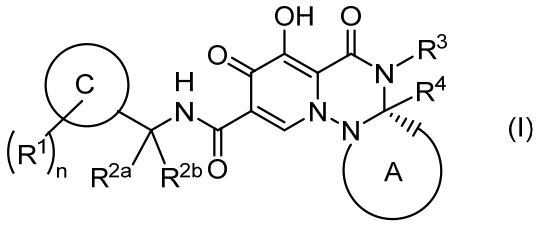
CLAIMS

[Claim 1]

A compound represented by the following formula (I) or a pharmaceutically acceptable salt thereof:

[Chemical Formula 1]



(I)

wherein

ring A is a substituted or unsubstituted nonaromatic heterocycle;

ring C is a benzene ring, a pyridine ring, or a 5-membered aromatic heterocycle;

R^1 is each independently halogen, alkyl, haloalkyl, alkyloxy, cyano, or haloalkyloxy;

R^{2a} and R^{2b} are each independently hydrogen, alkyl, or haloalkyl;

R^{2a} and R^{2b} may be taken together with the adjacent carbon atom to form a nonaromatic carbocycle or a nonaromatic heterocycle;

R^3 is substituted or unsubstituted alkyl, substituted or unsubstituted nonaromatic carbocyclyl, or substituted or unsubstituted nonaromatic heterocyclyl;

R^4 is hydrogen, or substituted or unsubstituted alkyl;

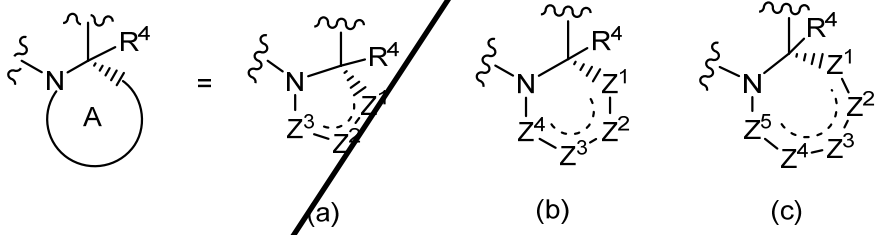
R^3 and R^4, or R^3 and a substituent on ring A may be taken together with the adjacent atoms to form a substituted or unsubstituted nonaromatic heterocycle; and

n is an integer of 1 to 3.

[Claim 2]

The compound according to claim 1 or a pharmaceutically acceptable salt thereof, wherein ring A is any of the following rings:

[Chemical Formula 2]



(a) (b) (c)

wherein

R^4 is hydrogen, or substituted or unsubstituted alkyl;

the broken line represents the presence or absence of a bond;

Z^1, Z^2, Z^3, Z^4 and Z^5 are each independently $CR^{5a}R^{5b}$, CR^{5a}, O, N, NR^{5c}, or S, wherein the number of heteroatoms constituting the ring structure of ring A in Z^1, Z^2, Z^3, Z^4 and Z^5 is 0 or 1;

Z^1 and Z^3, Z^1 and Z^4, Z^1 and