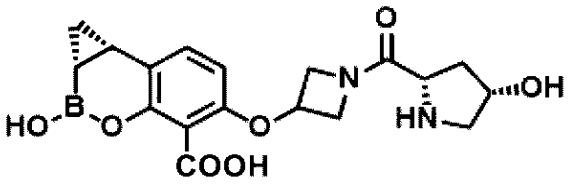
[Chemical Formula 845]



,

(1aR,7bS)-2-hydroxy-5-({1-[(4S)-4-hydroxy-L-prolyl]azetidin-3-yl}oxy)-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

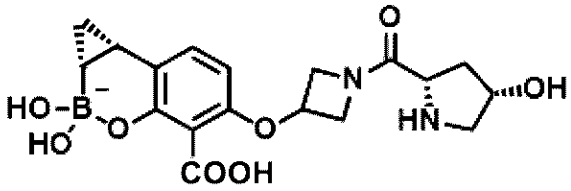
[Chemical Formula 846]



,

(2S,4R)-5,5-dihydroxy-9-{1-[(4S)-4-hydroxy-L-prolyl]azetidin-3-yl}oxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(11),7,9-triene-8-carboxylic acid

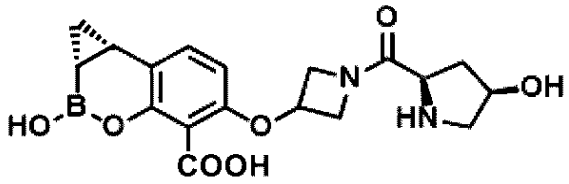
[Chemical Formula 847]



,

~~1aS,7bR)-2-hydroxy-5-({1-[(4R)-4-hydroxy-D-prolyl]azetidin-3-yl}oxy)-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid~~ (1aR,7bS)-2-hydroxy-5-({1-[(4R)-4-hydroxy-D-prolyl]azetidin-3-yl}oxy)-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

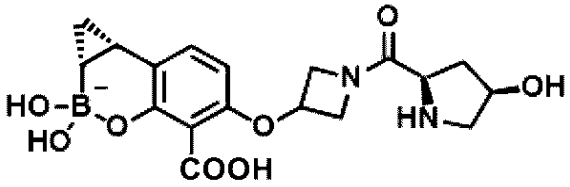
[Chemical Formula 848]



,

(2S,4R)-5,5-dihydroxy-9-{1-[(4R)-4-hydroxy-D-prolyl]azetidin-3-yl}oxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(11),7,9-triene-8-carboxylic acid

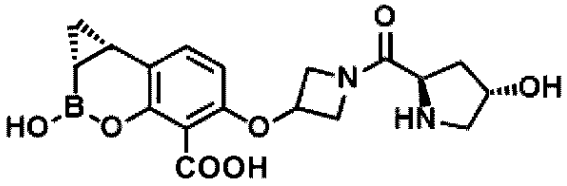
[Chemical Formula 849]



,

(1aR,7bS)-2-hydroxy-5-({1-[(4S)-4-hydroxy-D-prolyl]azetidin-3-yl}oxy)-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

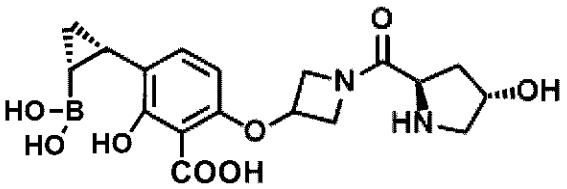
[Chemical Formula 850]



,

(2S,4R)-5,5-dihydroxy-9-{1-[(4S)-4-hydroxy-D-prolyl]azetidin-3-yl}oxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(11),7,9-triene-8-carboxylic acid

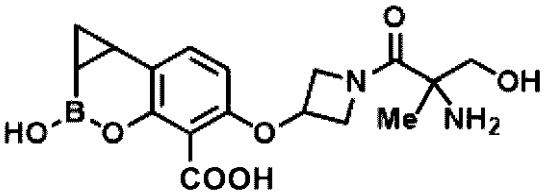
[Chemical Formula 851]



,

2-hydroxy-5-{[1-(2-methyl-seryl)azetidin-3-yl]oxy}-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

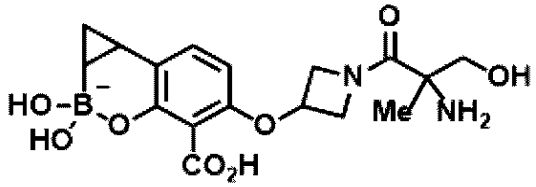
[Chemical Formula 852]



,

5,5-dihydroxy-9-[1-(2-methyl-seryl)azetidin-3-yl]oxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(11),7,9-triene-8-carboxylic acid

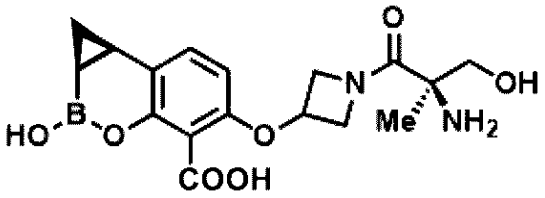
[Chemical Formula 853]



,

(1aS,7bR)-2-hydroxy-5-{[1-(2-methyl-D-seryl)azetidin-3-yl]oxy}-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

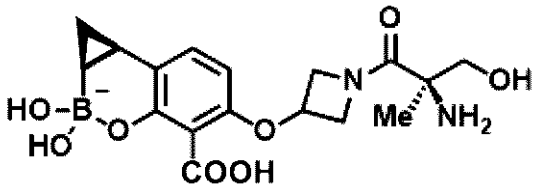
[Chemical Formula 854]



,

(2R,4S)-5,5-dihydroxy-9-[1-(2-methyl-D-seryl)azetidin-3-yl]oxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(11),7,9-triene-8-carboxylic acid

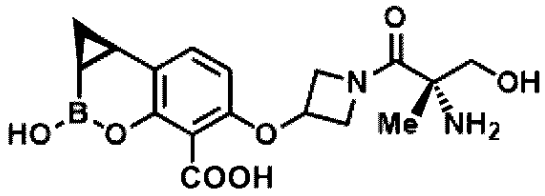
[Chemical Formula 855]



,

(1aS,7bR)-2-hydroxy-5-{[1-(2-methyl-L-seryl)azetidin-3-yl]oxy}-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

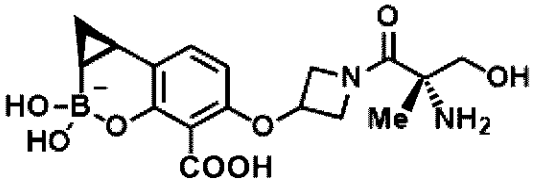
[Chemical Formula 856]



,

(2R,4S)-5,5-dihydroxy-9-[1-(2-methyl-L-seryl)azetidin-3-yl]oxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(11),7,9-triene-8-carboxylic acid

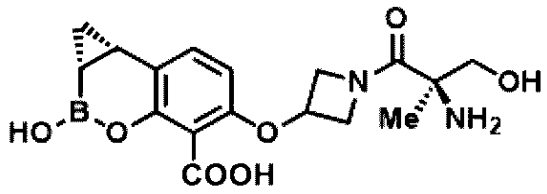
[Chemical Formula 857]



,

(1aR,7bS)-2-hydroxy-5-{[1-(2-methyl-D-seryl)azetidin-3-yl]oxy}-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

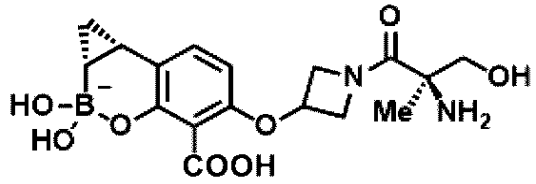
[Chemical Formula 858]



,

(2S,4R)-5,5-dihydroxy-9-[1-(2-methyl-D-seryl)azetidin-3-yl]oxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(11),7,9-triene-8-carboxylic acid

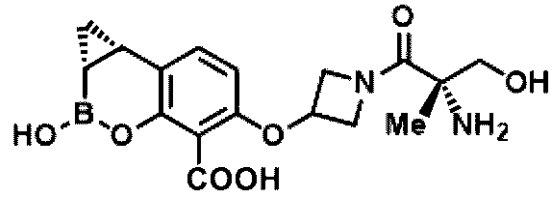
[Chemical Formula 859]



,

(1aR,7bS)-2-hydroxy-5-{[1-(2-methyl-L-seryl)azetidin-3-yl]oxy}-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

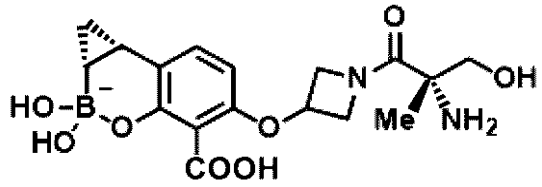
[Chemical Formula 860]



,

(2S,4R)-5,5-dihydroxy-9-[1-(2-methyl-L-seryl)azetidin-3-yl]oxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(11),7,9-triene-8-carboxylic acid

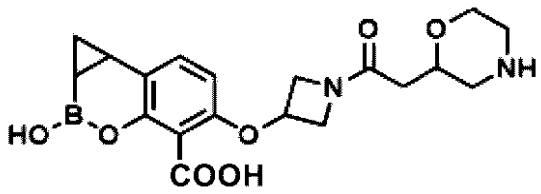
[Chemical Formula 861]



,

2-hydroxy-5-[(1-{[morpholin-2-yl]acetyl}azetidin-3-yl)oxy]-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

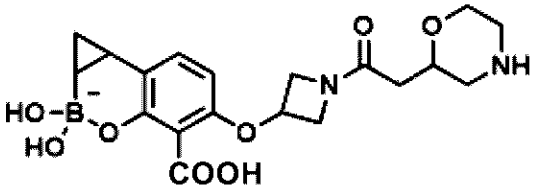
[Chemical Formula 862]



,

5,5-dihydroxy-9-(1-{[morpholin-2-yl]acetyl}azetidin-3-yl)oxy-5-boranuidatricyclo[5.4.0.0^{2,4}]undeca-1(11),7,9-triene-8-carboxylic acid

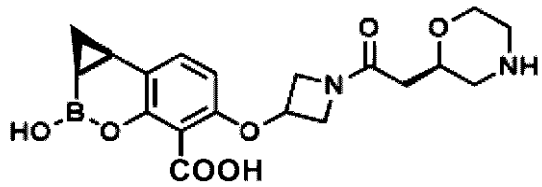
[Chemical Formula 863]



,

(1aS,7bR)-2-hydroxy-5-[(1-{[(2R)-morpholin-2-yl]acetyl}azetidin-3-yl)oxy]-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

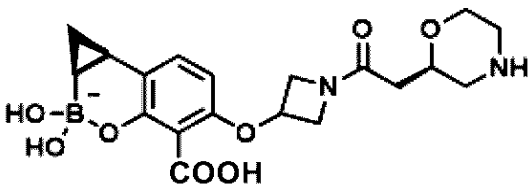
[Chemical Formula 864]



,

(2R,4S)-5,5-dihydroxy-9-(1-{[(2R)-morpholin-2-yl]acetyl}azetidin-3-yl)oxy-5-boranuidatricyclo[5.4.0.0^{2,4}]undeca-1(11),7,9-triene-8-carboxylic acid

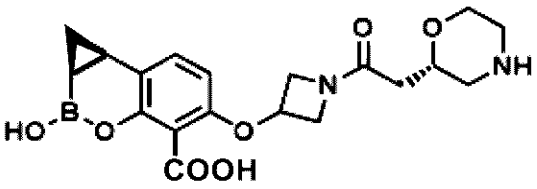
[Chemical Formula 865]



,

(1aS,7bR)-2-hydroxy-5-[(1-{[(2S)-morpholin-2-yl]acetyl}azetidin-3-yl)oxy]-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

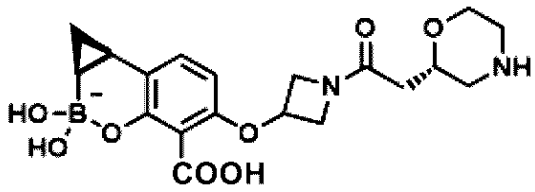
[Chemical Formula 866]



,

~~(2S,4R)-5,5-dihydroxy-9-(1-{[(2R)-morpholin-2-yl]acetyl}azetidin-3-yl)oxy-5-boranuidatricyclo[5.4.0.0^{2,4}]undeca-1(11),7,9-triene-8-carboxylic acid~~ (2R,4S)-5,5-dihydroxy-9-(1-{[(2S)-morpholin-2-yl]acetyl}azetidin-3-yl)oxy-5-boranuidatricyclo[5.4.0.0^{2,4}]undeca-1(11),7,9-triene-8-carboxylic acid

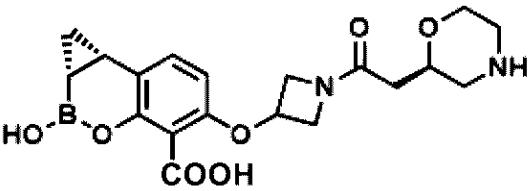
[Chemical Formula 867]



,

(1aR,7bS)-2-hydroxy-5-[(1-{[(2R)-morpholin-2-yl]acetyl}azetidin-3-yl)oxy]-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

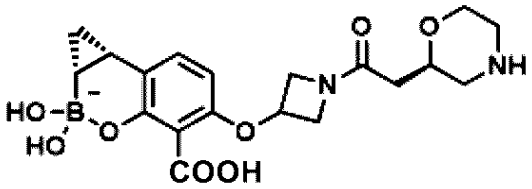
[Chemical Formula 868]



,

(2S,4R)-5,5-dihydroxy-9-(1-{[(2R)-morpholin-2-yl]acetyl}azetidin-3-yl)oxy-5-boranuidatricyclo[5.4.0.0^{2,4}]undeca-1(11),7,9-triene-8-carboxylic acid

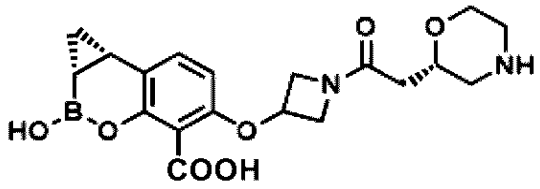
[Chemical Formula 869]



,

(1aR,7bS)-2-hydroxy-5-[(1-{[(2S)-morpholin-2-yl]acetyl}azetidin-3-yl)oxy]-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

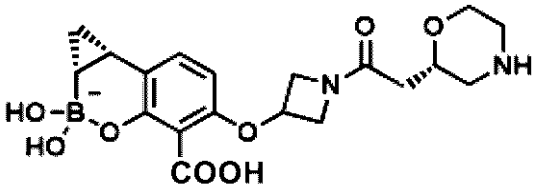
[Chemical Formula 870]



,

(2S,4R)-5,5-dihydroxy-9-(1-{[(2S)-morpholin-2-yl]acetyl}azetidin-3-yl)oxy-5-boranuidatricyclo[5.4.0.0^{2,4}]undeca-1(11),7,9-triene-8-carboxylic acid

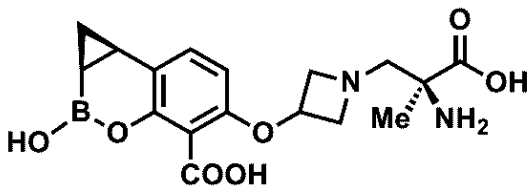
[Chemical Formula 871]



,

(1aS,7bR)-5-({1-[(2S)-2-amino-2-carboxypropyl]azetidin-3-yl}oxy)-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

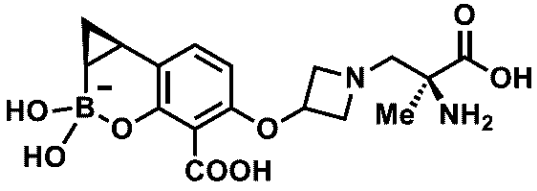
[Chemical Formula 872]



,

(2R,4S)-9-[1-[propyl (2S)-2-amino-2-carboxylate]azetidin-3-yl]oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.0^{2,4}]undeca-1(7),8,10-triene-8-carboxylate

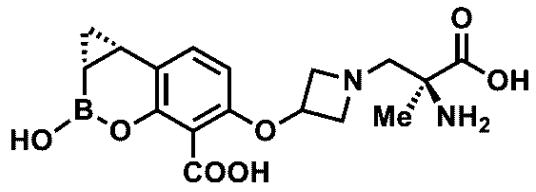
[Chemical Formula 873]



,

(1aR,7bS)-5-({1-[(2S)-2-amino-2-carboxypropyl]azetidin-3-yl}oxy)-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

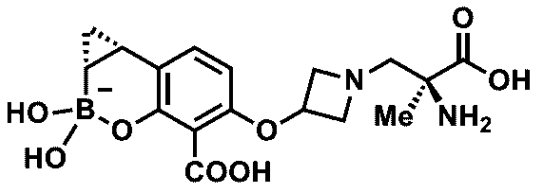
[Chemical Formula 874]



,

(2S,4R)-9-[1-[propyl (2S)-2-amino-2-carboxylate]azetidin-3-yl]oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(7),8,10-triene-8-carboxylate

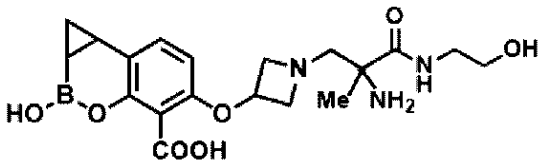
[Chemical Formula 875]



,

5-({1-[2-amino-2-carboxypropyl]azetidin-3-yl}oxy)-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

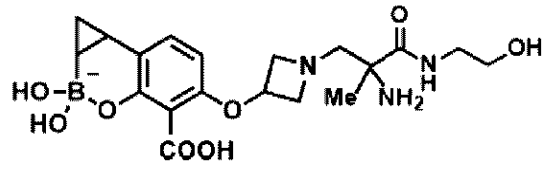
[Chemical Formula 876]



,

9-(1-{2-amino-3-[(2-hydroxyethyl)amino]-2-methyl-3-oxopropyl}azetidin-3-yl)oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(7),8,10-triene-8-carboxylate

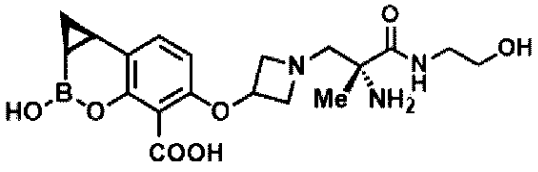
[Chemical Formula 877]



,

(1aS,7bR)-5-[(1-{(2R)-2-amino-3-[(2-hydroxyethyl)amino]-2-methyl-3-oxopropyl}azetidin-3-yl)oxy]-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

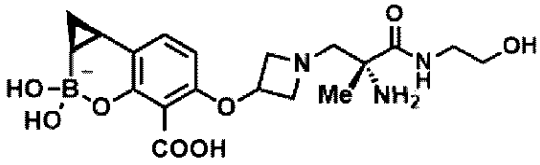
[Chemical Formula 878]



,

(2R,4S)-9-(1-{(2R)-2-amino-3-[(2-hydroxyethyl)amino]-2-methyl-3-oxopropyl}azetidin-3-yl)oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.0^{2,4}]undeca-1(7),8,10-triene-8-carboxylate

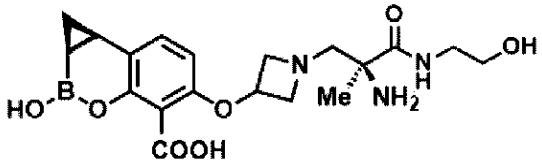
[Chemical Formula 879]



,

(1aS,7bR)-5-[(1-{(2S)-2-amino-3-[(2-hydroxyethyl)amino]-2-methyl-3-oxopropyl}azetidin-3-yl)oxy]-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

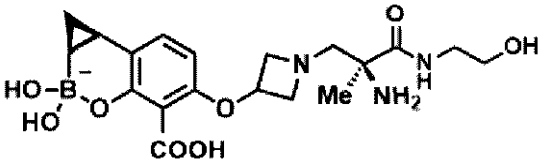
[Chemical Formula 880]



,

(2R,4S)-9-(1-{(2S)-2-amino-3-[(2-hydroxyethyl)amino]-2-methyl-3-oxopropyl}azetidin-3-yl)oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.0^{2,4}]undeca-1(7),8,10-triene-8-carboxylate

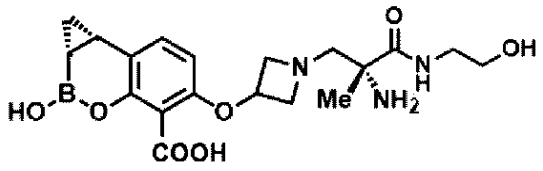
[Chemical Formula 881]



,

(1aR,7bS)-5-[(1-{(2R)-2-amino-3-[(2-hydroxyethyl)amino]-2-methyl-3-oxopropyl}azetidin-3-yl)oxy]-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

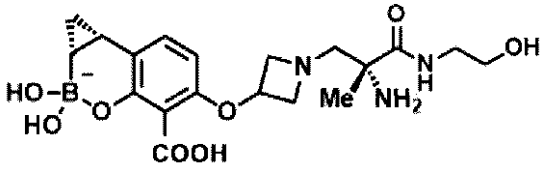
[Chemical Formula 882]



,

(2S,4R)-9-(1-{(2R)-2-amino-3-[(2-hydroxyethyl)amino]-2-methyl-3-oxopropyl}azetidin-3-yl)oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.0^{2,4}]undeca-1(7),8,10-triene-8-carboxylate

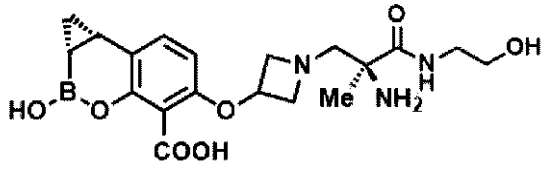
[Chemical Formula 883]



,

(1aR,7bS)-5-[(1-{(2S)-2-amino-3-[(2-hydroxyethyl)amino]-2-methyl-3-oxopropyl}azetidin-3-yl)oxy]-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

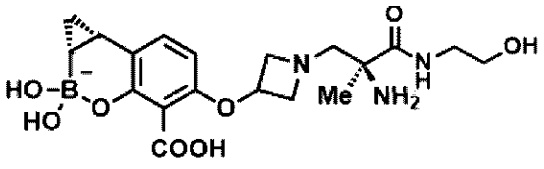
[Chemical Formula 884]



,

(2S,4R)-9-(1-{(2S)-2-amino-3-[(2-hydroxyethyl)amino]-2-methyl-3-oxopropyl}azetidin-3-yl)oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.0^{2,4}]undeca-1(7),8,10-triene-8-carboxylate

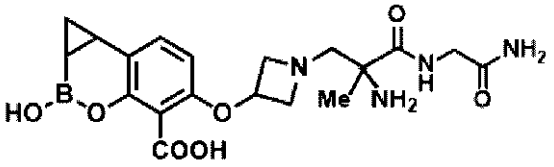
[Chemical Formula 885]



,

5-[(1-{2-amino-3-[(2-amino-2-oxoethyl)amino]-2-methyl-3-oxopropyl}azetidin-3-yl)oxy]-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

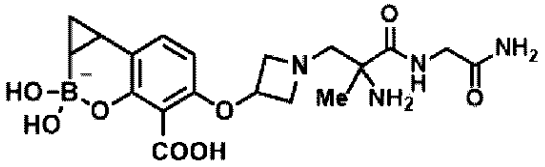
[Chemical Formula 886]



,

9-(1-{2-amino-3-[(2-amino-2-oxoethyl)amino]-2-methyl-3-oxopropyl}azetidin-3-yl)oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(7),8,10-triene-8-carboxylate

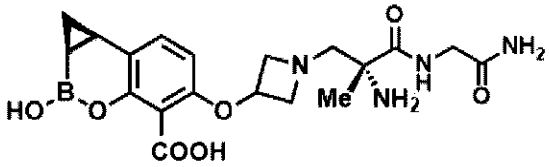
[Chemical Formula 887]



,

(1aS,7bR)-5-[(1-{(2R)-2-amino-3-[(2-amino-2-oxoethyl)amino]-2-methyl-3-oxopropyl}azetidin-3-yl)oxy]-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

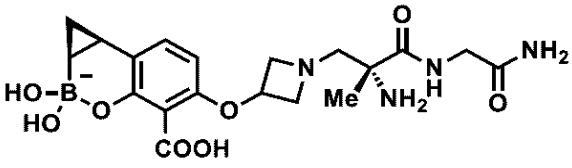
[Chemical Formula 888]



,

(2R,4S)-9-(1-{(2R)-2-amino-3-[(2-amino-2-oxoethyl)amino]-2-methyl-3-oxopropyl}azetidin-3-yl)oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(7),8,10-triene-8-carboxylate

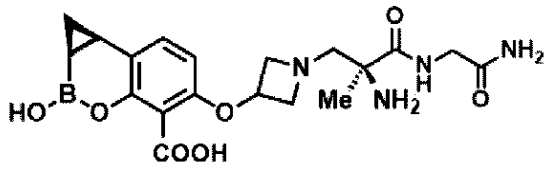
[Chemical Formula 889]



,

(1aS,7bR)-5-[(1-{(2S)-2-amino-3-[(2-amino-2-oxoethyl)amino]-2-methyl-3-oxopropyl}azetidin-3-yl)oxy]-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

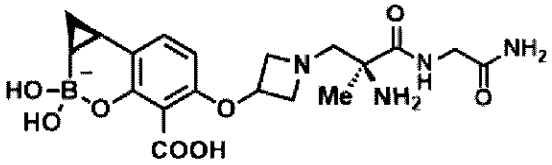
[Chemical Formula 890]



,

(2R,4S)-9-(1-{(2S)-2-amino-3-[(2-amino-2-oxoethyl)amino]-2-methyl-3-oxopropyl}azetidin-3-yl)oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(7),8,10-triene-8-carboxylate

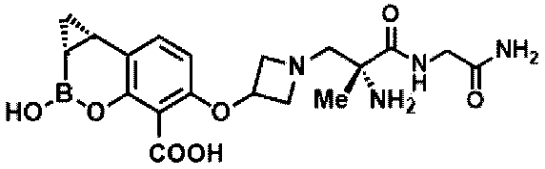
[Chemical Formula 891]



,

(1aR,7bS)-5-[(1-{(2R)-2-amino-3-[(2-amino-2-oxoethyl)amino]-2-methyl-3-oxopropyl}azetidin-3-yl)oxy]-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

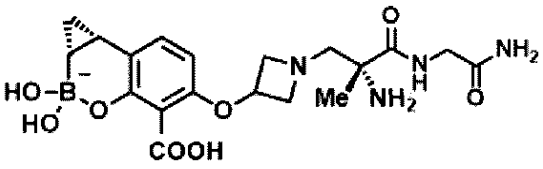
[Chemical Formula 892]



,

(2S,4R)-9-(1-{(2R)-2-amino-3-[(2-amino-2-oxoethyl)amino]-2-methyl-3-oxopropyl}azetidin-3-yl)oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(7),8,10-triene-8-carboxylate

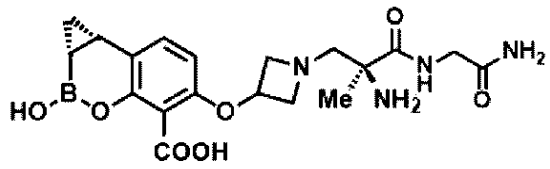
[Chemical Formula 893]



,

(1aR,7bS)-5-[(1-{(2S)-2-amino-3-[(2-amino-2-oxoethyl)amino]-2-methyl-3-oxopropyl}azetidin-3-yl)oxy]-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

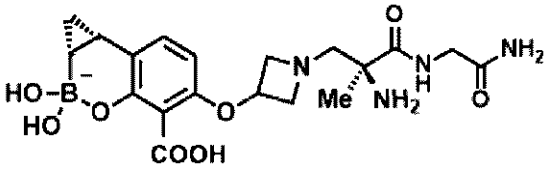
[Chemical Formula 894]



,

(2S,4R)-9-(1-{(2S)-2-amino-3-[(2-amino-2-oxoethyl)amino]-2-methyl-3-oxopropyl}azetidin-3-yl)oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(7),8,10-triene-8-carboxylate

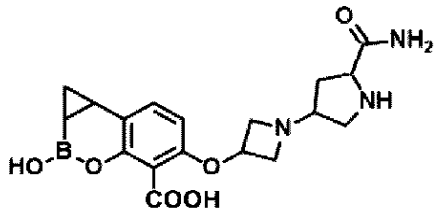
[Chemical Formula 895]



,

5-({1-[5-carbamoylpyrrolidin-3-yl]azetidin-3-yl}oxy)-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

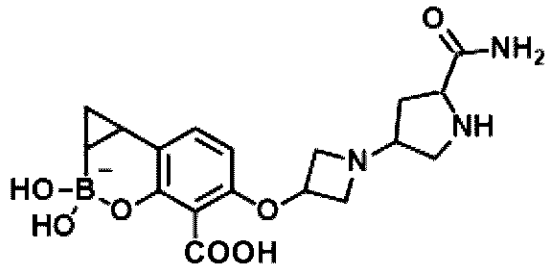
[Chemical Formula 896]



,

9-{1-[5-carbamoylpyrrolidin-3-yl]azetidin-3-yl}oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(7),8,10-triene-8-carboxylate

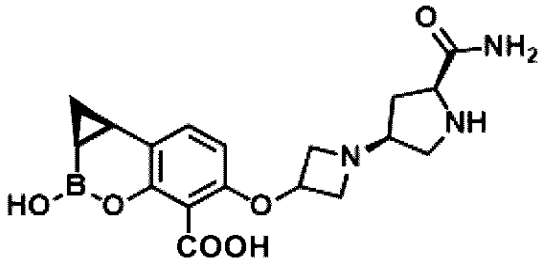
[Chemical Formula 897]



,

(1aS,7bR)-5-({1-[(3S,5S)-5-carbamoylpyrrolidin-3-yl]azetidin-3-yl}oxy)-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

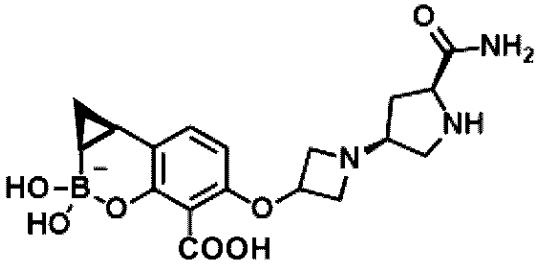
[Chemical Formula 898]



,

(2R,4S)-9-{1-[(3S,5S)-5-carbamoylpyrrolidin-3-yl]azetidin-3-yl}oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.0^{2,4}]undeca-1(7),8,10-triene-8-carboxylate

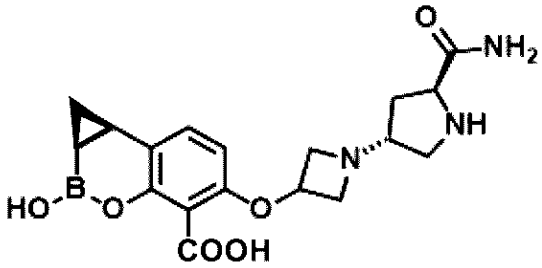
[Chemical Formula 899]



,

(1aS,7bR)-5-({1-[(3R,5S)-5-carbamoylpyrrolidin-3-yl]azetidin-3-yl}oxy)-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

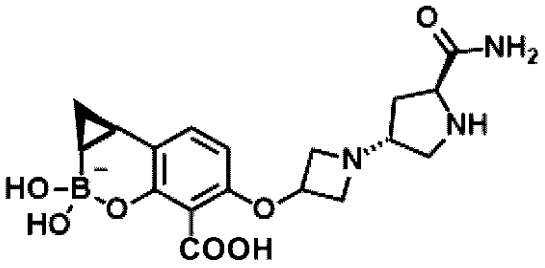
[Chemical Formula 900]



,

(2R,4S)-9-{1-[(3R,5S)-5-carbamoylpyrrolidin-3-yl]azetidin-3-yl}oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.0^{2,4}]undeca-1(7),8,10-triene-8-carboxylate

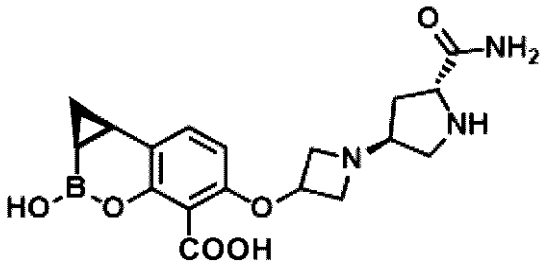
[Chemical Formula 901]



,

(1aS,7bR)-5-({1-[(3S,5R)-5-carbamoylpyrrolidin-3-yl]azetidin-3-yl}oxy)-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

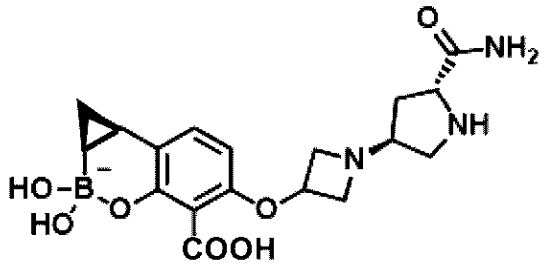
[Chemical Formula 902]



,

(2R,4S)-9-{1-[(3S,5R)-5-carbamoylpyrrolidin-3-yl]azetidin-3-yl}oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(7),8,10-triene-8-carboxylate

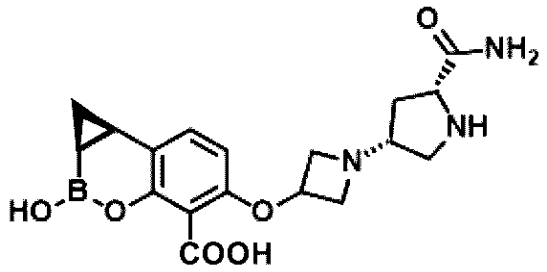
[Chemical Formula 903]



,

(1aS,7bR)-5-({1-[(3R,5R)-5-carbamoylpyrrolidin-3-yl]azetidin-3-yl}oxy)-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

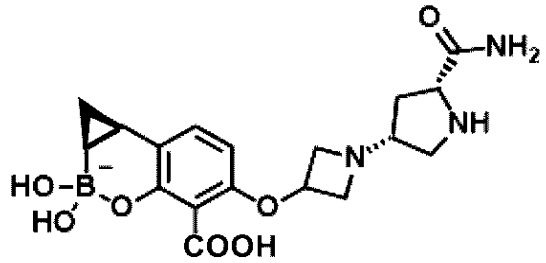
[Chemical Formula 904]



,

(2R,4S)-9-{1-[(3R,5R)-5-carbamoylpyrrolidin-3-yl]azetidin-3-yl}oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(7),8,10-triene-8-carboxylate

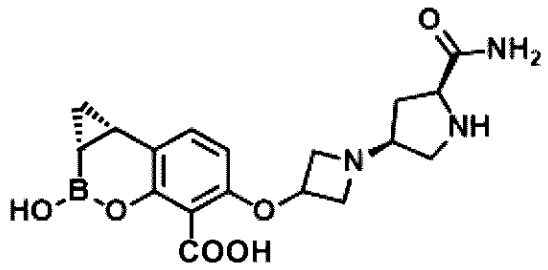
[Chemical Formula 905]



,

(1aR,7bS)-5-({1-[(3S,5S)-5-carbamoylpyrrolidin-3-yl]azetidin-3-yl}oxy)-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

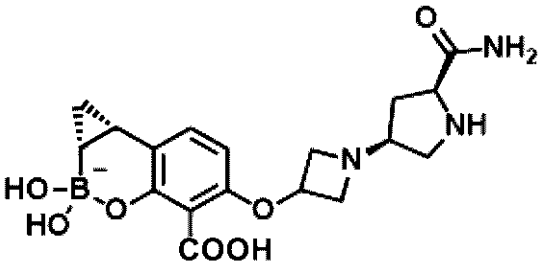
[Chemical Formula 906]



,

(2S,4R)-9-{1-[(3S,5S)-5-carbamoylpyrrolidin-3-yl]azetidin-3-yl}oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(7),8,10-triene-8-carboxylate

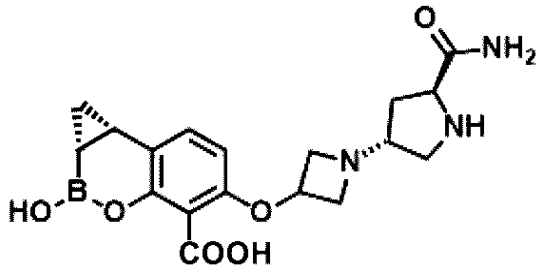
[Chemical Formula 907]



,

(1aR,7bS)-5-({1-[(3R,5S)-5-carbamoylpyrrolidin-3-yl]azetidin-3-yl}oxy)-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

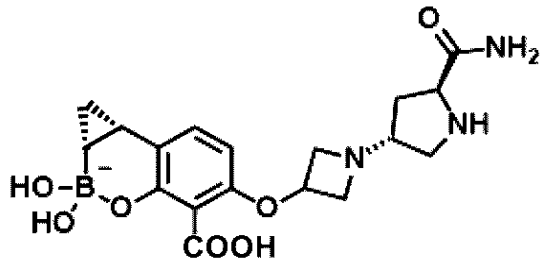
[Chemical Formula 908]



,

(2S,4R)-9-{1-[(3R,5S)-5-carbamoylpyrrolidin-3-yl]azetidin-3-yl}oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(7),8,10-triene-8-carboxylate

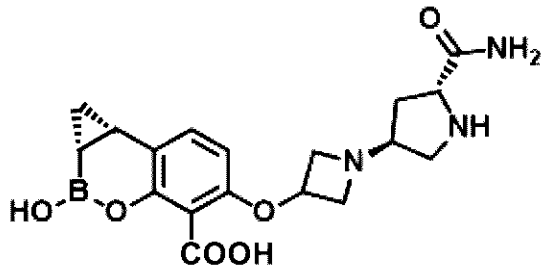
[Chemical Formula 909]



,

(1aR,7bS)-5-({1-[(3S,5R)-5-carbamoylpyrrolidin-3-yl]azetidin-3-yl}oxy)-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

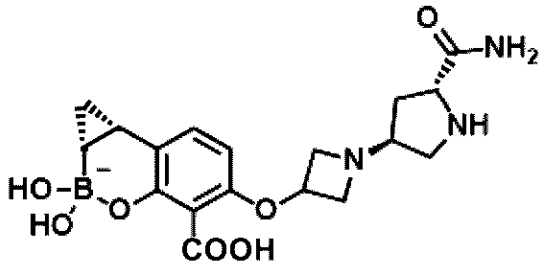
[Chemical Formula 910]



,

(2S,4R)-9-{1-[(3S,5R)-5-carbamoylpyrrolidin-3-yl]azetidin-3-yl}oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.0^{2,4}]undeca-1(7),8,10-triene-8-carboxylate

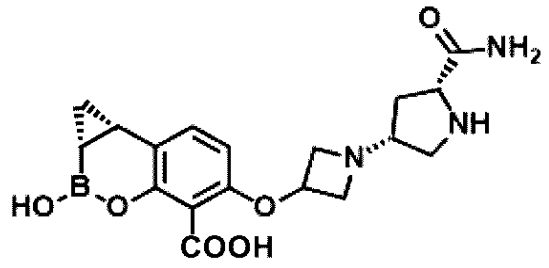
[Chemical Formula 911]



,

(1aR,7bS)-5-({1-[(3R,5R)-5-carbamoylpyrrolidin-3-yl]azetidin-3-yl}oxy)-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

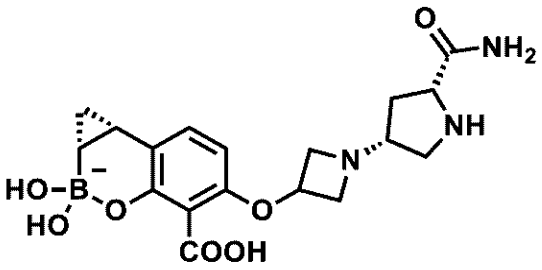
[Chemical Formula 912]



,

(2S,4R)-9-{1-[(3R,5R)-5-carbamoylpyrrolidin-3-yl]azetidin-3-yl}oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.0^{2,4}]undeca-1(7),8,10-triene-8-carboxylate

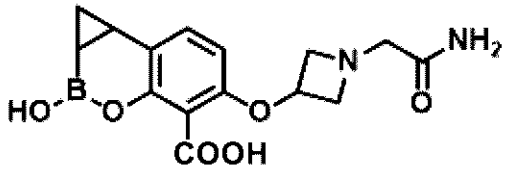
[Chemical Formula 913]



,

5-{[1-(2-amino-2-oxoethyl)azetidin-3-yl]oxy}-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

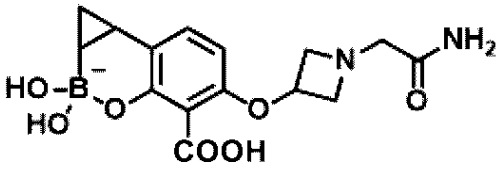
[Chemical Formula 914]



,

9-[1-(2-amino-2-oxoethyl)azetidin-3-yl]oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(7),8,10-triene-8-carboxylate

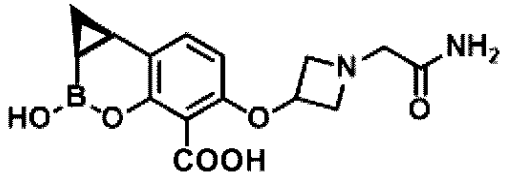
[Chemical Formula 915]



,

(1aS,7bR)-5-{[1-(2-amino-2-oxoethyl)azetidin-3-yl]oxy}-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

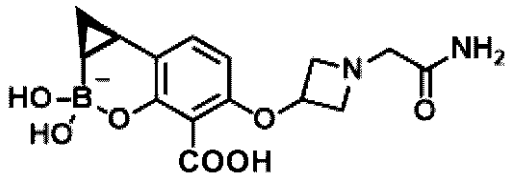
[Chemical Formula 916]



,

(2R,4S)-9-[1-(2-amino-2-oxoethyl)azetidin-3-yl]oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(7),8,10-triene-8-carboxylate

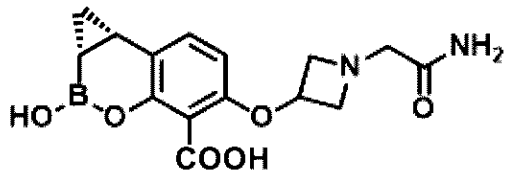
[Chemical Formula 917]



,

(1aR,7bS)-5-{[1-(2-amino-2-oxoethyl)azetidin-3-yl]oxy}-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

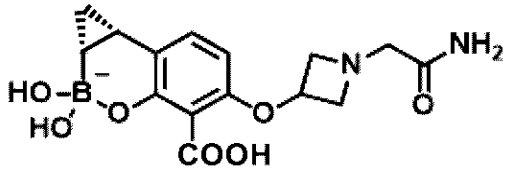
[Chemical Formula 918]



,

(2S,4R)-9-[1-(2-amino-2-oxoethyl)azetidin-3-yl]oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(7),8,10-triene-8-carboxylate

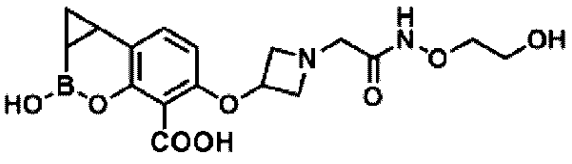
[Chemical Formula 919]



,

2-hydroxy-5-[(1-{2-[(2-hydroxyethoxy)amino]-2-oxoethyl}azetidin-3-yl)oxy]-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

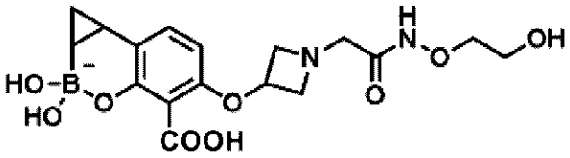
[Chemical Formula 920]



,

5,5-dihydroxy-9-(1-{2-[(2-hydroxyethoxy)amino]-2-oxoethyl}azetidin-3-yl)oxy-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(11),7,9-triene-8-carboxylic acid

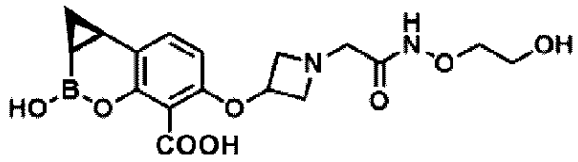
[Chemical Formula 921]



,

(1aS,7bR)-2-hydroxy-5-[(1-{2-[(2-hydroxyethoxy)amino]-2-oxoethyl}azetidin-3-yl)oxy]-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

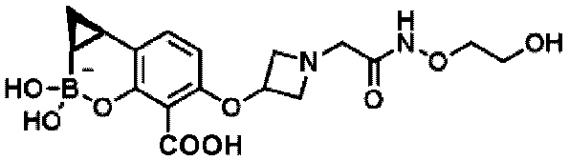
[Chemical Formula 922]



,

(2R,4S)-5,5-dihydroxy-9-(1-{2-[(2-hydroxyethoxy)amino]-2-oxoethyl}azetidin-3-yl)oxy-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(11),7,9-triene-8-carboxylic acid

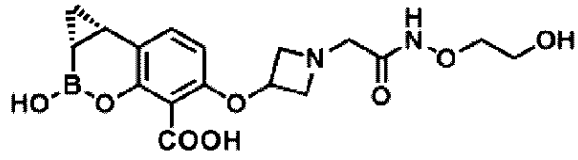
[Chemical Formula 923]



,

(1aR,7bS)-2-hydroxy-5-[(1-{2-[(2-hydroxyethoxy)amino]-2-oxoethyl}azetidin-3-yl)oxy]-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

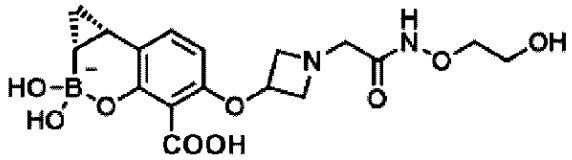
[Chemical Formula 924]



,

(2S,4R)-5,5-dihydroxy-9-(1-{2-[(2-hydroxyethoxy)amino]-2-oxoethyl}azetidin-3-yl)oxy-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(11),7,9-triene-8-carboxylic acid

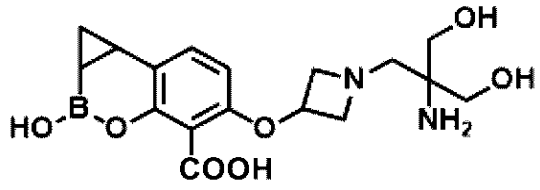
[Chemical Formula 925]



,

5-({1-[2-amino-3-hydroxy-2-(hydroxymethyl)propyl]azetidin-3-yl}oxy)-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

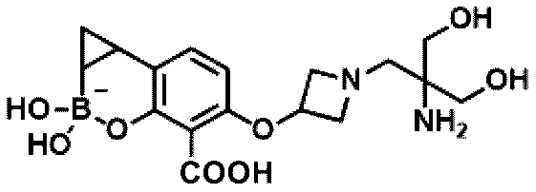
[Chemical Formula 926]



,

9-{1-[2-amino-3-hydroxy-2-(hydroxymethyl)propyl]azetidin-3-yl}oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(7),8,10-triene-8-carboxylate

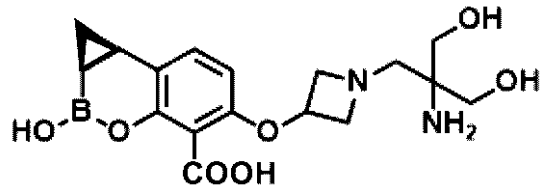
[Chemical Formula 927]



,

(1aS,7bR)-5-({1-[2-amino-3-hydroxy-2-(hydroxymethyl)propyl]azetidin-3-yl}oxy)-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

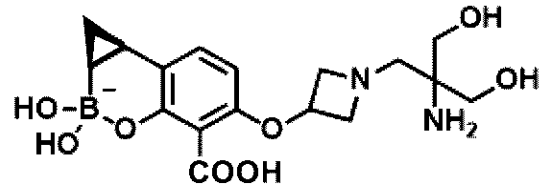
[Chemical Formula 928]



,

(2R,4S)-9-{1-[2-amino-3-hydroxy-2-(hydroxymethyl)propyl]azetidin-3-yl}oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(7),8,10-triene-8-carboxylate

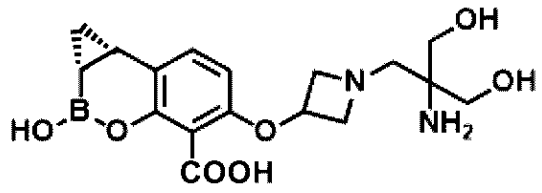
[Chemical Formula 929]



,

(1aR,7bS)-5-({1-[2-amino-3-hydroxy-2-(hydroxymethyl)propyl]azetidin-3-yl}oxy)-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

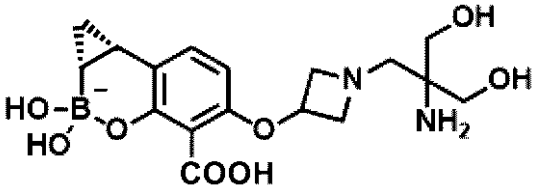
[Chemical Formula 930]



,

(2S,4R)-9-{1-[2-amino-3-hydroxy-2-(hydroxymethyl)propyl]azetidin-3-yl}oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(7),8,10-triene-8-carboxylate

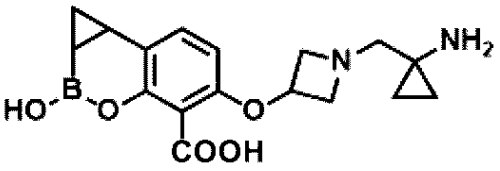
[Chemical Formula 931]



,

5-({1-[(1-aminocyclopropyl)methyl]azetidin-3-yl}oxy)-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

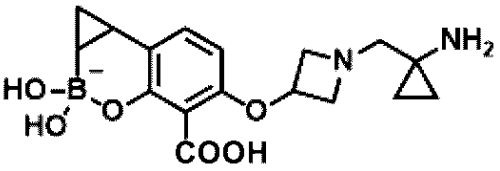
[Chemical Formula 932]



,

9-{1-[(1-aminocyclopropyl)methyl]azetidin-3-yl}oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(7),8,10-triene-8-carboxylate

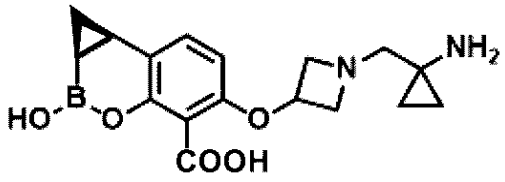
[Chemical Formula 933]



,

(1aS,7bR)-5-({1-[(1-aminocyclopropyl)methyl]azetidin-3-yl}oxy)-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

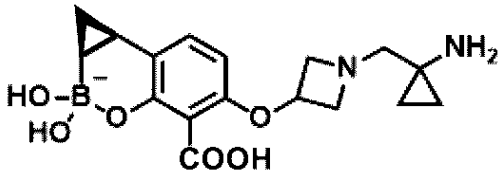
[Chemical Formula 934]



,

(2R,4S)-9-{1-[(1-aminocyclopropyl)methyl]azetidin-3-yl}oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(7),8,10-triene-8-carboxylate

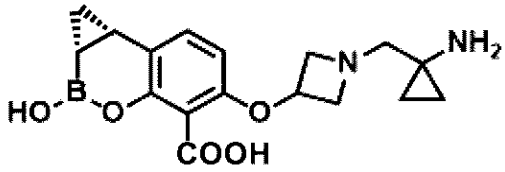
[Chemical Formula 935]



,

(1aR,7bS)-5-({1-[(1-aminocyclopropyl)methyl]azetidin-3-yl}oxy)-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

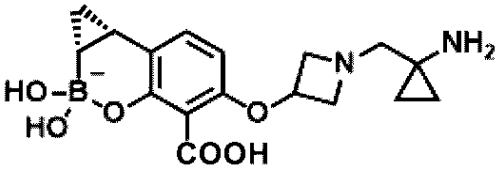
[Chemical Formula 936]



,

(2S,4R)-9-{1-[(1-aminocyclopropyl)methyl]azetidin-3-yl}oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(7),8,10-triene-8-carboxylate

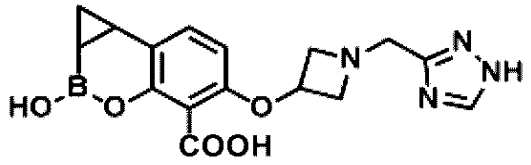
[Chemical Formula 937]



,

2-hydroxy-5-({1-[(1H-1,2,4-triazol-3-yl)methyl]azetidin-3-yl}oxy)-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

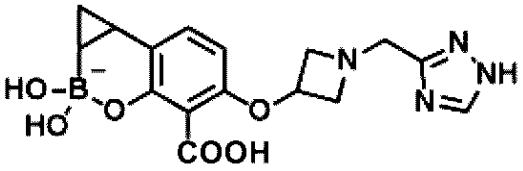
[Chemical Formula 938]



,

5,5-dihydroxy-9-{1-[(1H-1,2,4-triazol-3-yl)methyl]azetidin-3-yl}oxy-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(11),7,9-triene-8-carboxylic acid

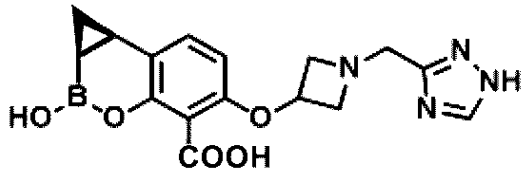
[Chemical Formula 939]



,

(1aS,7bR)-2-hydroxy-5-({1-[(1H-1,2,4-triazol-3-yl)methyl]azetidin-3-yl}oxy)-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

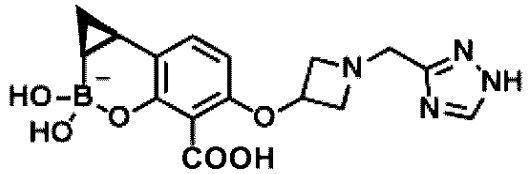
[Chemical Formula 940]



,

(2R,4S)-5,5-dihydroxy-9-{1-[(1H-1,2,4-triazol-3-yl)methyl]azetidin-3-yl}oxy-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(11),7,9-triene-8-carboxylic acid

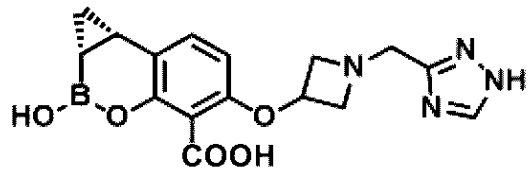
[Chemical Formula 941]



,

(1aR,7bS)-2-hydroxy-5-({1-[(1H-1,2,4-triazol-3-yl)methyl]azetidin-3-yl}oxy)-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

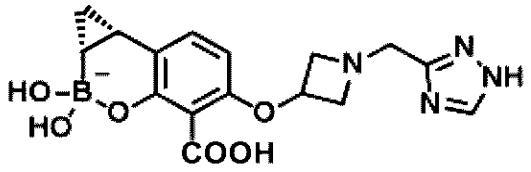
[Chemical Formula 942]



,

(2S,4R)-5,5-dihydroxy-9-{1-[(1H-1,2,4-triazol-3-yl)methyl]azetidin-3-yl}oxy-5-boranuidatricyclo[5.4.0.0^{2,4}]undeca-1(11),7,9-triene-8-carboxylic acid

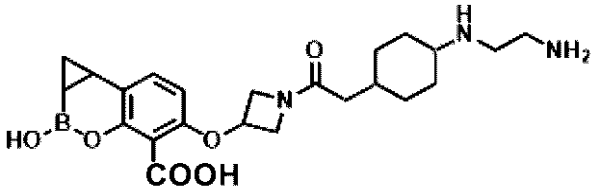
[Chemical Formula 943]



,

5-{[1-({4-[(2-aminoethyl)amino]cyclohexyl}acetyl)azetidin-3-yl]oxy}-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

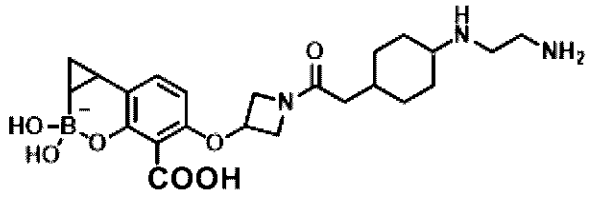
[Chemical Formula 944]



,

9-[1-({4-[(2-aminoethyl)amino]cyclohexyl}acetyl)azetidin-3-yl]oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.0^{2,4}]undeca-1(7),8,10-triene-8-carboxylate

[Chemical Formula 945]

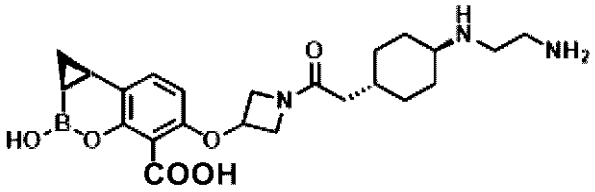


,

(1aS,7bR)-5-{[1-({(1r,4r)-4-[(2-aminoethyl)amino]cyclohexyl}acetyl)azetidin-3-yl]oxy}-2-hydroxy-

1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

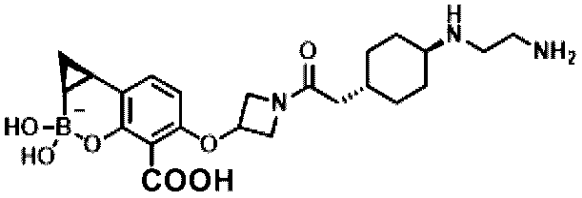
[Chemical Formula 946]



,

(2R,4S)-9-[1-({(1r,4r)-4-[(2-aminoethyl)amino]cyclohexyl}acetyl)azetidin-3-yl]oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(7),8,10-triene-8-carboxylate

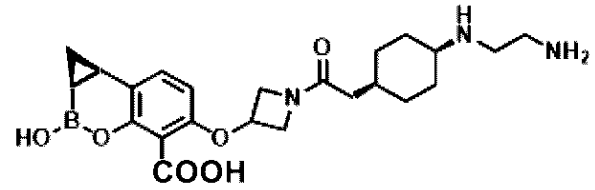
[Chemical Formula 947]



,

(1aS,7bR)-5-{[1-({(1s,4r)-4-[(2-aminoethyl)amino]cyclohexyl}acetyl)azetidin-3-yl]oxy}-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

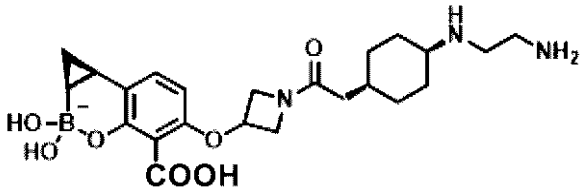
[Chemical Formula 948]



,

(2R,4S)-9-[1-({(1s,4r)-4-[(2-aminoethyl)amino]cyclohexyl}acetyl)azetidin-3-yl]oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(7),8,10-triene-8-carboxylate

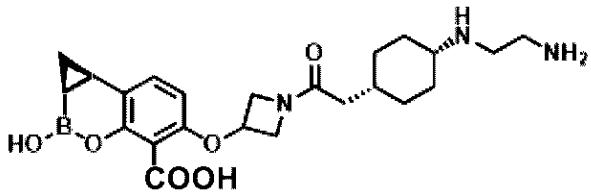
[Chemical Formula 949]



,

(1aS,7bR)-5-{[1-({(1r,4s)-4-[(2-aminoethyl)amino]cyclohexyl}acetyl)azetidin-3-yl]oxy}-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

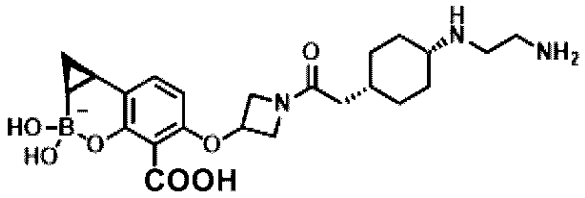
[Chemical Formula 950]



,

(2R,4S)-9-[1-({(1r,4s)-4-[(2-aminoethyl)amino]cyclohexyl}acetyl)azetidin-3-yl]oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(7),8,10-triene-8-carboxylate

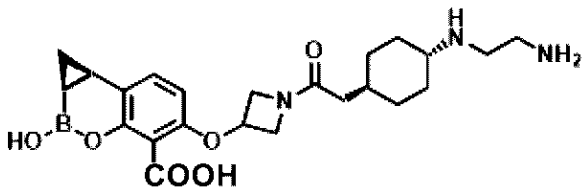
[Chemical Formula 951]



,

(1aS,7bR)-5-{[1-({(1s,4s)-4-[(2-aminoethyl)amino]cyclohexyl}acetyl)azetidin-3-yl]oxy}-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

[Chemical Formula 952]

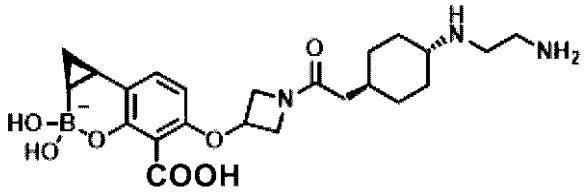


,

(2R,4S)-9-[1-({(1s,4s)-4-[(2-aminoethyl)amino]cyclohexyl}acetyl)azetidin-3-yl]oxy-5,5-

dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.0^{2,4}]undeca-1(7),8,10-triene-8-carboxylate

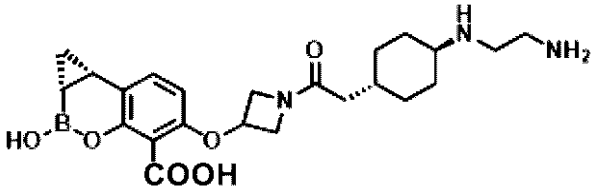
[Chemical Formula 953]



,

(1aR,7bS)-5-{[1-({(1r,4r)-4-[(2-aminoethyl)amino]cyclohexyl}acetyl)azetidin-3-yl]oxy}-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

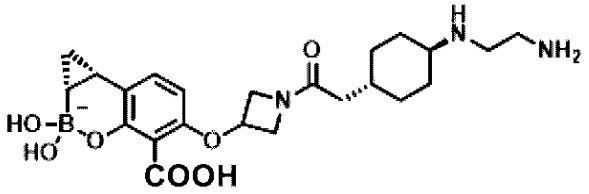
[Chemical Formula 954]



,

(2S,4R)-9-[1-({(1r,4r)-4-[(2-aminoethyl)amino]cyclohexyl}acetyl)azetidin-3-yl]oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.0^{2,4}]undeca-1(7),8,10-triene-8-carboxylate

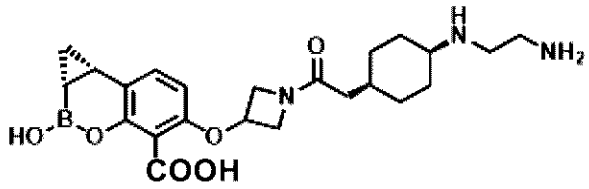
[Chemical Formula 955]



,

(1aR,7bS)-5-{[1-({(1s,4r)-4-[(2-aminoethyl)amino]cyclohexyl}acetyl)azetidin-3-yl]oxy}-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

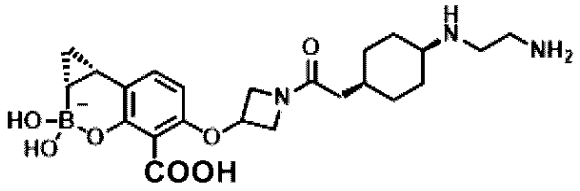
[Chemical Formula 956]



,

(2S,4R)-9-[1-({(1s,4r)-4-[(2-aminoethyl)amino]cyclohexyl}acetyl)azetidin-3-yl]oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(7),8,10-triene-8-carboxylate

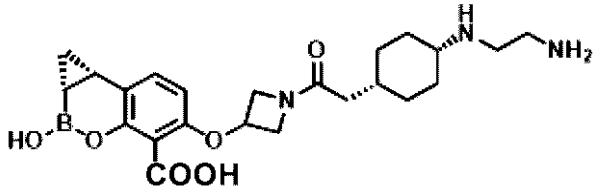
[Chemical Formula 957]



,

(1aR,7bS)-5-{[1-({(1r,4s)-4-[(2-aminoethyl)amino]cyclohexyl}acetyl)azetidin-3-yl]oxy}-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

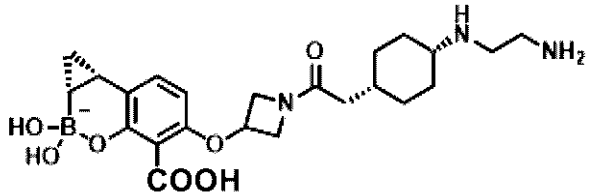
[Chemical Formula 958]



,

(2S,4R)-9-[1-({(1r,4s)-4-[(2-aminoethyl)amino]cyclohexyl}acetyl)azetidin-3-yl]oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(7),8,10-triene-8-carboxylate

[Chemical Formula 959]

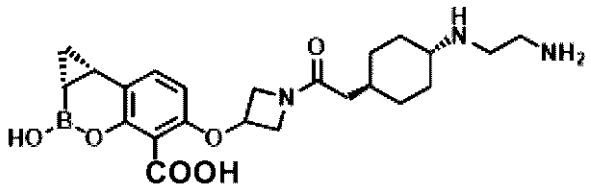


,

(1aR,7bS)-5-{[1-({(1s,4s)-4-[(2-aminoethyl)amino]cyclohexyl}acetyl)azetidin-3-yl]oxy}-2-hydroxy-

1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

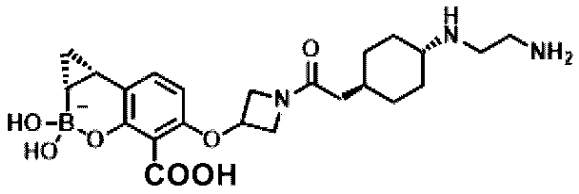
[Chemical Formula 960]



,

(2S,4R)-9-[1-({(1s,4s)-4-[(2-aminoethyl)amino]cyclohexyl}acetyl)azetidin-3-yl]oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(7),8,10-triene-8-carboxylate

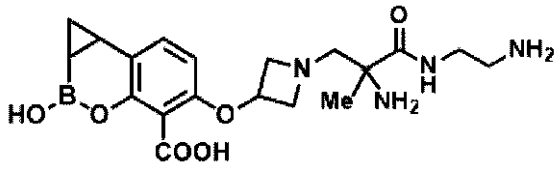
[Chemical Formula 961]



,

5-[(1-{2-amino-3-[(2-aminoethyl)amino]-2-methyl-3-oxopropyl}azetidin-3-yl)oxy]-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

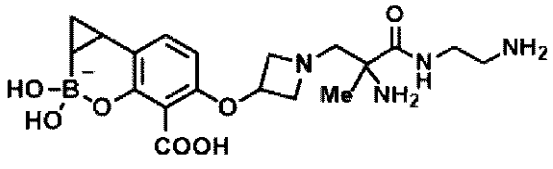
[Chemical Formula 962]



,

9-(1-{2-amino-3-[(2-aminoethyl)amino]-2-methyl-3-oxopropyl}azetidin-3-yl)oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(7),8,10-triene-8-carboxylate

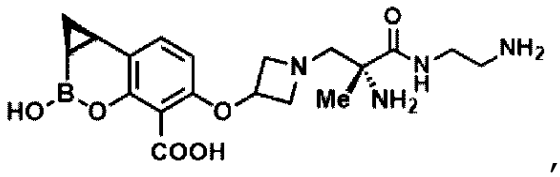
[Chemical Formula 963]



,

(1aS,7bR)-5-[(1-{(2R)-2-amino-3-[(2-aminoethyl)amino]-2-methyl-3-oxopropyl}azetidin-3-yl)oxy]-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

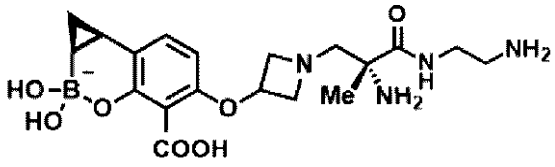
[Chemical Formula 964]



,

(2R,4S)-9-(1-{(2R)-2-amino-3-[(2-aminoethyl)amino]-2-methyl-3-oxopropyl}azetidin-3-yl)oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(7),8,10-triene-8-carboxylate

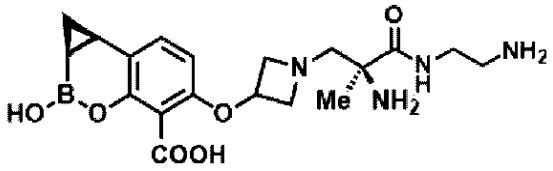
[Chemical Formula 965]



,

(1aS,7bR)-5-[(1-{(2S)-2-amino-3-[(2-aminoethyl)amino]-2-methyl-3-oxopropyl}azetidin-3-yl)oxy]-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

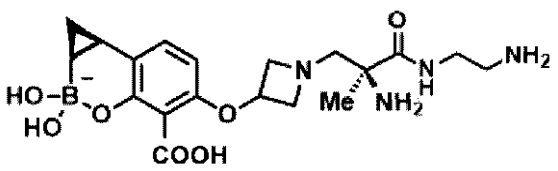
[Chemical Formula 966]



,

(2R,4S)-9-(1-{(2S)-2-amino-3-[(2-aminoethyl)amino]-2-methyl-3-oxopropyl}azetidin-3-yl)oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(7),8,10-triene-8-carboxylate

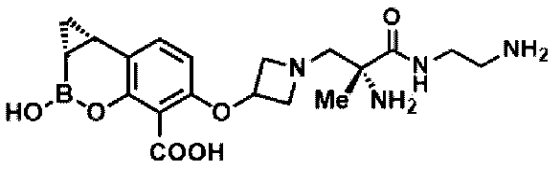
[Chemical Formula 967]



,

(1aR,7bS)-5-[(1-{(2R)-2-amino-3-[(2-aminoethyl)amino]-2-methyl-3-oxopropyl}azetidin-3-yl)oxy]-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

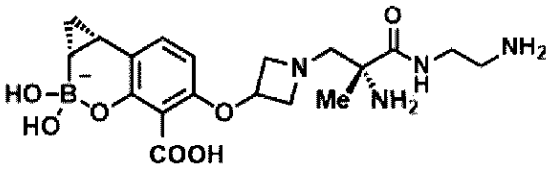
[Chemical Formula 968]



,

(2S,4R)-9-(1-{(2R)-2-amino-3-[(2-aminoethyl)amino]-2-methyl-3-oxopropyl}azetidin-3-yl)oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.0^{2,4}]undeca-1(7),8,10-triene-8-carboxylate

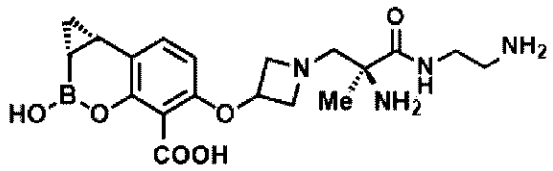
[Chemical Formula 969]



,

(1aR,7bS)-5-[(1-{(2S)-2-amino-3-[(2-aminoethyl)amino]-2-methyl-3-oxopropyl}azetidin-3-yl)oxy]-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

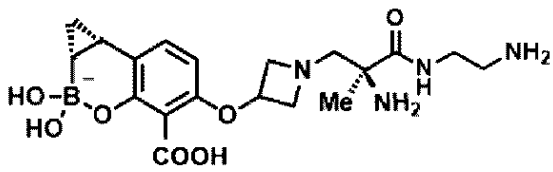
[Chemical Formula 970]



,

(2S,4R)-9-(1-{(2S)-2-amino-3-[(2-aminoethyl)amino]-2-methyl-3-oxopropyl}azetidin-3-yl)oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.0^{2,4}]undeca-1(7),8,10-triene-8-carboxylate

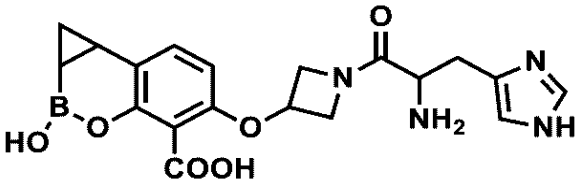
[Chemical Formula 971]



,

5-[(1-histidylazetidin-3-yl)oxy]-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

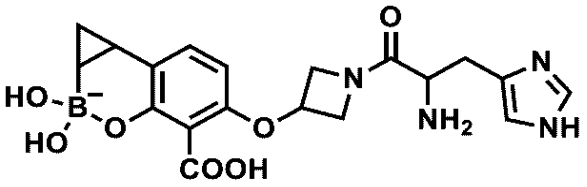
[Chemical Formula 972]



,

9-(1-histidylazetidin-3-yl)oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(7),8,10-triene-8-carboxylic acid

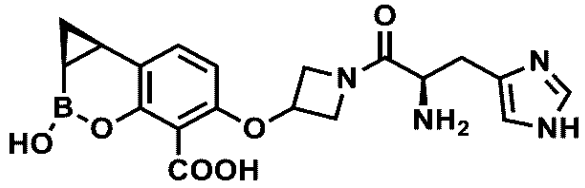
[Chemical Formula 973]



,

(1aS,7bR)-5-[(1-D-histidylazetidin-3-yl)oxy]-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

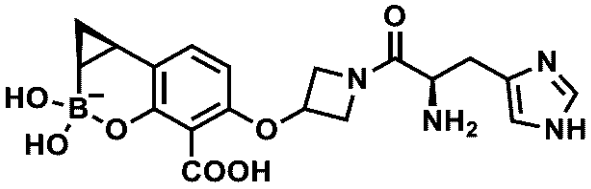
[Chemical Formula 974]



,

(2R,4S)-9-(1-D-histidylazetidin-3-yl)oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(7),8,10-triene-8-carboxylic acid

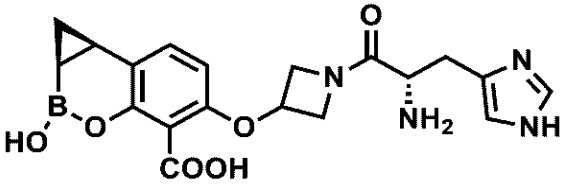
[Chemical Formula 975]



,

(1aS,7bR)-5-[(1-L-histidylazetidin-3-yl)oxy]-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

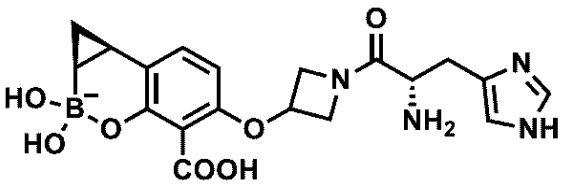
[Chemical Formula 976]



,

(2R,4S)-9-(1-L-histidylazetidin-3-yl)oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.0^{2,4}]undeca-1(7),8,10-triene-8-carboxylic acid

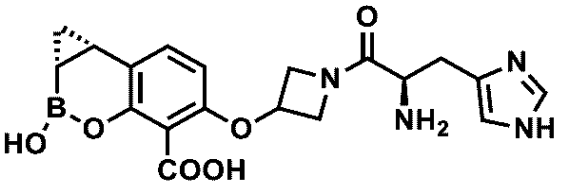
[Chemical Formula 977]



,

(1aR,7bS)-5-[(1-D-histidylazetidin-3-yl)oxy]-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

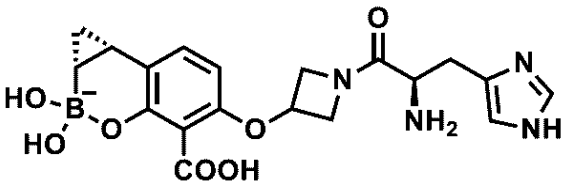
[Chemical Formula 978]



,

(2S,4R)-9-(1-D-histidylazetidin-3-yl)oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.0^{2,4}]undeca-1(7),8,10-triene-8-carboxylic acid

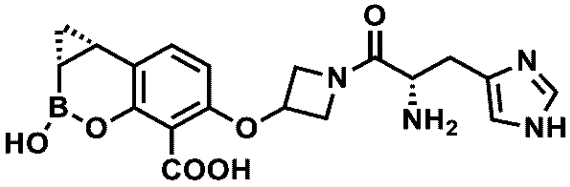
[Chemical Formula 979]



,

(1aR,7bS)-5-[(1-L-histidylazetidin-3-yl)oxy]-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

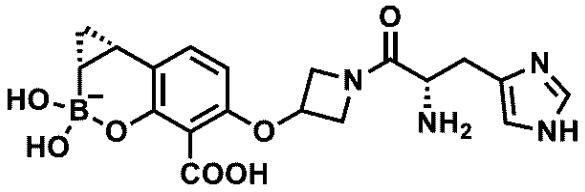
[Chemical Formula 980]



,

(2S,4R)-9-(1-L-histidylazetidin-3-yl)oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.0^{2,4}]undeca-1(7),8,10-triene-8-carboxylic acid

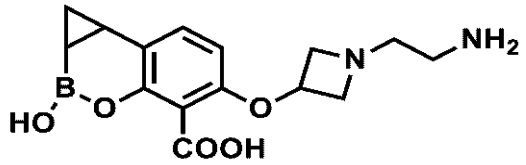
[Chemical Formula 981]



,

5-{[1-(2-aminoethyl)azetidin-3-yl]oxy}-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

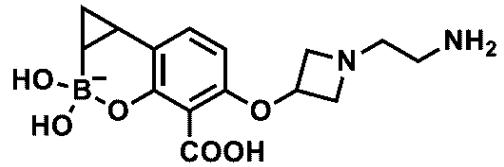
[Chemical Formula 982]



,

9-[1-(2-aminoethyl)azetidin-3-yl]oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(7),8,10-triene-8-carboxylic acid

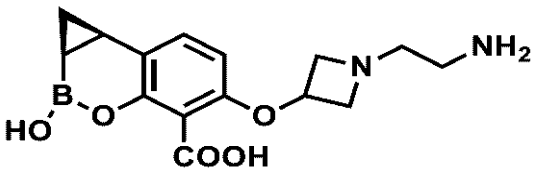
[Chemical Formula 983]



,

(1aS,7bR)-5-{[1-(2-aminoethyl)azetidin-3-yl]oxy}-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

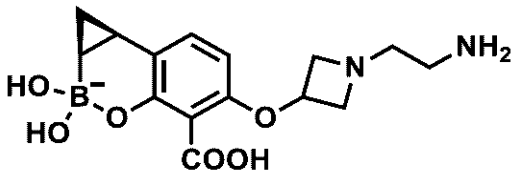
[Chemical Formula 984]



,

(2R,4S)-9-[1-(2-aminoethyl)azetidin-3-yl]oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(7),8,10-triene-8-carboxylic acid

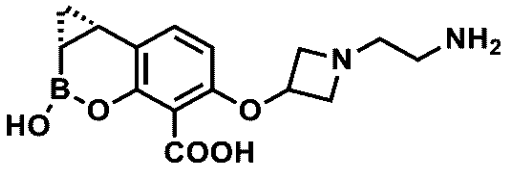
[Chemical Formula 985]



,

(1aR,7bS)-5-{[1-(2-aminoethyl)azetidin-3-yl]oxy}-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

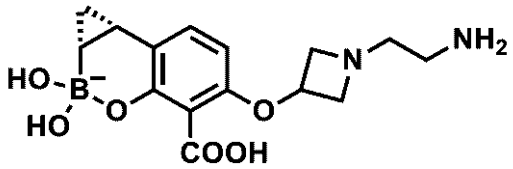
[Chemical Formula 986]



,

(2S,4R)-9-[1-(2-aminoethyl)azetidin-3-yl]oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(7),8,10-triene-8-carboxylic acid

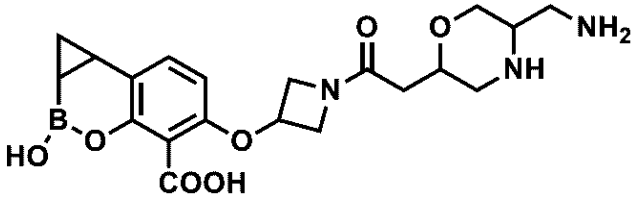
[Chemical Formula 987]



,

5-[(1-{[5-(aminomethyl)morpholin-2-yl]acetyl}azetidin-3-yl)oxy]-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

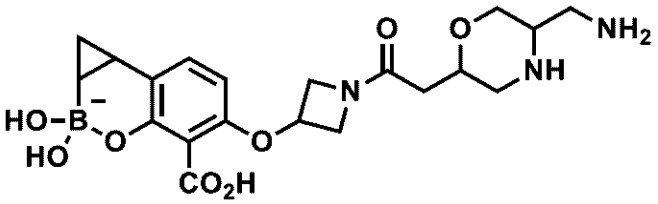
[Chemical Formula 988]



,

9-(1-{[5-(aminomethyl)morpholin-2-yl]acetyl}azetidin-3-yl)oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(7),8,10-triene-8-carboxylic acid

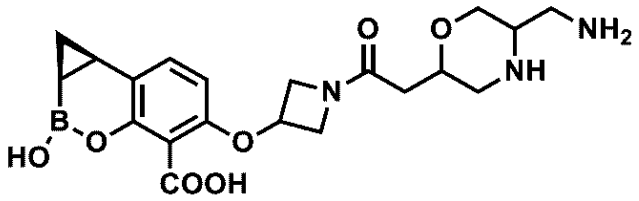
[Chemical Formula 989]



,

(1aS,7bR)-5-[(1-{[5-(aminomethyl)morpholin-2-yl]acetyl}azetidin-3-yl)oxy]-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

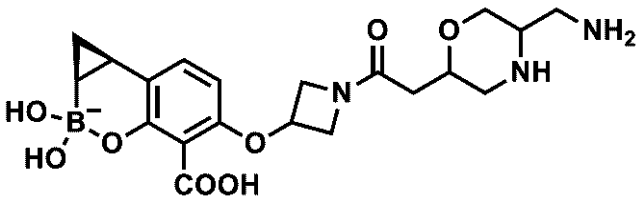
[Chemical Formula 990]



,

(2R,4S)-9-(1-{[5-(aminomethyl)morpholin-2-yl]acetyl}azetidin-3-yl)oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(7),8,10-triene-8-carboxylic acid

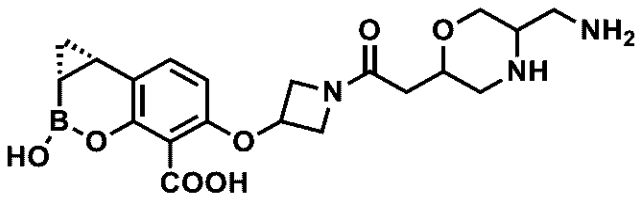
[Chemical Formula 991]



,

(1aR,7bS)-5-[(1-{[5-(aminomethyl)morpholin-2-yl]acetyl}azetidin-3-yl)oxy]-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

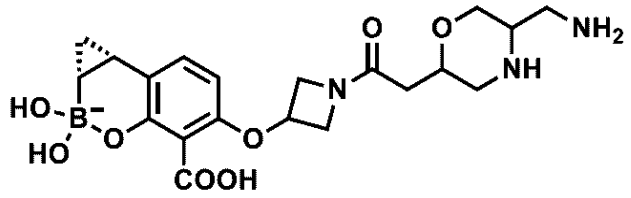
[Chemical Formula 992]



,

(2S,4R)-9-(1-{[5-(aminomethyl)morpholin-2-yl]acetyl}azetidin-3-yl)oxy-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(7),8,10-triene-8-carboxylic acid

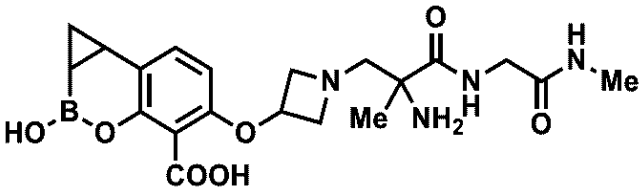
[Chemical Formula 993]



,

5-({1-[2-amino-2-methyl-3-{[2-(methylamino)-2-oxoethyl]amino}-3-oxopropyl]azetidin-3-yl}oxy)-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

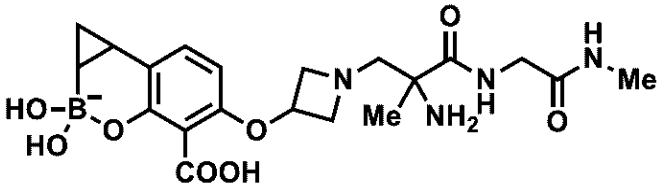
[Chemical Formula 994]



,

9-({1-[2-amino-2-methyl-3-{[2-(methylamino)-2-oxoethyl]amino}-3-oxopropyl]azetidin-3-yl}oxy)-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(7),8,10-triene-8-carboxylic acid

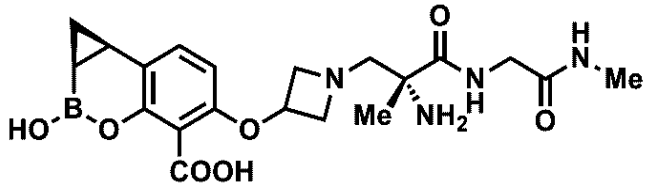
[Chemical Formula 995]



,

(1aS,7bR)-5-({1-[(2R)-2-amino-2-methyl-3-{[2-(methylamino)-2-oxoethyl]amino}-3-oxopropyl]azetidin-3-yl}oxy)-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

[Chemical Formula 996]

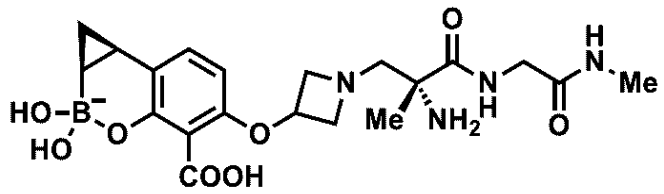


,

(2R,4S)-9-({1-[(2R)-2-amino-2-methyl-3-{[2-(methylamino)-2-oxoethyl]amino}-3-oxopropyl]azetidin-3-yl}oxy)-5,5-dihydroxy-6-

oxa-5-boranuidatricyclo[5.4.0.0^{2,4}]undeca-1(7),8,10-triene-8-carboxylic acid

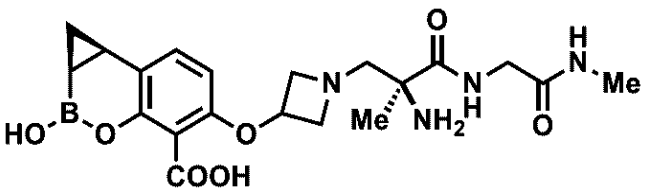
[Chemical Formula 997]



,

(1aS,7bR)-5-({1-[(2S)-2-amino-2-methyl-3-{[2-(methylamino)-2-oxoethyl]amino}-3-oxopropyl]azetidin-3-yl}oxy)-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

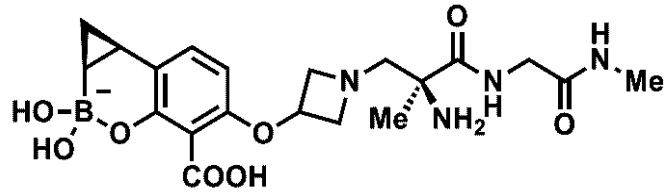
[Chemical Formula 998]



,

(2R,4S)-9-({1-[(2S)-2-amino-2-methyl-3-{[2-(methylamino)-2-oxoethyl]amino}-3-oxopropyl]azetidin-3-yl}oxy)-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.0^{2,4}]undeca-1(7),8,10-triene-8-carboxylic acid

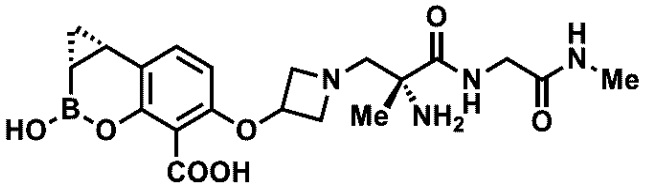
[Chemical Formula 999]



,

(1aR,7bS)-5-({1-[(2R)-2-amino-2-methyl-3-{[2-(methylamino)-2-oxoethyl]amino}-3-oxopropyl]azetidin-3-yl}oxy)-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

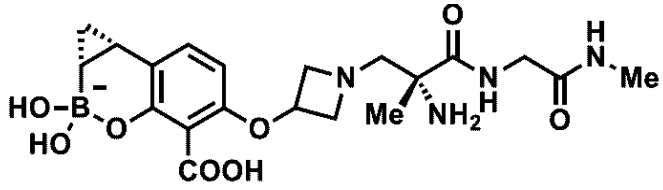
[Chemical Formula 1000]



,

(2S,4R)-9-({1-[(2R)-2-amino-2-methyl-3-{[2-(methylamino)-2-oxoethyl]amino}-3-oxopropyl]azetidin-3-yl}oxy)-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.0^{2,4}]undeca-1(7),8,10-triene-8-carboxylic acid

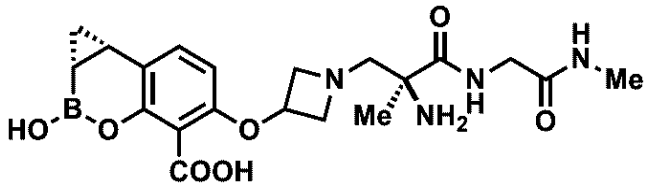
[Chemical Formula 1001]



,

(1aR,7bS)-5-({1-[(2S)-2-amino-2-methyl-3-{[2-(methylamino)-2-oxoethyl]amino}-3-oxopropyl]azetidin-3-yl}oxy)-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

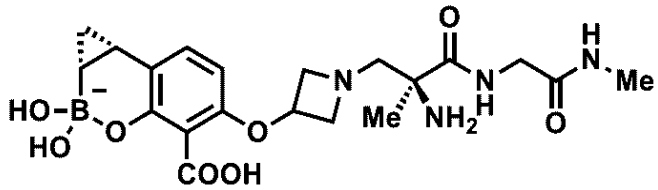
[Chemical Formula 1002]



,

(2S,4R)-9-({1-[(2S)-2-amino-2-methyl-3-{[2-(methylamino)-2-oxoethyl]amino}-3-oxopropyl]azetidin-3-yl}oxy)-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.0^{2,4}]undeca-1(7),8,10-triene-8-carboxylic acid

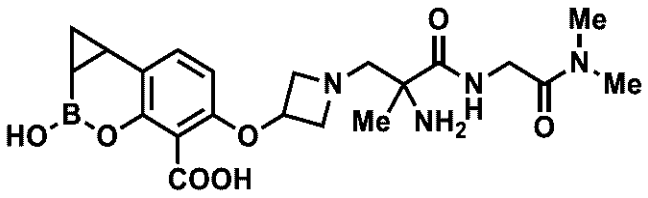
[Chemical Formula 1003]



,

5-({1-[2-amino-3-{[2-(dimethylamino)-2-oxoethyl]amino}-2-methyl-3-oxopropyl]azetidin-3-yl}oxy)-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

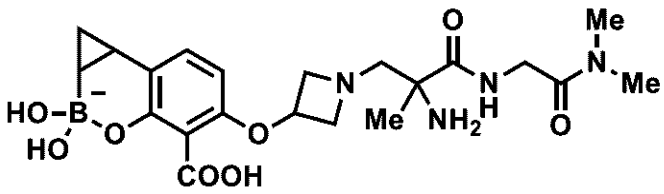
[Chemical Formula 1004]



,

9-({1-[2-amino-3-{[2-(dimethylamino)-2-oxoethyl]amino}-2-methyl-3-oxopropyl]azetidin-3-yl}oxy)-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(7),8,10-triene-8-carboxylic acid

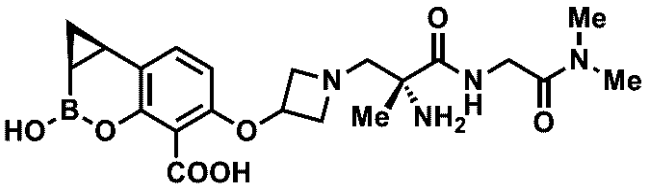
[Chemical Formula 1005]



,

(1aS,7bR)-5-({1-[(2R)-2-amino-3-{[2-(dimethylamino)-2-oxoethyl]amino}-2-methyl-3-oxopropyl]azetidin-3-yl}oxy)-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

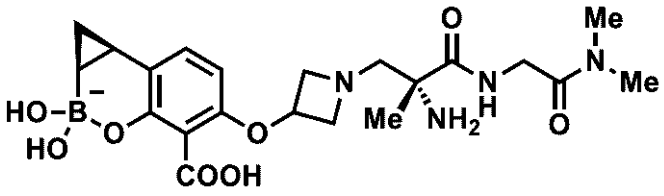
[Chemical Formula 1006]



,

(2R,4S)-9-({1-[(2R)-2-amino-3-{[2-(dimethylamino)-2-oxoethyl]amino}-2-methyl-3-oxopropyl]azetidin-3-yl}oxy)-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(7),8,10-triene-8-carboxylic acid

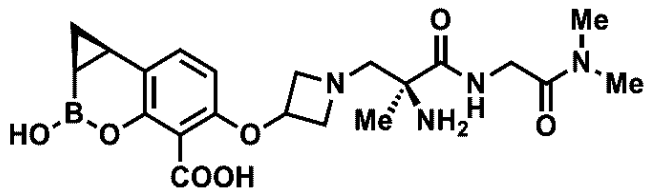
[Chemical Formula 1007]



,

(1aS,7bR)-5-({1-[(2S)-2-amino-3-{[2-(dimethylamino)-2-oxoethyl]amino}-2-methyl-3-oxopropyl]azetidin-3-yl}oxy)-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

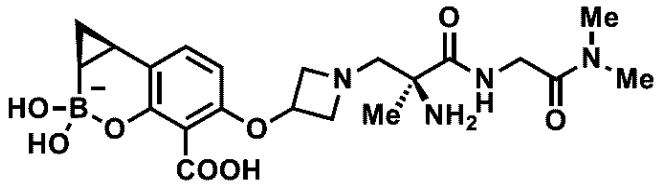
[Chemical Formula 1008]



,

(2R,4S)-9-({1-[(2S)-2-amino-3-{[2-(dimethylamino)-2-oxoethyl]amino}-2-methyl-3-oxopropyl]azetidin-3-yl}oxy)-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(7),8,10-triene-8-carboxylic acid

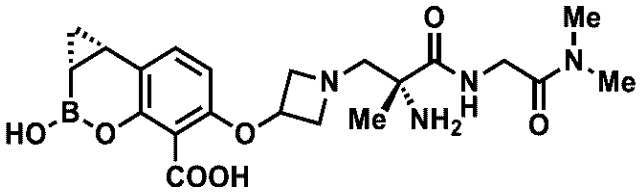
[Chemical Formula 1009]



,

(1aR,7bS)-5-({1-[(2R)-2-amino-3-{[2-(dimethylamino)-2-oxoethyl]amino}-2-methyl-3-oxopropyl]azetidin-3-yl}oxy)-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

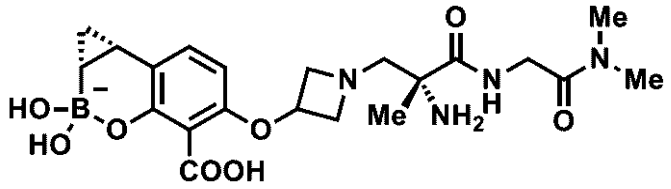
[Chemical Formula 1010]



,

(2S,4R)-9-({1-[(2R)-2-amino-3-{[2-(dimethylamino)-2-oxoethyl]amino}-2-methyl-3-oxopropyl]azetidin-3-yl}oxy)-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(7),8,10-triene-8-carboxylic acid

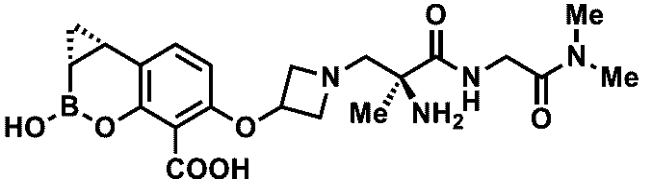
[Chemical Formula 1011]



,

(1aR,7bS)-5-({1-[(2S)-2-amino-3-{[2-(dimethylamino)-2-oxoethyl]amino}-2-methyl-3-oxopropyl]azetidin-3-yl}oxy)-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

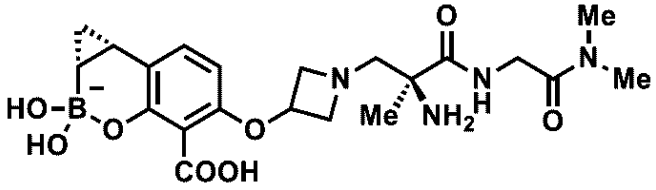
[Chemical Formula 1012]



,

(2S,4R)-9-({1-[(2S)-2-amino-3-{[2-(dimethylamino)-2-oxoethyl]amino}-2-methyl-3-oxopropyl]azetidin-3-yl}oxy)-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(7),8,10-triene-8-carboxylic acid

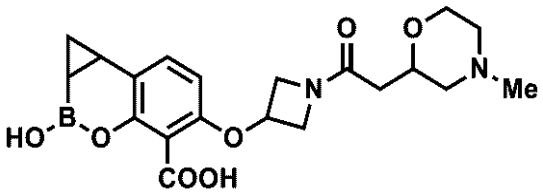
[Chemical Formula 1013]



,

2-hydroxy-5-[(1-{[4-methylmorpholin-2-yl]acetyl}azetidin-3-yl)oxy]-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

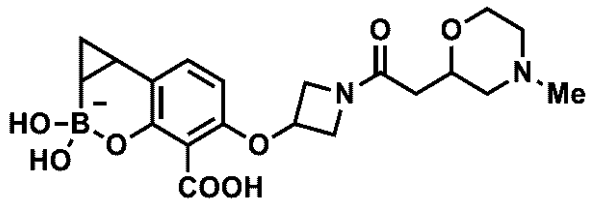
[Chemical Formula 1014]



,

5,5-dihydroxy-9-[(1-{[(4-methylmorpholin-2-yl]acetyl}azetidin-3-yl)oxy]-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(11),7,9-triene-8-carboxylic acid

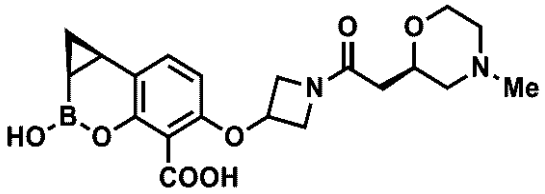
[Chemical Formula 1015]



,

(1aS,7bR)-2-hydroxy-5-[(1-{[(2R)-4-methylmorpholin-2-yl]acetyl}azetidin-3-yl)oxy]-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

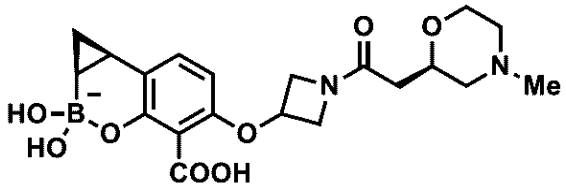
[Chemical Formula 1016]



,

(2R,4S)-5,5-dihydroxy-9-[(1-{[(2R)-4-methylmorpholin-2-yl]acetyl}azetidin-3-yl)oxy]-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(11),7,9-triene-8-carboxylic acid

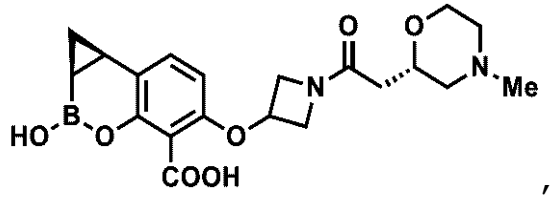
[Chemical Formula 1017]



,

(1aS,7bR)-2-hydroxy-5-[(1-{[(2S)-4-methylmorpholin-2-yl]acetyl}azetidin-3-yl)oxy]-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

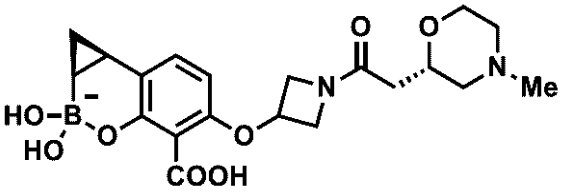
[Chemical Formula 1018]



,

(2R,4S)-5,5-dihydroxy-9-[(1-{[(2S)-4-methylmorpholin-2-yl]acetyl}azetidin-3-yl)oxy]-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(11),7,9-triene-8-carboxylic acid

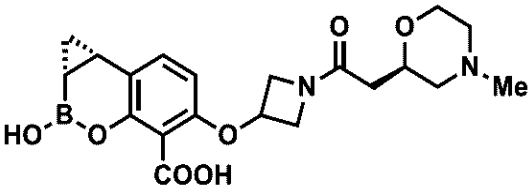
[Chemical Formula 1019]



,

(1aR,7bS)-2-hydroxy-5-[(1-{[(2R)-4-methylmorpholin-2-yl]acetyl}azetidin-3-yl)oxy]-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

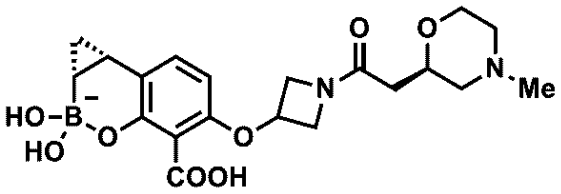
[Chemical Formula 1020]



,

(2S,4R)-5,5-dihydroxy-9-[(1-{[(2R)-4-methylmorpholin-2-yl]acetyl}azetidin-3-yl)oxy]-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(11),7,9-triene-8-carboxylic acid

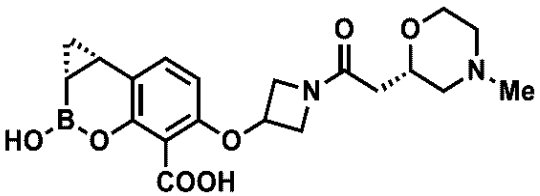
[Chemical Formula 1021]



,

(1aR,7bS)-2-hydroxy-5-[(1-{[(2S)-4-methylmorpholin-2-yl]acetyl}azetidin-3-yl)oxy]-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

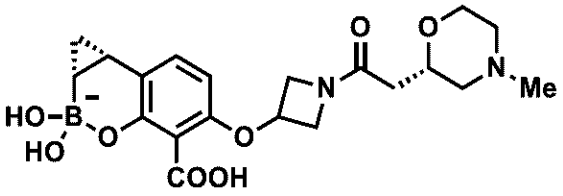
[Chemical Formula 1022]



,

(2S,4R)-5,5-dihydroxy-9-[(1-{[(2R)-4-methylmorpholin-2-yl]acetyl}azetidin-3-yl)oxy]-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(11),7,9-triene-8-carboxylic acid

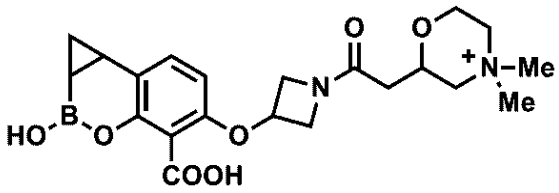
[Chemical Formula 1023]



,

5-[(1-{[4,4-dimethylmorpholin-4-ium-2-yl]acetyl}azetidin-3-yl)oxy]-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylate

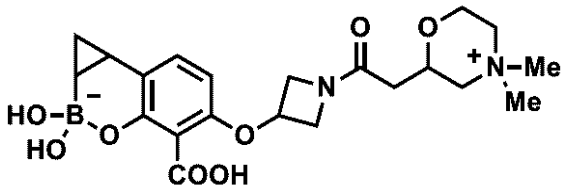
[Chemical Formula 1024]



,

9-[(1-{[4,4-dimethylmorpholin-4-ium-2-yl]acetyl}azetidin-3-yl)oxy]-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(7),8,10-triene-8-carboxylic acid

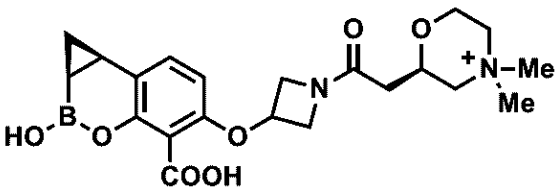
[Chemical Formula 1025]



,

(1aS,7bR)-5-[(1-{[(2R)-4,4-dimethylmorpholin-4-ium-2-yl]acetyl}azetidin-3-yl)oxy]-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylate

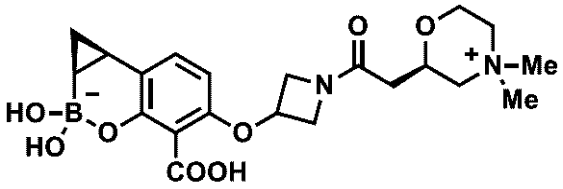
[Chemical Formula 1026]



,

(2R,4S)-9-[(1-{[(2R)-4,4-dimethylmorpholin-4-ium-2-yl]acetyl}azetidin-3-yl)oxy]-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(7),8,10-triene-8-carboxylic acid

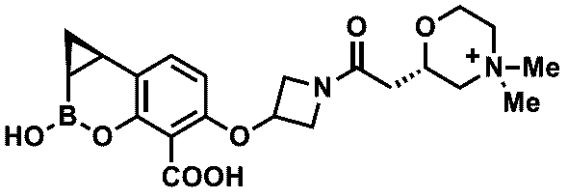
[Chemical Formula 1027]



,

(1aS,7bR)-5-[(1-{[(2S)-4,4-dimethylmorpholin-4-ium-2-yl]acetyl}azetidin-3-yl)oxy]-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylate

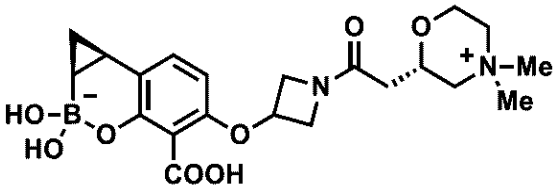
[Chemical Formula 1028]



,

(2R,4S)-9-[(1-{[(2S)-4,4-dimethylmorpholin-4-ium-2-yl]acetyl}azetidin-3-yl)oxy]-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(7),8,10-triene-8-carboxylic acid

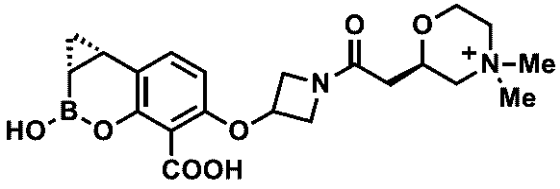
[Chemical Formula 1029]



,

(1aR,7bS)-5-[(1-{[(2R)-4,4-dimethylmorpholin-4-ium-2-yl]acetyl}azetidin-3-yl)oxy]-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylate

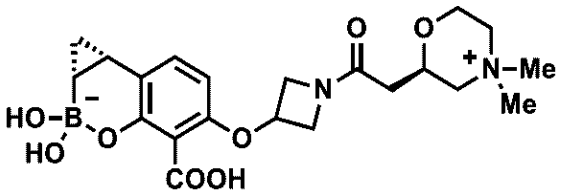
[Chemical Formula 1030]



,

(2S,4R)-9-[(1-{[(2R)-4,4-dimethylmorpholin-4-ium-2-yl]acetyl}azetidin-3-yl)oxy]-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(7),8,10-triene-8-carboxylic acid

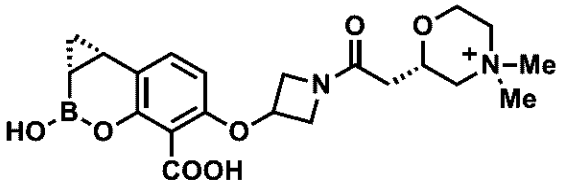
[Chemical Formula 1031]



,

(1aR,7bS)-5-[(1-{[(2S)-4,4-dimethylmorpholin-4-ium-2-yl]acetyl}azetidin-3-yl)oxy]-2-hydroxy-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylate

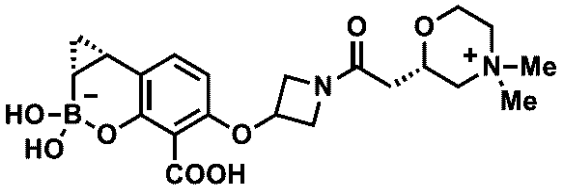
[Chemical Formula 1032]



,

(2S,4R)-9-[(1-{[(2S)-4,4-dimethylmorpholin-4-ium-2-yl]acetyl}azetidin-3-yl)oxy]-5,5-dihydroxy-6-oxa-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(7),8,10-triene-8-carboxylic acid

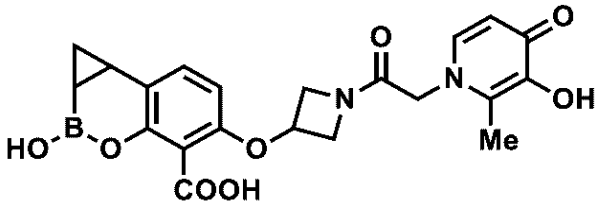
[Chemical Formula 1033]



,

~~(1aR,7bS)-2-hydroxy-5-({1-[(3-hydroxy-2-methyl-4-oxopyridin-1(4H)-yl)acetyl]azetidin-3-yl}oxy)-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid~~ 2-hydroxy-5-({1-[(3-hydroxy-2-methyl-4-oxopyridin-1(4H)-yl)acetyl]azetidin-3-yl}oxy)-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

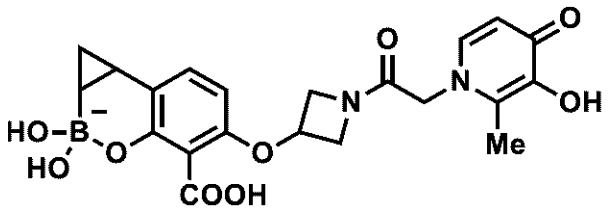
[Chemical Formula 1034]



,

5,5-dihydroxy-9-({1-[(3-hydroxy-2-methyl-4-oxopyridin-1(4H)-yl)acetyl]azetidin-3-yl}oxy)-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(11),7,9-triene-8-carboxylic acid

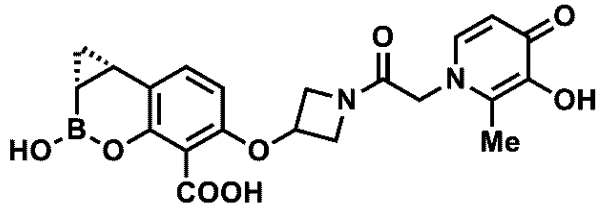
[Chemical Formula 1035]



,

(1aR,7bS)-2-hydroxy-5-({1-[(3-hydroxy-2-methyl-4-oxopyridin-1(4H)-yl)acetyl]azetidin-3-yl}oxy)-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

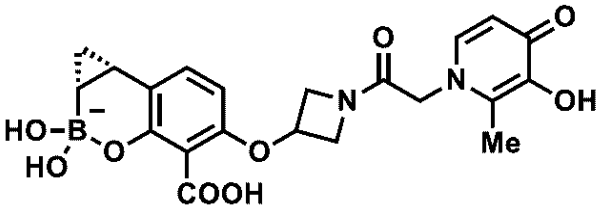
[Chemical Formula 1036]



,

(2S,4R)-5,5-dihydroxy-9-({1-[(3-hydroxy-2-methyl-4-oxopyridin-1(4H)-yl)acetyl]azetidin-3-yl}oxy)-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(11),7,9-triene-8-carboxylic acid

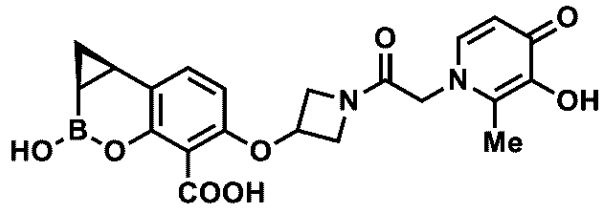
[Chemical Formula 1037]



,

(1aS,7bR)-2-hydroxy-5-({1-[(3-hydroxy-2-methyl-4-oxopyridin-1(4H)-yl)acetyl]azetidin-3-yl}oxy)-1,1a,2,7b-tetrahydrocyclopropa[c][1,2]benzoxaborinine-4-carboxylic acid

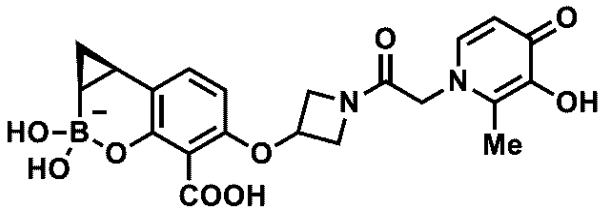
[Chemical Formula 1038]



, and

(2R,4S)-5,5-dihydroxy-9-({1-[(3-hydroxy-2-methyl-4-oxopyridin-1(4H)-yl)acetyl]azetidin-3-yl}oxy)-5-boranuidatricyclo[5.4.0.$0^{2,4}$]undeca-1(11),7,9-triene-8-carboxylic acid

[Chemical Formula 1039]

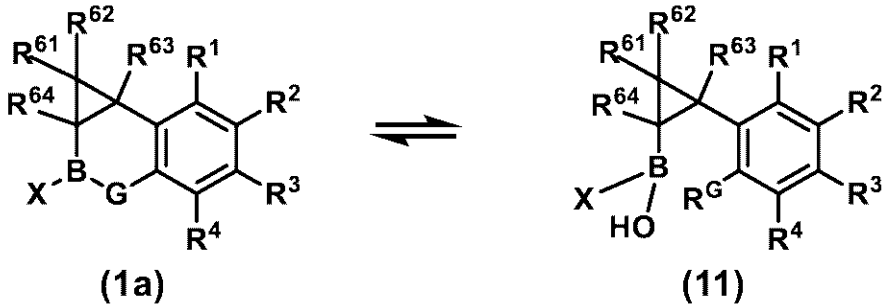


.

~~[Claim 103]~~

47. A compound represented by formula (11):

[Chemical Formula 1040]



(1a) (11)

or a pharmaceutically acceptable salt thereof,

wherein R^G is a hydroxyl group, a thiol group, or $-NHR^{a1}$,

G is an oxygen atom, a sulfur atom, or $-NR^{a1}-$,

X is a hydroxyl group, an optionally substituted alkoxy group, or $-NR^{a2}R^{b1}$,

R^{a1}, R^{a2}, and R^{b1} are the same or different, each independently a hydrogen atom, a hydroxyl group, an optionally substituted hydrocarbyl group, or an optionally substituted heterohydrocarbyl group,

wherein R^{a2} and R^{b1} together may form an optionally substituted nitrogen-containing non-aryl heterocycle,

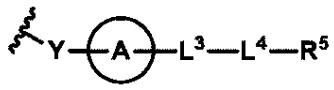
L^1 is a single bond, an oxygen atom, a sulfur atom, -SO-, -SO_2-, an optionally substituted hydrocarbylene group, or an optionally substituted heterohydrocarbylene group,

L^2 is a single bond or an optionally substituted hydrocarbylene group,

Z is a hydrogen atom, a hydroxyl group, an optionally substituted hydrocarbyl group, or an optionally substituted heterohydrocarbyl group,

one of R^1, R^2, and R^3 is represented by formula (2):

[Chemical Formula 734]



(2)

wherein

Y is an oxygen atom, a sulfur atom, or -NR^j-, and R^j is a hydrogen atom, a hydroxyl group, or an optionally substituted hydrocarbyl group,

ring A is an optionally substituted non-aryl heterocycle,

L^3 is an oxygen atom, a sulfur atom, an optionally substituted hydrocarbylene group, an optionally substituted heterohydrocarbylene group, optionally substituted -NH-, optionally substituted -NH-SO_2-, -S(=O)-, or -$S(=O)_2$-,

L^4 is a single bond, an optionally substituted hydrocarbylene group, an optionally substituted heterohydrocarbylene group, or -$C(=N-OR^{h1})$-,

R^{h1} is

1) a hydrogen atom,

2) a C_{1-6} alkyl group,

3) a C_{3-10} alicyclic group,

4) C_{6-10} aryl,

5) 5- or 6-membered heteroaryl, or

6) a 4- to 10-membered non-aryl heterocycle,

(wherein each substituent from 2) to 6) is optionally substituted),

R^5 is a hydrogen atom, a hydroxyl group, an optionally substituted hydrocarbyl group, an optionally substituted heterohydrocarbyl group, optionally substituted -NHOH, a sulfo group (sulfonic acid group), optionally substituted $-SO_2H$, optionally substituted $-SO_2-NH_2$, optionally substituted -S(=O)(=NH)H, optionally substituted $-NH-SO_2-H$, optionally substituted $-NH-SO_2-NH_2$, optionally substituted $-N=S(=O)H_2$, or optionally substituted $-NH_2$,

the remaining two (without the structure of formula (2) among R^1, R^2, and R^3) are the same or different, each independently a hydrogen atom, halogen, a hydroxyl group, an optionally substituted hydrocarbyl group, or an optionally substituted heterohydrocarbyl group,

R^4 is

1) $-C(=O)R^8$,

2) $-SO_2-L^6-R^8$,

(wherein R^8 in 1) and 2) is a hydroxyl group, an optionally substituted hydrocarbyl group, or an optionally substituted heterohydrocarbyl group, and L^6 is a single bond or an optionally substituted hydrocarbylene group),

3) $-NR^{a4}R^{b3}$,

4) $-B(OR^{m1})_2$,

5) $-PO(OR^{m1})(OR^{m2})$,

6) optionally substituted heteroaryl,

7) an optionally substituted non-aryl heterocycle, or

8) a bioisostere of one of 1) to 7),

(wherein the formulas of 1), 2), 4), 5), and 6) include a carboxylic acid isostere, and 8) may include them in duplicates),

R^{a4} and R^{b3} are the same or different, each independently having the same definition as R^{a1}, R^{a2}, and R^{b1}, wherein a combination of R^{a4} and R^{b3}, when attached to the same nitrogen atom, together may

form an optionally substituted nitrogen-containing non-aryl heterocycle,

R^{m1} is a hydrogen atom or an optionally substituted hydrocarbyl group,

wherein if R^{m1} is attached to a boron atom via an oxygen atom, two R^{m1}, as alkylene, together with the boron atom and two oxygen atoms, may form a non-aryl heterocycle (wherein an alkylene moiety is optionally substituted in the non-aryl heterocycle),

R^{m2} is a hydrogen atom or an optionally substituted hydrocarbyl group, and

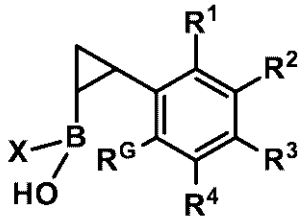
R^{61}, R^{62}, R^{63}, and R^{64} are each independently a hydrogen atom, halogen, an optionally substituted alkyl group, or $-L^1-L^2-Z$

~~[R^{a1}, X, R^1, R^2, R^3, R^4, R^{61}, R^{62}, R^{63}, and R^{64} are defined the same as the definition according to any of claims 1 to 16, and formula (1a) is defined the same as claim 1 or 2~~].

~~[Claim 104]~~

48. The compound or the pharmaceutically acceptable salt thereof according to claim ~~103~~47, wherein the compound of formula (11) is represented by formula (12):

[Chemical Formula 1041]



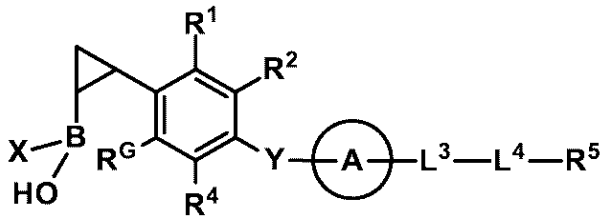
(12)

wherein X, R^1, R^2, R^3, and R^4 are defined the same as the definition according to claim 47~~17 or 18~~.

~~[Claim 105]~~

49. The compound or the pharmaceutically acceptable salt thereof according to claim ~~103~~ 47~~or 104~~, wherein the compound of formula (11) or formula (12) is represented by formula (13):

[Chemical Formula 1042]



(13)

wherein X, Y, ring A, L^3, L^4, R^1, R^2, R^4, and R^5 are defined the same as the definition according to ~~any of~~ claim~~s~~ 47~~19 to 23 and 29 to 32~~.

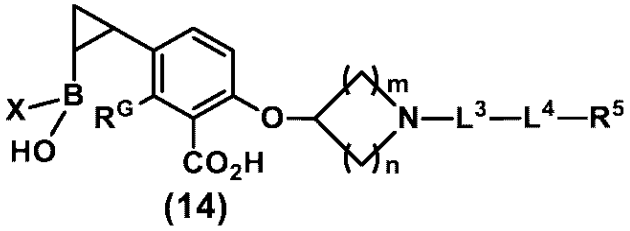
~~[Claim 106]~~

50. The compound or the pharmaceutically acceptable salt thereof according to claim ~~105~~49, wherein X and R^G are hydroxyl groups, R^4 is a carboxyl group, and ring A is an optionally substituted 4- to 6-membered nitrogen-containing non-aryl heterocycle.

~~[Claim 107]~~

51. The compound or the pharmaceutically acceptable salt thereof according to claim ~~103~~ 47~~any one of claims 103 to 106~~, wherein the compound of formula (11), formula (12), or formula (13) is represented by formula (14):

[Chemical Formula 1043]



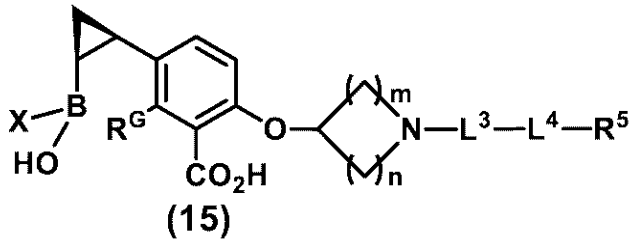
(14)

wherein X, L^3, L^4, m, n, and R^5 are defined the same as the definition according to claim 1~~any one of claims 33 to 64~~.

~~[Claim 108]~~

52. The compound or the pharmaceutically acceptable salt thereof according to claim ~~107~~51, wherein the compound of formula (14) is one of the enantiomers represented by formula (15):

[Chemical Formula 1044]

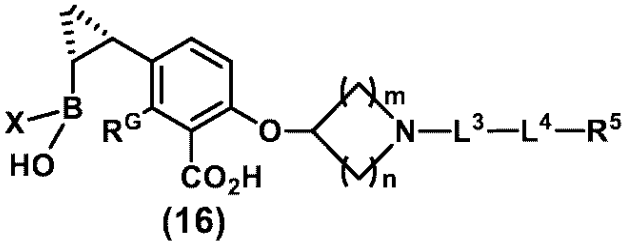


(15)

and

formula (16):

[Chemical Formula 1045]



(16)

wherein X, L^3, L^4, m, n, and R^5 are defined the same as the definition according to claim 1~~any one of claims 33 to 64~~.

~~[Claim 109]~~

~~The compound or the pharmaceutically acceptable salt thereof according to any one of claims 103 to 108, wherein R^G is a hydroxyl group or a thiol group.~~

~~[Claim 110]~~

53. The compound or the pharmaceutically acceptable salt thereof according to claim 47~~any one of claims 103 to 109~~, wherein R^G is a hydroxyl group.

~~[Claim 111]~~

~~The compound or the pharmaceutically acceptable salt thereof according to any one of claims 103 to 110, wherein X is a hydroxyl group or a C_{1-6} alkoxy group.~~]

~~[Claim 112]~~

54. The compound or the pharmaceutically acceptable salt thereof according to claim 47~~any one of claims 103 to 111~~, wherein X is a hydroxyl group.

~~[Claim 113]~~

~~The compound or the pharmaceutically acceptable salt thereof according to any one of claims 107 to 112, wherein m is 1 or 2, n is 1 or 2, and m + n is 2 or 3.~~]

~~[Claim 114]~~

55. The compound or the pharmaceutically acceptable salt thereof according to claim 47~~any one of claims 107 to 113~~, wherein m is 1, and n is 1.

~~[Claim 115]~~

~~The compound or the pharmaceutically acceptable salt thereof according to any one of claims 103 to 114, wherein L^3 is defined the same as the definition according to claim 25 or 26.~~

~~[Claim 116]~~

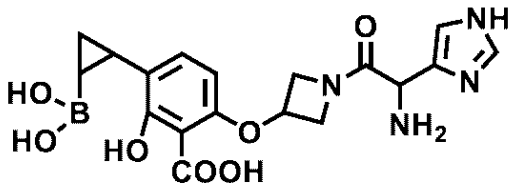
56. The compound or the pharmaceutically acceptable salt thereof according to claim 47~~any one of claims 103 to 115~~, wherein L^4 and R^5 are defined the same as the definition according to ~~any one of~~ claim~~s 27 and 66~~ 27~~to 100~~.

~~[Claim 117]~~

57. The compound or the pharmaceutically acceptable salt thereof according to claim ~~104~~48, selected from the group consisting of the compounds represented by the following names or structural formulas:

6-({1-[amino(1H-imidazol-4-yl)acetyl]azetidin-3-yl}oxy)-3-(2-boronocyclopropyl)-2-hydroxybenzoic acid

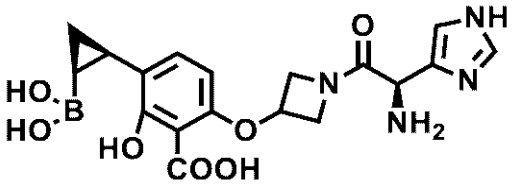
[Chemical Formula 1046]



,

6-({1-[(2R)-2-amino-2-(1H-imidazol-4-yl)acetyl]azetidin-3-yl}oxy)-3-[(1R,2S)-2-boronocyclopropyl]-2-hydroxybenzoic acid

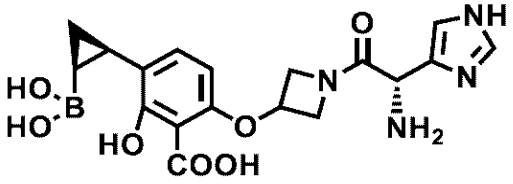
[Chemical Formula 1047]



,

6-({1-[(2S)-2-amino-2-(1H-imidazol-4-yl)acetyl]azetidin-3-yl}oxy)-3-[(1R,2S)-2-boronocyclopropyl]-2-hydroxybenzoic acid

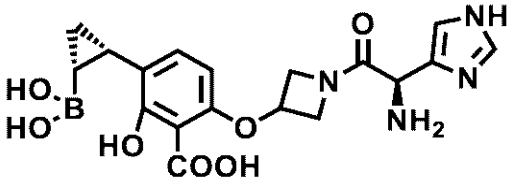
[Chemical Formula 1048]



,

6-({1-[(2R)-2-amino-2-(1H-imidazol-4-yl)acetyl]azetidin-3-yl}oxy)-3-[(1S,2R)-2-boronocyclopropyl]-2-hydroxybenzoic acid

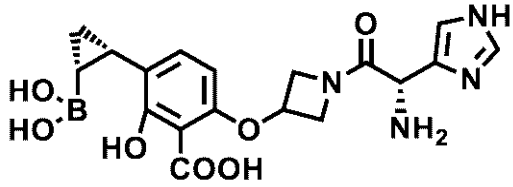
[Chemical Formula 1049]



,

6-({1-[(2S)-2-amino-2-(1H-imidazol-4-yl)acetyl]azetidin-3-yl}oxy)-3-[(1S,2R)-2-boronocyclopropyl]-2-hydroxybenzoic acid

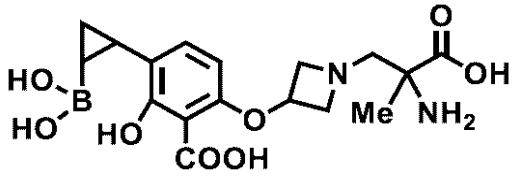
[Chemical Formula 1050]



,

6-({1-(2-amino-2-carboxypropyl)azetidin-3-yl}oxy)-3-(2-boronocyclopropyl)-2-hydroxybenzoic acid

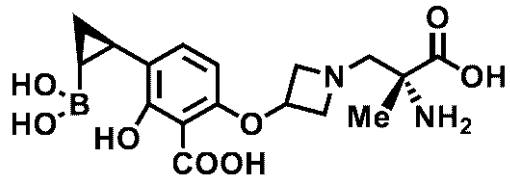
[Chemical Formula 1051]



,

6-({1-[(2R)-2-amino-2-carboxypropyl]azetidin-3-yl}oxy)-3-[(1R,2S)-2-boronocyclopropyl]-2-hydroxybenzoic acid

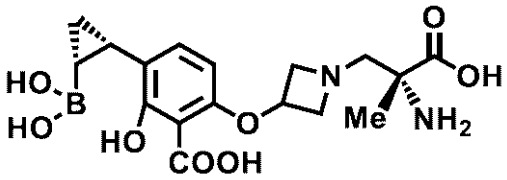
[Chemical Formula 1052]



,

6-({1-[(2R)-2-amino-2-carboxypropyl]azetidin-3-yl}oxy)-3-[(1S,2R)-2-boronocyclopropyl]-2-hydroxybenzoic acid

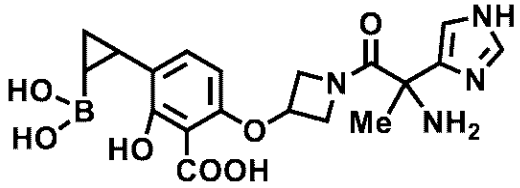
[Chemical Formula 1053]



,

6-({1-[2-amino-2-(1H-imidazol-4-yl)propanoyl]azetidin-3-yl}oxy)-3-(2-boronocyclopropyl)-2-hydroxybenzoic acid

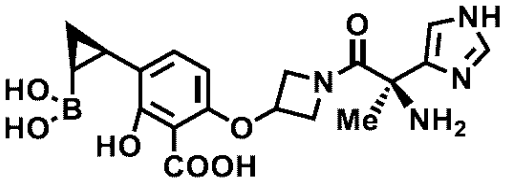
[Chemical Formula 1054]



,

6-({1-[(2R)-2-amino-2-(1H-imidazol-4-yl)propanoyl]azetidin-3-yl}oxy)-3-[(1R,2S)-2-boronocyclopropyl]-2-hydroxybenzoic acid

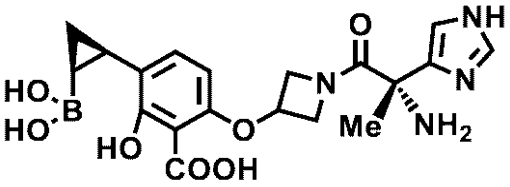
[Chemical Formula 1055]



,

6-({1-[(2S)-2-amino-2-(1H-imidazol-4-yl)propanoyl]azetidin-3-yl}oxy)-3-[(1R,2S)-2-boronocyclopropyl]-2-hydroxybenzoic acid

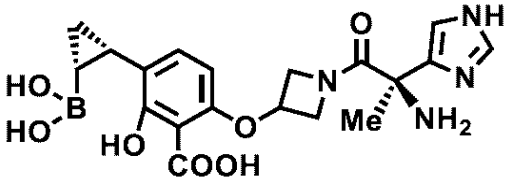
[Chemical Formula 1056]



,

6-({1-[(2R)-2-amino-2-(1H-imidazol-4-yl)propanoyl]azetidin-3-yl}oxy)-3-[(1S,2R)-2-boronocyclopropyl]-2-hydroxybenzoic acid

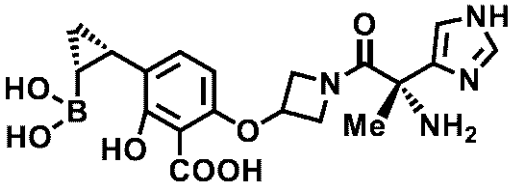
[Chemical Formula 1057]



, and

6-({1-[(2S)-2-amino-2-(1H-imidazol-4-yl)propanoyl]azetidin-3-yl}oxy)-3-[(1S,2R)-2-boronocyclopropyl]-2-hydroxybenzoic acid

[Chemical Formula 1058]



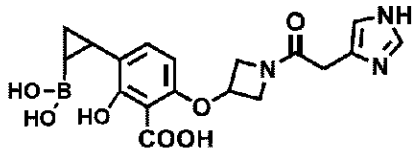
.

~~[Claim 118]~~

58. The compound or the pharmaceutically acceptable salt thereof according to claim ~~104~~47, selected from the group consisting of the compounds represented by the following names or structural formulas:

~~[2-boronocyclopropyl]-2-hydroxy-6-({1-[(1H-imidazol-4-yl)acetyl]azetidin-3-yl}oxy)benzoic acid~~] 3-(2-boronocyclopropyl)-2-hydroxy-6-({1-[(1H-imidazol-4-yl)acetyl]azetidin-3-yl}oxy)benzoic acid

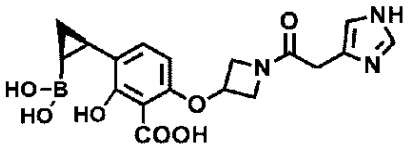
[Chemical Formula 1059]



,

3-[(1R,2S)-2-boronocyclopropyl]-2-hydroxy-6-({1-[(1H-imidazol-4-yl)acetyl]azetidin-3-yl}oxy)benzoic acid

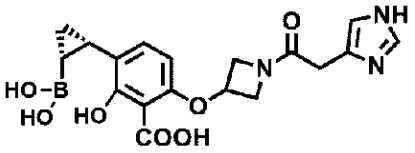
[Chemical Formula 1060]



,

3-[(1S,2R)-2-boronocyclopropyl]-2-hydroxy-6-({1-[(1H-imidazol-4-yl)acetyl]azetidin-3-yl}oxy)benzoic acid

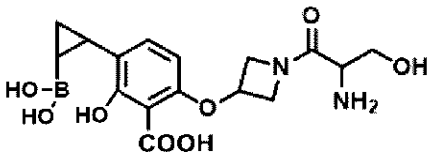
[Chemical Formula 1061]



,

3-[2-boronocyclopropyl]-2-hydroxy-6-[(1-serylazetidin-3-yl)oxy]benzoic acid

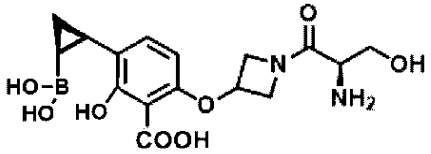
[Chemical Formula 1062]



,

3-[(1R,2S)-2-boronocyclopropyl]-2-hydroxy-6-[(1-D-serylazetidin-3-yl)oxy]benzoic acid

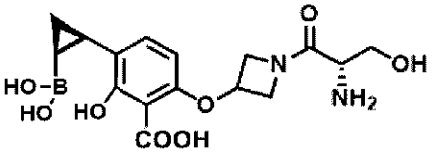
[Chemical Formula 1063]



,

3-[(1R,2S)-2-boronocyclopropyl]-2-hydroxy-6-[(1-L-serylazetidin-3-yl)oxy]benzoic acid

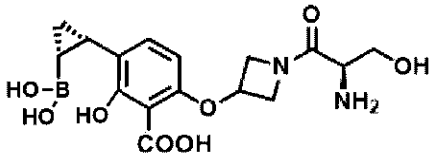
[Chemical Formula 1064]



,

3-[(1S,2R)-2-boronocyclopropyl]-2-hydroxy-6-[(1-D-serylazetidin-3-yl)oxy]benzoic acid

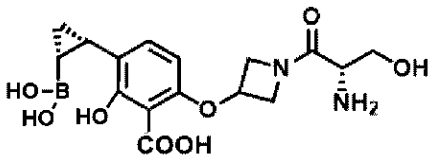
[Chemical Formula 1065]



,

3-[(1S,2R)-2-boronocyclopropyl]-2-hydroxy-6-[(1-L-serylazetidin-3-yl)oxy]benzoic acid

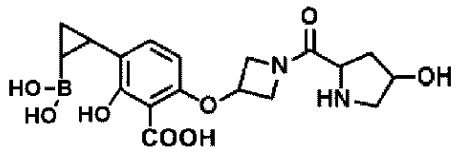
[Chemical Formula 1066]



,

3-[2-boronocyclopropyl]-2-hydroxy-6-({1-[4-hydroxy-L-prolyl]azetidin-3-yl}oxy)benzoic acid

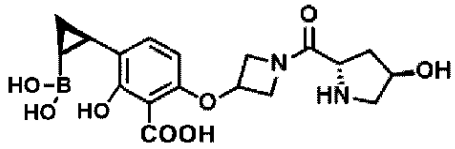
[Chemical Formula 1067]



,

3-[(1R,2S)-2-boronocyclopropyl]-2-hydroxy-6-({1-[(4R)-4-hydroxy-L-prolyl]azetidin-3-yl}oxy)benzoic acid

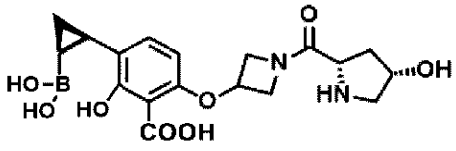
[Chemical Formula 1068]



,

3-[(1R,2S)-2-boronocyclopropyl]-2-hydroxy-6-({1-[(4S)-4-hydroxy-L-prolyl]azetidin-3-yl}oxy)benzoic acid

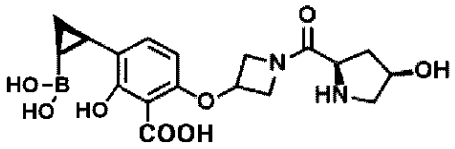
[Chemical Formula 1069]



,

3-[(1R,2S)-2-boronocyclopropyl]-2-hydroxy-6-({1-[(4R)-4-hydroxy-D-prolyl]azetidin-3-yl}oxy)benzoic acid

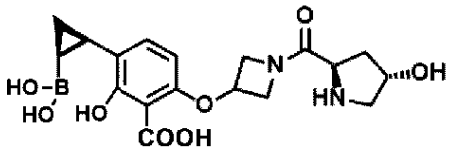
[Chemical Formula 1070]



,

3-[(1R,2S)-2-boronocyclopropyl]-2-hydroxy-6-({1-[(4S)-4-hydroxy-D-prolyl]azetidin-3-yl}oxy)benzoic acid

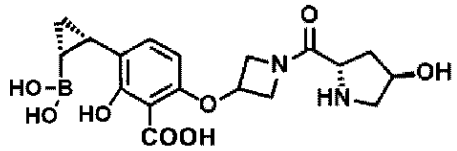
[Chemical Formula 1071]



,

3-[(1S,2R)-2-boronocyclopropyl]-2-hydroxy-6-({1-[(4R)-4-hydroxy-L-prolyl]azetidin-3-yl}oxy)benzoic acid

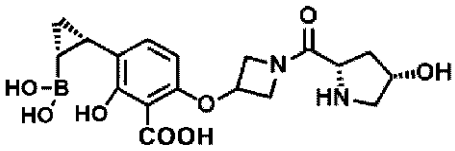
[Chemical Formula 1072]



,

3-[(1S,2R)-2-boronocyclopropyl]-2-hydroxy-6-({1-[(4S)-4-hydroxy-L-prolyl]azetidin-3-yl}oxy)benzoic acid

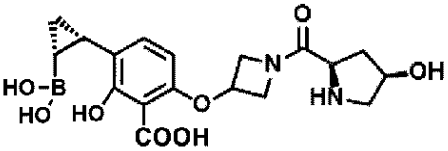
[Chemical Formula 1073]



,

3-[(1S,2R)-2-boronocyclopropyl]-2-hydroxy-6-({1-[(4R)-4-hydroxy-D-prolyl]azetidin-3-yl}oxy)benzoic acid

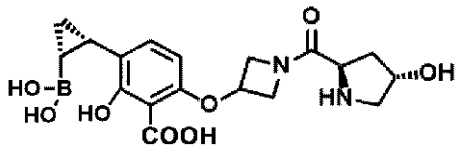
[Chemical Formula 1074]



,

3-[(1S,2R)-2-boronocyclopropyl]-2-hydroxy-6-({1-[(4S)-4-hydroxy-D-prolyl]azetidin-3-yl}oxy)benzoic acid

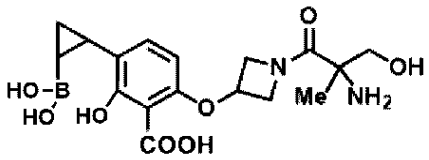
[Chemical Formula 1075]



,

3-[2-boronocyclopropyl]-2-hydroxy-6-{[1-(2-methyl-seryl)azetidin-3-yl]oxy}benzoic acid

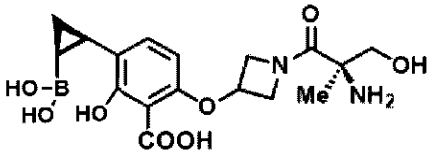
[Chemical Formula 1076]



,

3-[(1R,2S)-2-boronocyclopropyl]-2-hydroxy-6-{[1-(2-methyl-D-seryl)azetidin-3-yl]oxy}benzoic acid

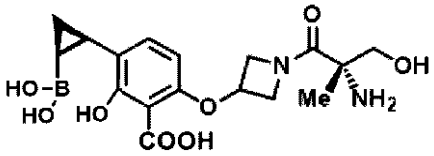
[Chemical Formula 1077]



,

3-[(1R,2S)-2-boronocyclopropyl]-2-hydroxy-6-{[1-(2-methyl-L-seryl)azetidin-3-yl]oxy}benzoic acid

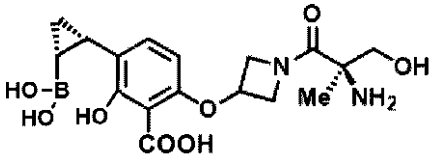
[Chemical Formula 1078]



,

3-[(1S,2R)-2-boronocyclopropyl]-2-hydroxy-6-{[1-(2-methyl-D-seryl)azetidin-3-yl]oxy}benzoic acid

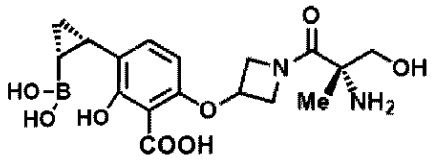
[Chemical Formula 1079]



,

3-[(1S,2R)-2-boronocyclopropyl]-2-hydroxy-6-{[1-(2-methyl-L-seryl)azetidin-3-yl]oxy}benzoic acid

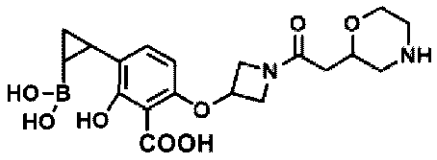
[Chemical Formula 1080]



,

3-[(2-boronocyclopropyl]-2-hydroxy-6-[(1-{[morpholin-2-yl]acetyl}azetidin-3-yl)oxy]benzoic acid

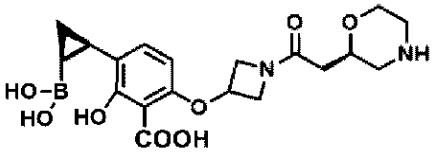
[Chemical Formula 1081]



,

3-[(1R,2S)-2-boronocyclopropyl]-2-hydroxy-6-[(1-{[(2R)-morpholin-2-yl]acetyl}azetidin-3-yl)oxy]benzoic acid

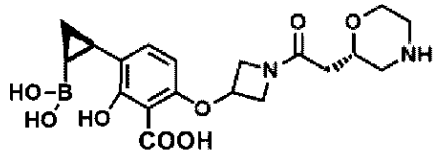
[Chemical Formula 1082]



,

3-[(1R,2S)-2-boronocyclopropyl]-2-hydroxy-6-[(1-{[(2S)-morpholin-2-yl]acetyl}azetidin-3-yl)oxy]benzoic acid

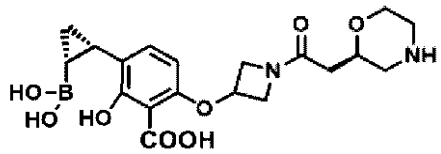
[Chemical Formula 1083]



,

3-[(1S,2R)-2-boronocyclopropyl]-2-hydroxy-6-[(1-{[(2R)-morpholin-2-yl]acetyl}azetidin-3-yl)oxy]benzoic acid

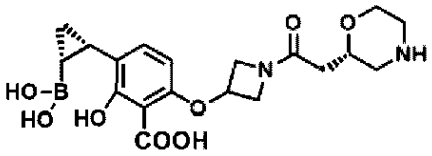
[Chemical Formula 1084]



,

3-[(1S,2R)-2-boronocyclopropyl]-2-hydroxy-6-[(1-{[(2S)-morpholin-2-yl]acetyl}azetidin-3-yl)oxy]benzoic acid

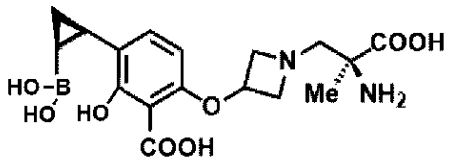
[Chemical Formula 1085]



,

6-({1-[(2S)-2-amino-2-carboxypropyl]azetidin-3-yl}oxy)-3-[(1R,2S)-2-boronocyclopropyl]-2-hydroxybenzoic acid

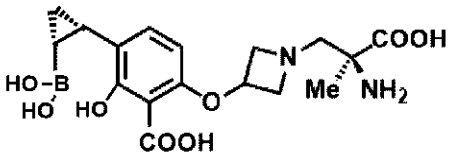
[Chemical Formula 1086]



,

6-({1-[(2S)-2-amino-2-carboxypropyl]azetidin-3-yl}oxy)-3-[(1S,2R)-2-boronocyclopropyl]-2-hydroxybenzoic acid

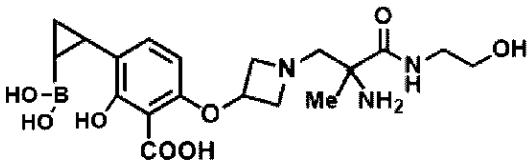
[Chemical Formula 1087]



,

6-[(1-{2-amino-3-[(2-hydroxyethyl)amino]-2-methyl-3-oxopropyl}azetidin-3-yl)oxy]-3-[2-boronocyclopropyl]-2-hydroxybenzoic acid

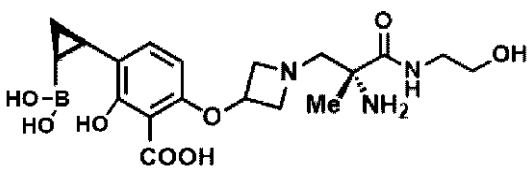
[Chemical Formula 1088]



,

6-[(1-{(2R)-2-amino-3-[(2-hydroxyethyl)amino]-2-methyl-3-oxopropyl}azetidin-3-yl)oxy]-3-[(1R,2S)-2-boronocyclopropyl]-2-hydroxybenzoic acid

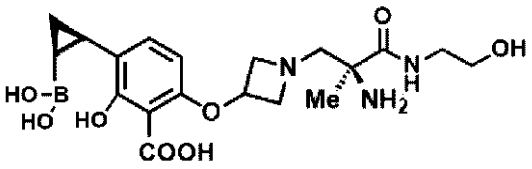
[Chemical Formula 1089]



,

6-[(1-{(2S)-2-amino-3-[(2-hydroxyethyl)amino]-2-methyl-3-oxopropyl}azetidin-3-yl)oxy]-3-[(1R,2S)-2-boronocyclopropyl]-2-hydroxybenzoic acid

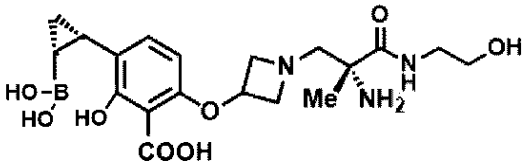
[Chemical Formula 1090]



,

6-[(1-{(2R)-2-amino-3-[(2-hydroxyethyl)amino]-2-methyl-3-oxopropyl}azetidin-3-yl)oxy]-3-[(1S,2R)-2-boronocyclopropyl]-2-hydroxybenzoic acid

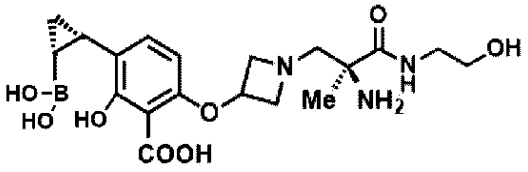
[Chemical Formula 1091]



,

6-[(1-{(2S)-2-amino-3-[(2-hydroxyethyl)amino]-2-methyl-3-oxopropyl}azetidin-3-yl)oxy]-3-[(1S,2R)-2-boronocyclopropyl]-2-hydroxybenzoic acid

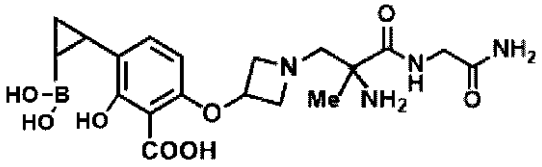
[Chemical Formula 1092]



,

6-[(1-{2-amino-3-[(2-amino-2-oxoethyl)amino]-2-methyl-3-oxopropyl}azetidin-3-yl)oxy]-3-[2-boronocyclopropyl]-2-hydroxybenzoic acid

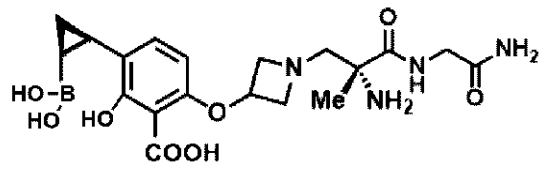
[Chemical Formula 1093]



,

6-[(1-{(2R)-2-amino-3-[(2-amino-2-oxoethyl)amino]-2-methyl-3-oxopropyl}azetidin-3-yl)oxy]-3-[(1R,2S)-2-boronocyclopropyl]-2-hydroxybenzoic acid

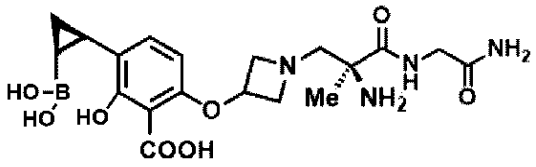
[Chemical Formula 1094]



,

6-[(1-{(2S)-2-amino-3-[(2-amino-2-oxoethyl)amino]-2-methyl-3-oxopropyl}azetidin-3-yl)oxy]-3-[(1R,2S)-2-boronocyclopropyl]-2-hydroxybenzoic acid

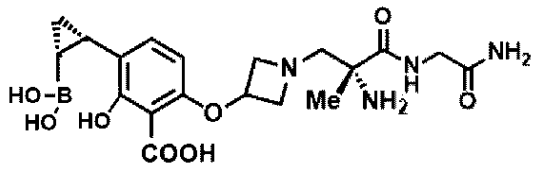
[Chemical Formula 1095]



,

6-[(1-{(2R)-2-amino-3-[(2-amino-2-oxoethyl)amino]-2-methyl-3-oxopropyl}azetidin-3-yl)oxy]-3-[(1S,2R)-2-boronocyclopropyl]-2-hydroxybenzoic acid

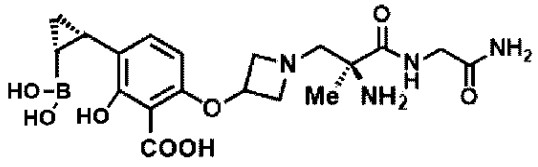
[Chemical Formula 1096]



,

6-[(1-{(2S)-2-amino-3-[(2-amino-2-oxoethyl)amino]-2-methyl-3-oxopropyl}azetidin-3-yl)oxy]-3-[(1S,2R)-2-boronocyclopropyl]-2-hydroxybenzoic acid

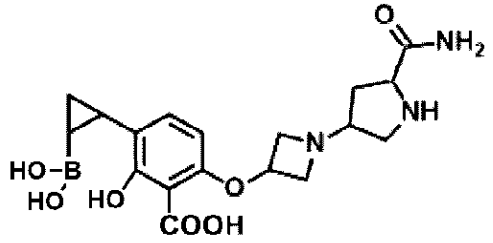
[Chemical Formula 1097]



,

3-[2-boronocyclopropyl]-6-({1-[(5-carbamoylpyrrolidin-3-yl]azetidin-3-yl}oxy)-2-hydroxybenzoic acid

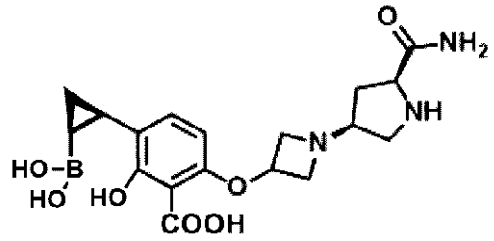
[Chemical Formula 1098]



,

3-[(1R,2S)-2-boronocyclopropyl]-6-({1-[(3S,5S)-5-carbamoylpyrrolidin-3-yl]azetidin-3-yl}oxy)-2-hydroxybenzoic acid

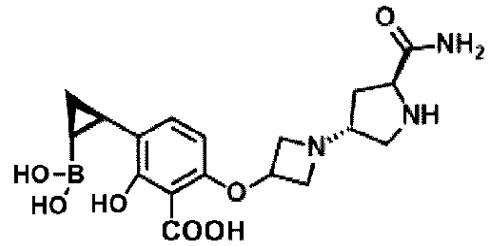
[Chemical Formula 1099]



,

3-[(1R,2S)-2-boronocyclopropyl]-6-({1-[(3R,5S)-5-carbamoylpyrrolidin-3-yl]azetidin-3-yl}oxy)-2-hydroxybenzoic acid

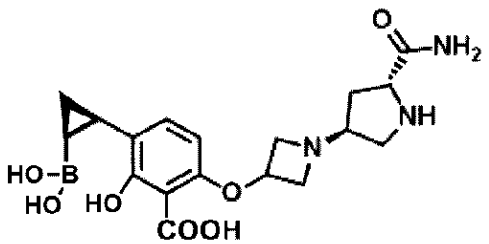
[Chemical Formula 1100]



,

3-[(1R,2S)-2-boronocyclopropyl]-6-({1-[(3S,5R)-5-carbamoylpyrrolidin-3-yl]azetidin-3-yl}oxy)-2-hydroxybenzoic acid

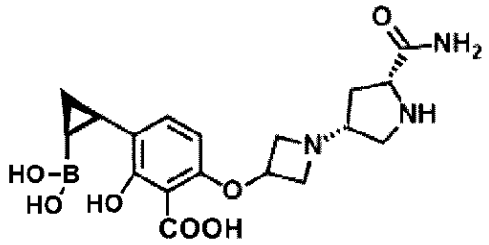
[Chemical Formula 1101]



,

3-[(1R,2S)-2-boronocyclopropyl]-6-({1-[(3R,5R)-5-carbamoylpyrrolidin-3-yl]azetidin-3-yl}oxy)-2-hydroxybenzoic acid

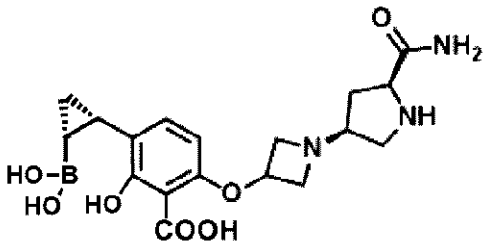
[Chemical Formula 1102]



,

3-[(1S,2R)-2-boronocyclopropyl]-6-({1-[(3S,5S)-5-carbamoylpyrrolidin-3-yl]azetidin-3-yl}oxy)-2-hydroxybenzoic acid

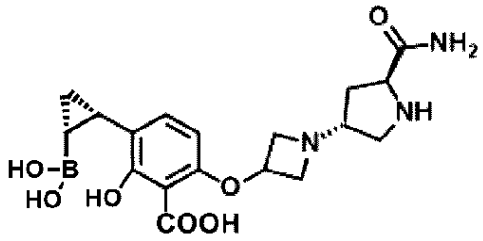
[Chemical Formula 1103]



,

3-[(1S,2R)-2-boronocyclopropyl]-6-({1-[(3R,5S)-5-carbamoylpyrrolidin-3-yl]azetidin-3-yl}oxy)-2-hydroxybenzoic acid

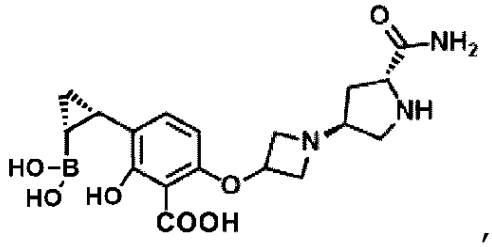
[Chemical Formula 1104]



,

3-[(1S,2R)-2-boronocyclopropyl]-6-({1-[(3S,5R)-5-carbamoylpyrrolidin-3-yl]azetidin-3-yl}oxy)-2-hydroxybenzoic acid

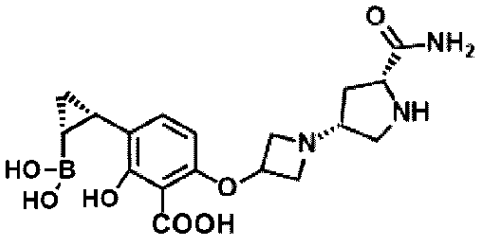
[Chemical Formula 1105]



,

3-[(1S,2R)-2-boronocyclopropyl]-6-({1-[(3R,5R)-5-carbamoylpyrrolidin-3-yl]azetidin-3-yl}oxy)-2-hydroxybenzoic acid

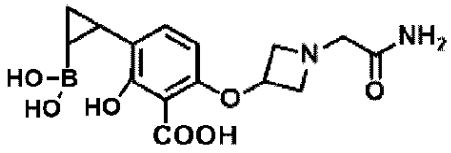
[Chemical Formula 1106]



,

6-{[1-(2-amino-2-oxoethyl)azetidin-3-yl]oxy}-3-[2-boronocyclopropyl]-2-hydroxybenzoic acid

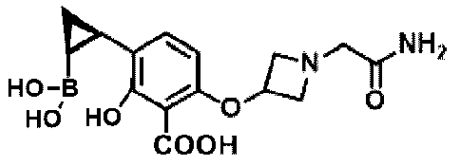
[Chemical Formula 1107]



,

6-{[1-(2-amino-2-oxoethyl)azetidin-3-yl]oxy}-3-[(1R,2S)-2-boronocyclopropyl]-2-hydroxybenzoic acid

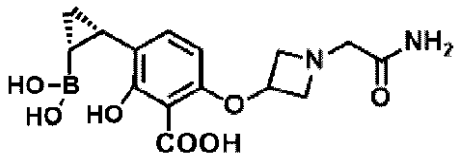
[Chemical Formula 1108]



,

6-{[1-(2-amino-2-oxoethyl)azetidin-3-yl]oxy}-3-[(1S,2R)-2-boronocyclopropyl]-2-hydroxybenzoic acid

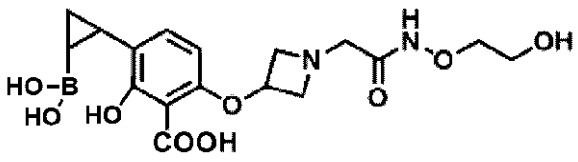
[Chemical Formula 1109]



,

3-[(2-boronocyclopropyl]-2-hydroxy-6-[(1-{2-[(2-hydroxyethoxy)amino]-2-oxoethyl}azetidin-3-yl)oxy]benzoic acid

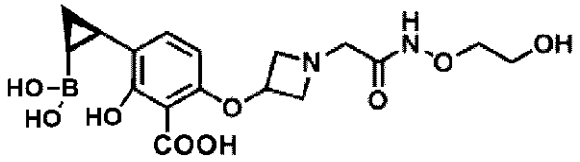
[Chemical Formula 1110]



,

3-[(1R,2S)-2-boronocyclopropyl]-2-hydroxy-6-[(1-{2-[(2-hydroxyethoxy)amino]-2-oxoethyl}azetidin-3-yl)oxy]benzoic acid

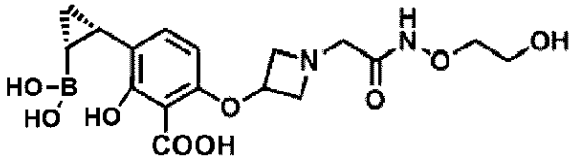
[Chemical Formula 1111]



,

3-[(1S,2R)-2-boronocyclopropyl]-2-hydroxy-6-[(1-{2-[(2-hydroxyethoxy)amino]-2-oxoethyl}azetidin-3-yl)oxy]benzoic acid

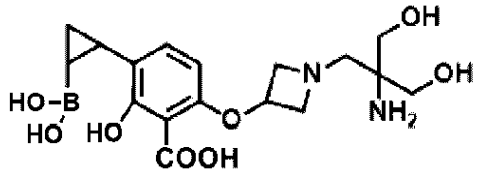
[Chemical Formula 1112]



,

6-({1-[2-amino-3-hydroxy-2-(hydroxymethyl)propyl]azetidin-3-yl}oxy)-3-[2-boronocyclopropyl]-2-hydroxybenzoic acid

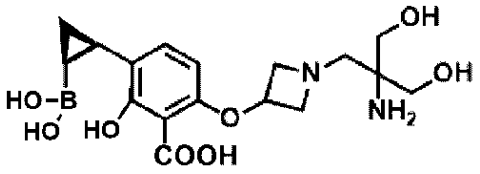
[Chemical Formula 1113]



,

6-({1-[2-amino-3-hydroxy-2-(hydroxymethyl)propyl]azetidin-3-yl}oxy)-3-[(1R,2S)-2-boronocyclopropyl]-2-hydroxybenzoic acid

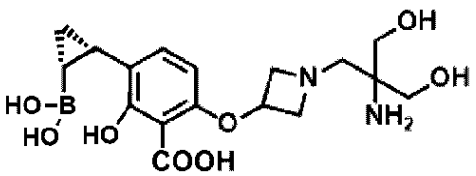
[Chemical Formula 1114]



,

6-({1-[2-amino-3-hydroxy-2-(hydroxymethyl)propyl]azetidin-3-yl}oxy)-3-[(1S,2R)-2-boronocyclopropyl]-2-hydroxybenzoic acid

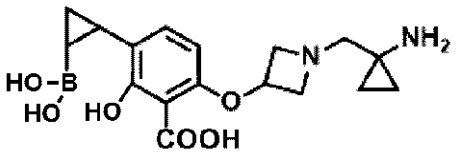
[Chemical Formula 1115]



,

6-({1-[(1-aminocyclopropyl)methyl]azetidin-3-yl}oxy)-3-[2-boronocyclopropyl]-2-hydroxybenzoic acid

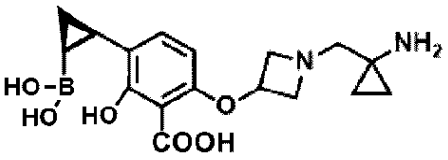
[Chemical Formula 1116]



,

6-({1-[(1-aminocyclopropyl)methyl]azetidin-3-yl}oxy)-3-[(1R,2S)-2-boronocyclopropyl]-2-hydroxybenzoic acid

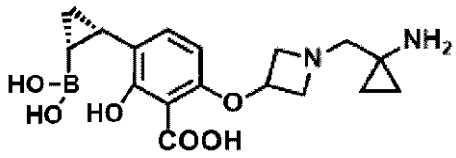
[Chemical Formula 1117]



,

6-({1-[(1-aminocyclopropyl)methyl]azetidin-3-yl}oxy)-3-[(1S,2R)-2-boronocyclopropyl]-2-hydroxybenzoic acid

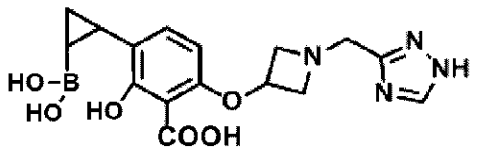
[Chemical Formula 1118]



,

3-[2-boronocyclopropyl]-2-hydroxy-6-({1-[(1H-1,2,4-triazol-3-yl)methyl]azetidin-3-yl}oxy)benzoic acid

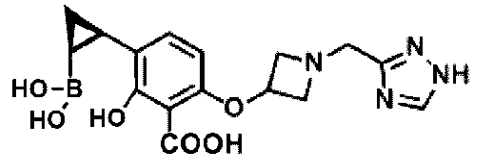
[Chemical Formula 1119]



,

3-[(1R,2S)-2-boronocyclopropyl]-2-hydroxy-6-({1-[(1H-1,2,4-triazol-3-yl)methyl]azetidin-3-yl}oxy)benzoic acid

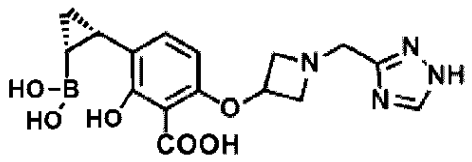
[Chemical Formula 1120]



,

3-[(1S,2R)-2-boronocyclopropyl]-2-hydroxy-6-({1-[(1H-1,2,4-triazol-3-yl)methyl]azetidin-3-yl}oxy)benzoic acid

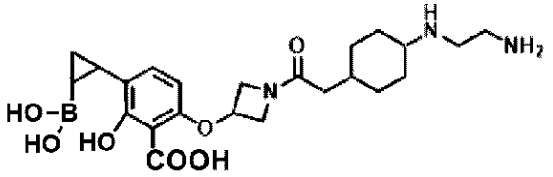
[Chemical Formula 1121]



,

6-{[1-({4-[(2-aminoethyl)amino]cyclohexyl}acetyl)azetidin-3-yl]oxy}-3-[2-boronocyclopropyl]-2-hydroxybenzoic acid

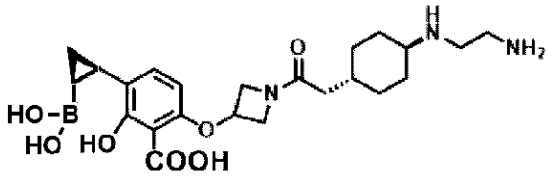
[Chemical Formula 1122]



,

6-{[1-({(1r,4r)-4-[(2-aminoethyl)amino]cyclohexyl}acetyl)azetidin-3-yl]oxy}-3-[(1R,2S)-2-boronocyclopropyl]-2-hydroxybenzoic acid

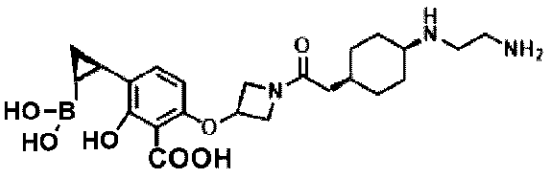
[Chemical Formula 1123]



,

6-{[1-({(1s,4r)-4-[(2-aminoethyl)amino]cyclohexyl}acetyl)azetidin-3-yl]oxy}-3-[(1R,2S)-2-boronocyclopropyl]-2-hydroxybenzoic acid

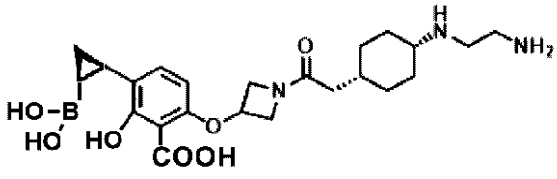
[Chemical Formula 1124]



,

6-{[1-({(1r,4s)-4-[(2-aminoethyl)amino]cyclohexyl}acetyl)azetidin-3-yl]oxy}-3-[(1R,2S)-2-boronocyclopropyl]-2-hydroxybenzoic acid

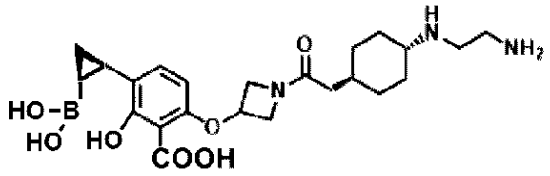
[Chemical Formula 1125]



,

6-{[1-({(1s,4s)-4-[(2-aminoethyl)amino]cyclohexyl}acetyl)azetidin-3-yl]oxy}-3-[(1R,2S)-2-boronocyclopropyl]-2-hydroxybenzoic acid

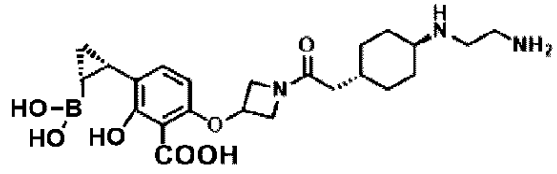
[Chemical Formula 1126]



,

6-{[1-({(1r,4r)-4-[(2-aminoethyl)amino]cyclohexyl}acetyl)azetidin-3-yl]oxy}-3-[(1S,2R)-2-boronocyclopropyl]-2-hydroxybenzoic acid

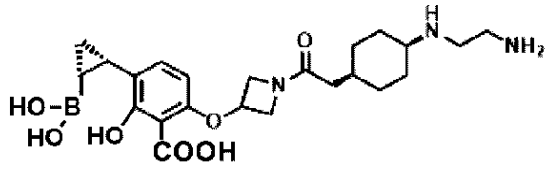
[Chemical Formula 1127]



,

6-{[1-({(1s,4r)-4-[(2-aminoethyl)amino]cyclohexyl}acetyl)azetidin-3-yl]oxy}-3-[(1S,2R)-2-boronocyclopropyl]-2-hydroxybenzoic acid

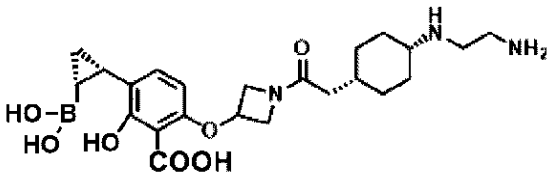
[Chemical Formula 1128]



,

6-{[1-({(1r,4s)-4-[(2-aminoethyl)amino]cyclohexyl}acetyl)azetidin-3-yl]oxy}-3-[(1S,2R)-2-boronocyclopropyl]-2-hydroxybenzoic acid

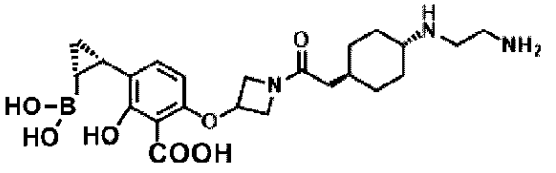
[Chemical Formula 1129]



,

6-{[1-({(1s,4s)-4-[(2-aminoethyl)amino]cyclohexyl}acetyl)azetidin-3-yl]oxy}-3-[(1S,2R)-2-boronocyclopropyl]-2-hydroxybenzoic acid

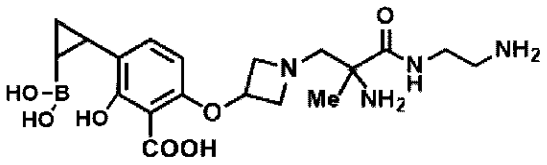
[Chemical Formula 1130]



,

6-[(1-{2-amino-3-[(2-aminoethyl)amino]-2-methyl-3-oxopropyl}azetidin-3-yl)oxy]-3-[2-boronocyclopropyl]-2-hydroxybenzoic acid

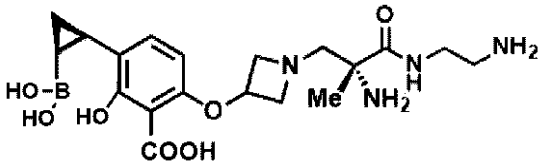
[Chemical Formula 1131]



,

6-[(1-{(2R)-2-amino-3-[(2-aminoethyl)amino]-2-methyl-3-oxopropyl}azetidin-3-yl)oxy]-3-[(1R,2S)-2-boronocyclopropyl]-2-hydroxybenzoic acid

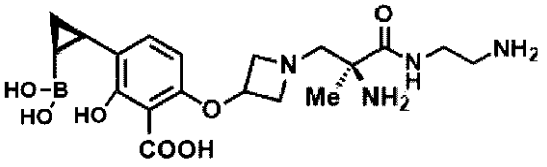
[Chemical Formula 1132]



,

6-[(1-{(2S)-2-amino-3-[(2-aminoethyl)amino]-2-methyl-3-oxopropyl}azetidin-3-yl)oxy]-3-[(1R,2S)-2-boronocyclopropyl]-2-hydroxybenzoic acid

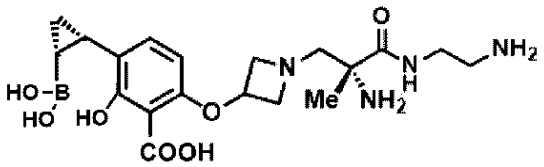
[Chemical Formula 1133]



,

6-[(1-{(2R)-2-amino-3-[(2-aminoethyl)amino]-2-methyl-3-oxopropyl}azetidin-3-yl)oxy]-3-[(1S,2R)-2-boronocyclopropyl]-2-hydroxybenzoic acid

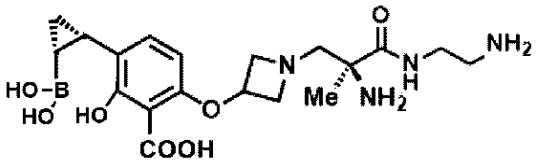
[Chemical Formula 1134]



,

6-[(1-{(2S)-2-amino-3-[(2-aminoethyl)amino]-2-methyl-3-oxopropyl}azetidin-3-yl)oxy]-3-[(1S,2R)-2-boronocyclopropyl]-2-hydroxybenzoic acid

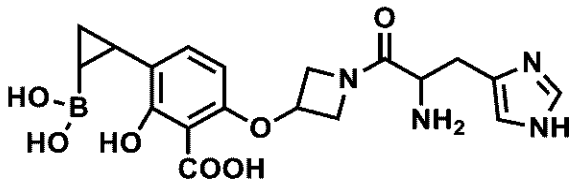
[Chemical Formula 1135]



,

3-(2-boronocyclopropyl)-6-[(1-histidylazetidin-3-yl)oxy]-2-hydroxybenzoic acid

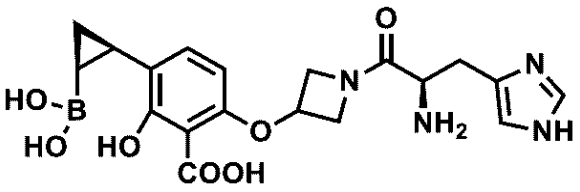
[Chemical Formula 1136]



,

3-[(1R,2S)-2-boronocyclopropyl]-6-[(1-D-histidylazetidin-3-yl)oxy]-2-hydroxybenzoic acid

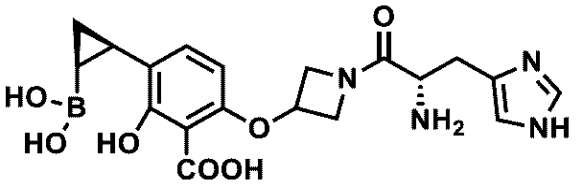
[Chemical Formula 1137]



,

3-[(1R,2S)-2-boronocyclopropyl]-6-[(1-L-histidylazetidin-3-yl)oxy]-2-hydroxybenzoic acid

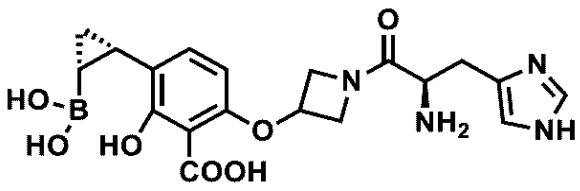
[Chemical Formula 1138]



,

3-[(1S,2R)-2-boronocyclopropyl]-6-[(1-D-histidylazetidin-3-yl)oxy]-2-hydroxybenzoic acid

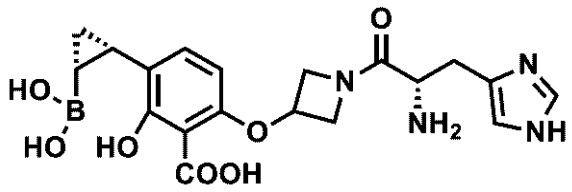
[Chemical Formula 1139]



,

3-[(1S,2R)-2-boronocyclopropyl]-6-[(1-L-histidylazetidin-3-yl)oxy]-2-hydroxybenzoic acid

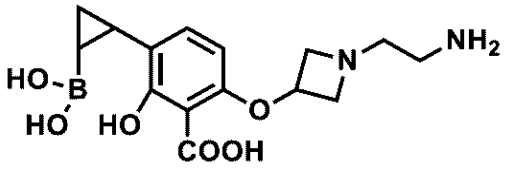
[Chemical Formula 1140]



,

6-{[1-(2-aminoethyl)azetidin-3-yl]oxy}-3-(2-boronocyclopropyl)-2-hydroxybenzoic acid

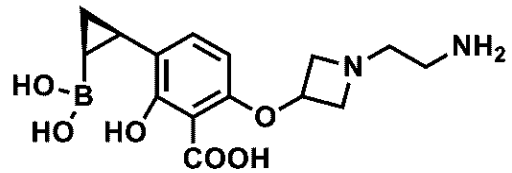
[Chemical Formula 1141]



,

6-{[1-(2-aminoethyl)azetidin-3-yl]oxy}-3-[(1R,2S)-2-boronocyclopropyl]-2-hydroxybenzoic acid

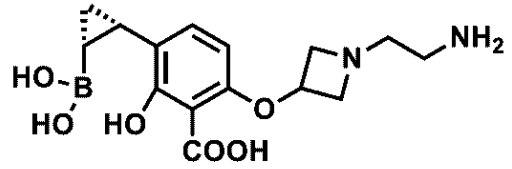
[Chemical Formula 1142]



,

6-{[1-(2-aminoethyl)azetidin-3-yl]oxy}-3-[(1S,2R)-2-boronocyclopropyl]-2-hydroxybenzoic acid

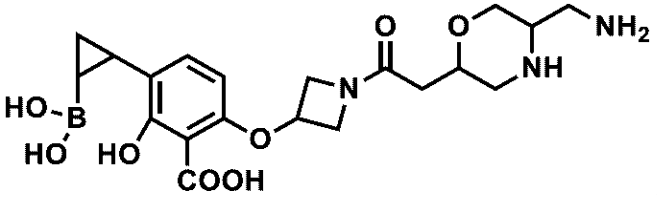
[Chemical Formula 1143]



,

6-[(1-{[5-(aminomethyl)morpholin-2-yl]acetyl}azetidin-3-yl)oxy]-3-(2-boronocyclopropyl)-2-hydroxybenzoic acid

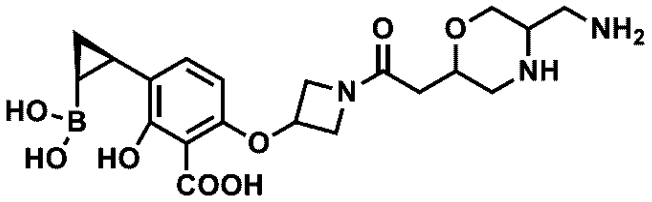
[Chemical Formula 1144]



,

6-[(1-{[5-(aminomethyl)morpholin-2-yl]acetyl}azetidin-3-yl)oxy]-3-[(1R,2S)-2-boronocyclopropyl]-2-hydroxybenzoic acid

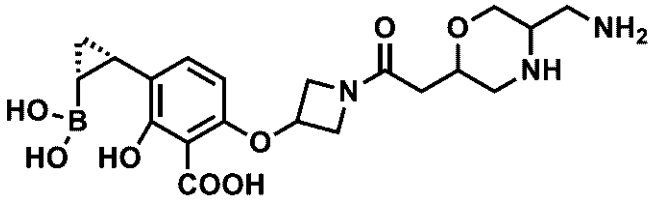
[Chemical Formula 1145]



,

6-[(1-{[5-(aminomethyl)morpholin-2-yl]acetyl}azetidin-3-yl)oxy]-3-[(1S,2R)-2-boronocyclopropyl]-2-hydroxybenzoic acid

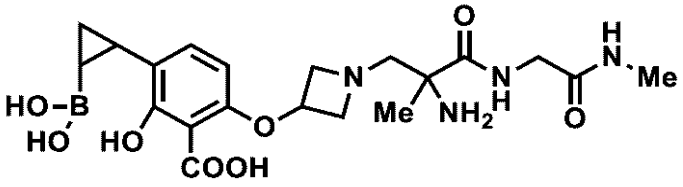
[Chemical Formula 1146]



,

6-({1-[2-amino-2-methyl-3-{[2-(methylamino)-2-oxoethyl]amino}-3-oxopropyl]azetidin-3-yl}oxy)-3-[2-boronocyclopropyl]-2-hydroxybenzoic acid

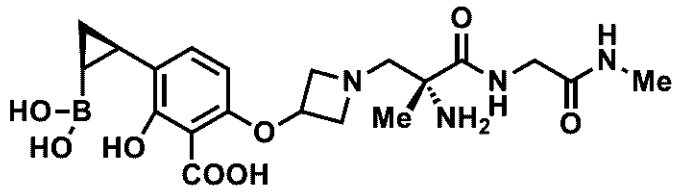
[Chemical Formula 1147]



,

6-({1-[(2R)-2-amino-2-methyl-3-{[2-(methylamino)-2-oxoethyl]amino}-3-oxopropyl]azetidin-3-yl}oxy)-3-[(1R,2S)-2-boronocyclopropyl]-2-hydroxybenzoic acid

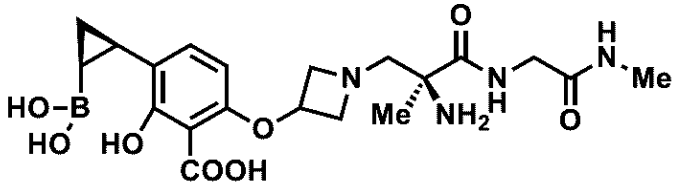
[Chemical Formula 1148]



,

6-({1-[(2S)-2-amino-2-methyl-3-{[2-(methylamino)-2-oxoethyl]amino}-3-oxopropyl]azetidin-3-yl}oxy)-3-[(1R,2S)-2-boronocyclopropyl]-2-hydroxybenzoic acid

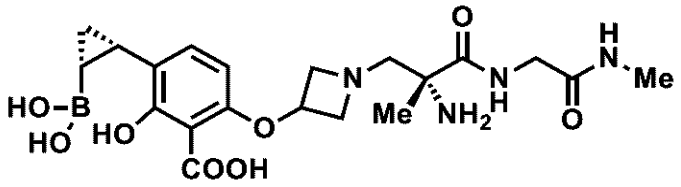
[Chemical Formula 1149]



,

6-({1-[(2R)-2-amino-2-methyl-3-{[2-(methylamino)-2-oxoethyl]amino}-3-oxopropyl]azetidin-3-yl}oxy)-3-[(1S,2R)-2-boronocyclopropyl]-2-hydroxybenzoic acid

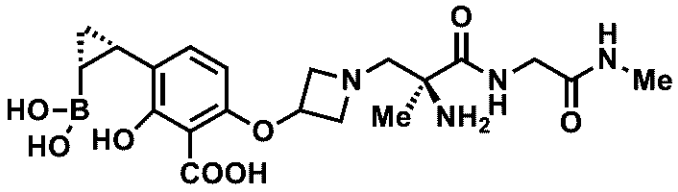
[Chemical Formula 1150]



,

6-({1-[(2S)-2-amino-2-methyl-3-{[2-(methylamino)-2-oxoethyl]amino}-3-oxopropyl]azetidin-3-yl}oxy)-3-[(1S,2R)-2-boronocyclopropyl]-2-hydroxybenzoic acid

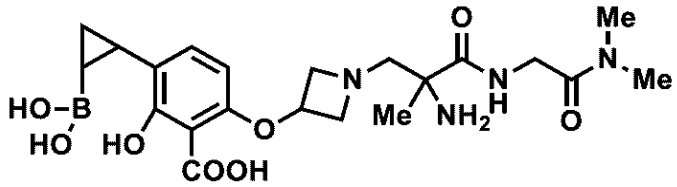
[Chemical Formula 1151]



,

6-({1-[2-amino-3-{[2-(dimethylamino)-2-oxoethyl]amino}-2-methyl-3-oxopropyl]azetidin-3-yl}oxy)-3-[2-boronocyclopropyl]-2-hydroxybenzoic acid

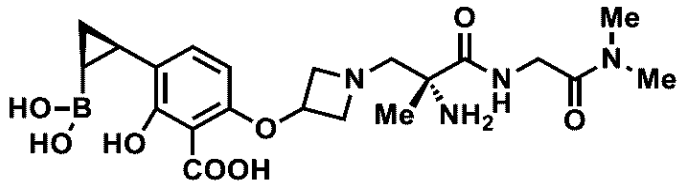
[Chemical Formula 1152]



,

6-({1-[(2R)-2-amino-3-{[2-(dimethylamino)-2-oxoethyl]amino}-2-methyl-3-oxopropyl]azetidin-3-yl}oxy)-3-[(1R,2S)-2-boronocyclopropyl]-2-hydroxybenzoic acid

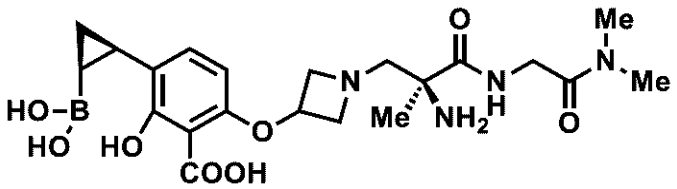
[Chemical Formula 1153]



,

6-({1-[(2S)-2-amino-3-{[2-(dimethylamino)-2-oxoethyl]amino}-2-methyl-3-oxopropyl]azetidin-3-yl}oxy)-3-[(1R,2S)-2-boronocyclopropyl]-2-hydroxybenzoic acid

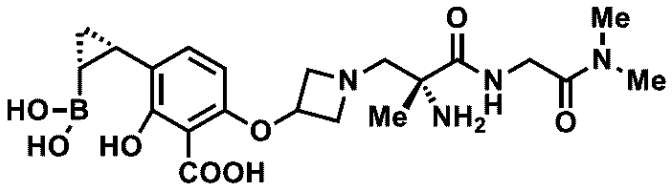
[Chemical Formula 1154]



,

6-({1-[(2R)-2-amino-3-{[2-(dimethylamino)-2-oxoethyl]amino}-2-methyl-3-oxopropyl]azetidin-3-yl}oxy)-3-[(1S,2R)-2-boronocyclopropyl]-2-hydroxybenzoic acid

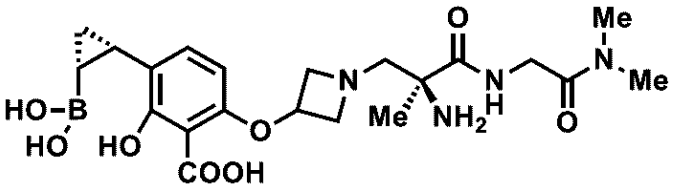
[Chemical Formula 1155]



,

6-({1-[(2S)-2-amino-3-{[2-(dimethylamino)-2-oxoethyl]amino}-2-methyl-3-oxopropyl]azetidin-3-yl}oxy)-3-[(1S,2R)-2-boronocyclopropyl]-2-hydroxybenzoic acid

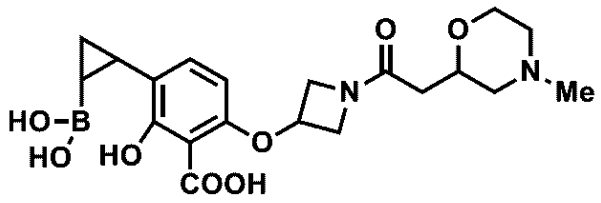
[Chemical Formula 1156]



,

3-[2-boronocyclopropyl]-2-hydroxy-6-[(1-{[4-methylmorpholin-2-yl]acetyl}azetidin-3-yl)oxy]benzoic acid

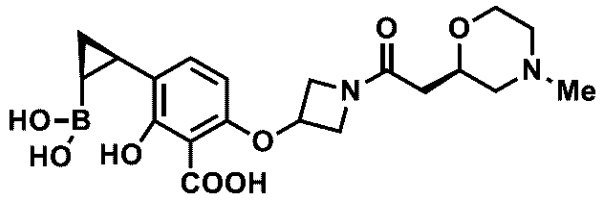
[Chemical Formula 1157]



,

3-[(1R,2S)-2-boronocyclopropyl]-2-hydroxy-6-[(1-{[(2R)-4-methylmorpholin-2-yl]acetyl}azetidin-3-yl)oxy]benzoic acid

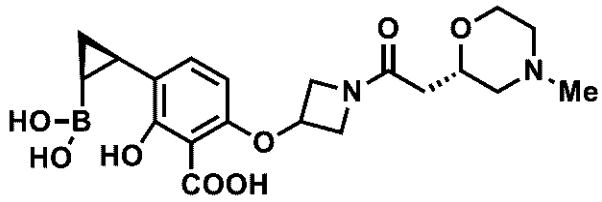
[Chemical Formula 1158]



,

3-[(1R,2S)-2-boronocyclopropyl]-2-hydroxy-6-[(1-{[(2S)-4-methylmorpholin-2-yl]acetyl}azetidin-3-yl)oxy]benzoic acid

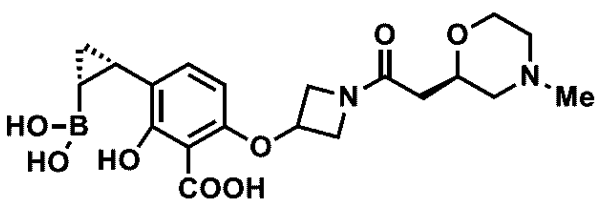
[Chemical Formula 1159]



,

3-[(1S,2R)-2-boronocyclopropyl]-2-hydroxy-6-[(1-{[(2R)-4-methylmorpholin-2-yl]acetyl}azetidin-3-yl)oxy]benzoic acid

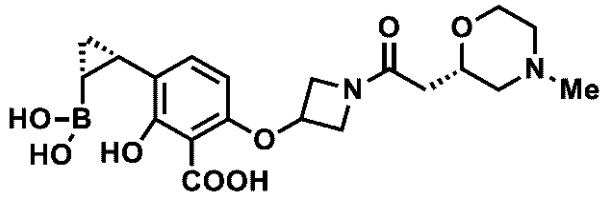
[Chemical Formula 1160]



,

3-[(1S,2R)-2-boronocyclopropyl]-2-hydroxy-6-[(1-{[(2S)-4-methylmorpholin-2-yl]acetyl}azetidin-3-yl)oxy]benzoic acid

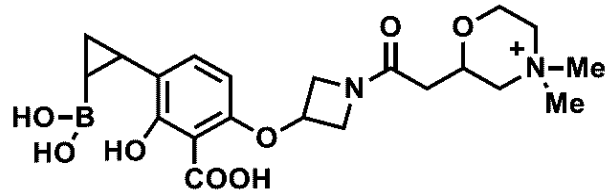
[Chemical Formula 1161]



,

3-[2-boronocyclopropyl]-6-[(1-{[4,4-dimethylmorpholin-4-ium-2-yl]acetyl}azetidin-3-yl)oxy]-2-hydroxybenzoate

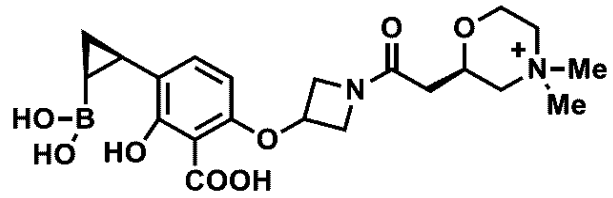
[Chemical Formula 1162]



,

3-[(1R,2S)-2-boronocyclopropyl]-6-[(1-{[(2R)-4,4-dimethylmorpholin-4-ium-2-yl]acetyl}azetidin-3-yl)oxy]-2-hydroxybenzoate

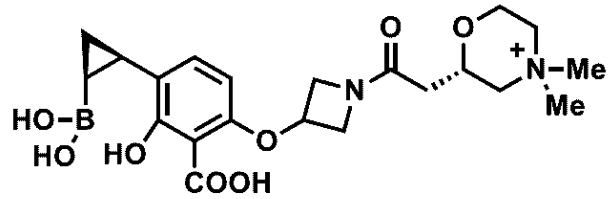
[Chemical Formula 1163]



,

3-[(1R,2S)-2-boronocyclopropyl]-6-[(1-{[(2S)-4,4-dimethylmorpholin-4-ium-2-yl]acetyl}azetidin-3-yl)oxy]-2-hydroxybenzoate

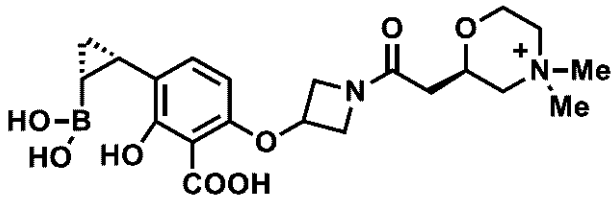
[Chemical Formula 1164]



,

3-[(1S,2R)-2-boronocyclopropyl]-6-[(1-{[(2R)-4,4-dimethylmorpholin-4-ium-2-yl]acetyl}azetidin-3-yl)oxy]-2-hydroxybenzoate

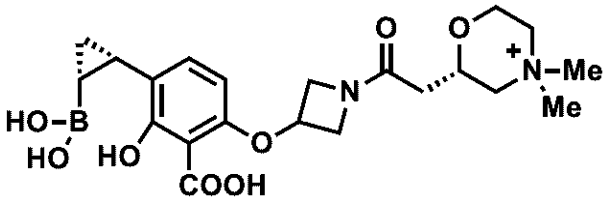
[Chemical Formula 1165]



,

3-[(1S,2R)-2-boronocyclopropyl]-6-[(1-{[(2S)-4,4-dimethylmorpholin-4-ium-2-yl]acetyl}azetidin-3-yl)oxy]-2-hydroxybenzoate

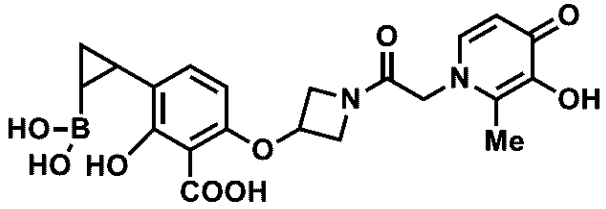
[Chemical Formula 1166]



,

3-(2-boronocyclopropyl)-2-hydroxy-6-({1-[(3-hydroxy-2-methyl-4-oxopyridin-1(4H)-yl)acetyl]azetidin-3-yl}oxy)benzoic acid

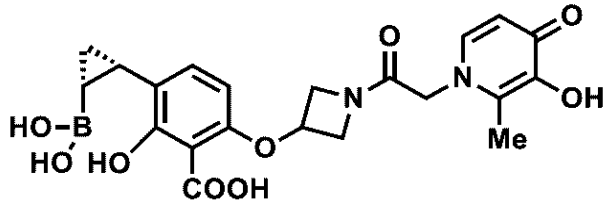
[Chemical Formula 1167]



,

3-[(1S,2R)-2-boronocyclopropyl]-2-hydroxy-6-({1-[(3-hydroxy-2-methyl-4-oxopyridin-1(4H)-yl)acetyl]azetidin-3-yl}oxy)benzoic acid

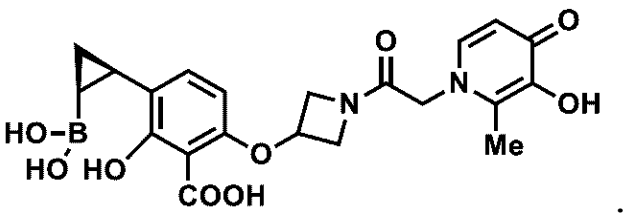
[Chemical Formula 1168]



, and

3-[(1R,2S)-2-boronocyclopropyl]-2-hydroxy-6-({1-[(3-hydroxy-2-methyl-4-oxopyridin-1(4H)-yl)acetyl]azetidin-3-yl}oxy)benzoic acid

[Chemical Formula 1169]



~~[Claim 119]~~

59. A medicament comprising the compound or the pharmaceutically acceptable salt thereof according to claim 1~~any one of claims 1 to claim 118~~.

~~[Claim 120]~~

60. The medicament according to claim ~~119~~58, which is a therapeutic drug or a prophylactic drug for a bacterial infection.

~~[Claim 121]~~

61. An agent for inhibiting β-lactamase, comprising the compound or the pharmaceutically acceptable salt thereof according to claim 1~~any one of claims 1 to 118~~ as an active ingredient.

~~[Claim 122]~~

62. A pharmaceutical composition comprising the compound or the pharmaceutically acceptable salt thereof according claim 1,~~to any one of claims 1 to 118~~ and a pharmaceutically acceptable carrier.

~~[Claim 123]~~

63. The pharmaceutical composition according to claim ~~122~~62, further comprising an additional agent.

~~[Claim 124]~~

64. The pharmaceutical composition according to claim ~~123~~63, wherein the additional agent is selected from the group consisting of an antibacterial agent, an antifungal agent, an antiviral agent, an anti-inflammatory agent, and an anti-allergic agent.

~~[Claim 125]~~

65. The pharmaceutical composition according to claim ~~123~~ 63~~or 124~~, wherein the additional agent is a β-lactam agent.

~~[Claim 126]~~

66. The pharmaceutical composition according to claim ~~124~~ 64~~or 125~~, wherein a β-lactam agent, which is the additional agent, is selected from the group consisting of amoxicillin, ampicillin (pivampicillin, hetacillin, bacampicillin, metampicillin, and talampicillin), epicillin, carbenicillin (carindacillin), ticarcillin, temocillin, azlocillin, piperacillin, mezlocillin, mecillinam (pivmecillinam), sulbenicillin, benzylpenicillin (G), clometocillin, benzathine benzylpenicillin, procaine benzylpenicillin, azidocillin, penamecillin, phenoxymethyl penicillin (V), propicillin, benzathine phenoxymethylpenicillin, phenethicillin, cloxacillin (dicloxacillin and flucloxacillin), oxacillin, methicillin, nafcillin, faropenem, biapenem, doripenem, ertapenem, imipenem, meropenem, panipenem, tomopenem, razupenem, cefazolin, cefacetrile, cefadroxil, cephalexin, cefaloglycin, cefalonium, cefaloridine, cephalothin, cephapirin, cefatrizine, cefazedone, cefazaflur, cefradine, cefroxadine, ceftezole, cefaclor, cefamandole, cefminox, cefonicide, ceforanide, cefotiam, cefprozil, cefbuperazone, cefuroxime, cefuzonam, cefoxitin, cefotetan, cefmetazole, loracarbef, cefixime, ceftazidime, ceftriaxone, cefcapene, cefdaloxime, cefdinir, cefditoren, cefetamet, cefmenoxime, cefodizime, cefoperazone, cefotaxime, cefpimizole, cefpiramide, cefpodoxime, cefsulodin, cefteram, ceftibuten, ceftiolene, ceftizoxime, flomoxef, latamoxef, cefepime, cefozopran, cefpirome, cefquinome, ceftobiprole, ceftaroline, CXA-101, RWJ-54428, MC-04546, ME1036, BAL30072, SYN2416, ceftiofur, cefquinome, cefovecin, aztreonam, tigemonam, carumonam, RWJ-442831, RWJ-333441, and RWJ-333442.

~~[Claim 127]~~

67. The pharmaceutical composition according to claim ~~125~~ 66~~or 126~~, wherein the β-lactam agent is selected from ceftazidime, biapenem, doripenem, ertapenem, imipenem, meropenem, or panipenem.

~~[Claim 128]~~

68. The pharmaceutical composition according to claim ~~125~~ 65~~or 126~~, wherein the β-lactam agent is selected from aztreonam, tigemonam, BAL30072, SYN2416, or carumonam.

~~[Claim 129]~~

69. The pharmaceutical composition according to claim ~~122~~63, characterized in that an additional agent is to be concomitantly administered.

~~[Claim 130]~~

70. The pharmaceutical composition according to claim ~~129~~69, wherein the additional agent is selected from an antibacterial agent, an antifungal agent, an antiviral agent, an anti-inflammatory agent, or an anti-allergic agent.

~~[Claim 131]~~

71. The pharmaceutical composition according to claim ~~129~~ 69~~or 130~~, wherein the additional agent is a β-lactam agent.

~~[Claim 132]~~

72. The pharmaceutical composition according to claim ~~130~~ 70~~or 131~~, wherein a β-lactam agent, which is the additional agent, is selected from the group consisting of amoxicillin, ampicillin (pivampicillin, hetacillin, bacampicillin, metampicillin, and talampicillin), epicillin, carbenicillin (carindacillin), ticarcillin, temocillin, azlocillin, piperacillin, mezlocillin, mecillinam (pivmecillinam), sulbenicillin, benzylpenicillin (G), clometocillin, benzathine benzylpenicillin, procaine benzylpenicillin, azidocillin, penamecillin, phenoxymethyl penicillin (V), propicillin, benzathine phenoxymethylpenicillin, phenethicillin, cloxacillin (dicloxacillin and flucloxacillin), oxacillin, methicillin, nafcillin, faropenem, biapenem, doripenem, ertapenem, imipenem, meropenem, panipenem, tomopenem, razupenem, cefazolin, cefacetrile, cefadroxil, cephalexin, cefaloglycin, cefalonium, cefaloridine, cephalothin, cephapirin, cefatrizine, cefazedone, cefazaflur, cefradine, cefroxadine, ceftezole, cefaclor, cefamandole, cefminox, cefonicide, ceforanide, cefotiam, cefprozil, cefbuperazone,

cefuroxime, cefuzonam, cefoxitin, cefotetan, cefmetazole, loracarbef, cefixime, ceftazidime, ceftriaxone, cefcapene, cefdaloxime, cefdinir, cefditoren, cefetamet, cefmenoxime, cefodizime, cefoperazone, cefotaxime, cefpimizole, cefpiramide, cefpodoxime, cefsulodin, cefteram, ceftibuten, ceftiolene, ceftizoxime, flomoxef, latamoxef, cefepime, cefozopran, cefpirome, cefquinome, ceftobiprole, ceftaroline, CXA-101, RWJ-54428, MC-04546, ME1036, BAL30072, SYN2416, ceftiofur, cefquinome, cefovecin, aztreonam, tigemonam, carumonam, RWJ-442831, RWJ-333441, and RWJ-333442.

~~[Claim 133]~~

73. The pharmaceutical composition according to claim ~~131~~ 71~~or 132~~, wherein the β-lactam agent is selected from the group consisting of ceftazidime, biapenem, doripenem, ertapenem, imipenem, meropenem, and panipenem.

~~[Claim 134]~~

74. The pharmaceutical composition according to claim ~~131~~ 71~~or 132~~, wherein the β-lactam agent is selected from the group consisting of aztreonam, tigemonam, BAL30072, SYN2416, and carumonam.

~~[Claim 135]~~

~~The compound or the pharmaceutically acceptable salt thereof according to any one of claims 1 to 118 for use in treating a bacterial infection.~~

~~[Claim 136]~~

75. The compound or the pharmaceutically acceptable salt thereof according to claim 1~~35~~, wherein the bacterial infection is a bacterial infection in which a bacteria that can have a β-lactamase is involved.

~~[Claim 137]~~

76. The compound or the pharmaceutically acceptable salt thereof according to claim ~~135 or~~ 136~~75~~, wherein the bacterial infection is sepsis, febrile neutropenia, bacterial meningitis, bacterial endocarditis, otitis media, sinusitis, pneumonia, lung abscess,

empyema, secondary infection of a chronic respiratory disease, pharyngolaryngitis, tonsillitis, osteomyelitis, arthritis, peritonitis, intraperitoneal abscess, cholecystitis, cholangitis, liver abscess, a deep skin infection, lymphangitis/lymphadenitis, secondary infection of trauma, burn injury, surgical wound, or the like, a urinary tract infection, a genital infection, an eye infection, or an odontogenic infection.

~~[Claim 138]~~

77. A medicament comprised of a combination of the compound or the pharmaceutically acceptable salt thereof according to claim 1, ~~any one of claims 1 to 118~~ and at least one agent selected from the group consisting of therapeutic agents for sepsis, febrile neutropenia, bacterial meningitis, bacterial endocarditis, otitis media, sinusitis, pneumonia, lung abscess, empyema, secondary infection of a chronic respiratory disease, pharyngolaryngitis, tonsillitis, osteomyelitis, arthritis, peritonitis, intraperitoneal abscess, cholecystitis, cholangitis, liver abscess, a deep skin infection, lymphangitis/lymphadenitis, secondary infection of trauma, burn injury, surgical wound, or the like, a urinary tract infection, a genital infection, an eye infection, and an odontogenic infection.

~~[Claim 139]~~

78. A pharmaceutical composition comprising a β-lactam agent, wherein the pharmaceutical composition is to be administered with the compound or the pharmaceutically acceptable salt thereof according to claim 1~~any one of claims 1 to 118~~.

~~[Claim 140]~~

79. A method for treating a bacterial infection, characterized in that a therapeutically effective amount of the compound or the pharmaceutically acceptable salt thereof according to claim 1,~~any one of claims 1 to 118~~ is to be administered to a patient in need thereof.

~~[Claim 141]~~

80. The method according to claim ~~140~~79, wherein the bacterial infection is a bacterial infection in which a bacteria that can have a β-lactamase is involved.

~~[Claim 142]~~

81. The method according to claim ~~140~~ 79~~or 141~~, wherein the bacterial infection is sepsis, febrile neutropenia, bacterial meningitis, bacterial endocarditis, otitis media, sinusitis, pneumonia, lung abscess, empyema, secondary infection of a chronic respiratory disease, pharyngolaryngitis, tonsillitis, osteomyelitis, arthritis, peritonitis, intraperitoneal abscess, cholecystitis, cholangitis, liver abscess, a deep skin infection, lymphangitis/lymphadenitis, secondary infection of trauma, burn injury, surgical wound, or the like, a urinary tract infection, a genital infection, an eye infection, or an odontogenic infection.

~~[Claim 143]~~

82. The method according to claim 79~~any one of claims 140 to 142~~, characterized in that an additional agent is to be concomitantly administered.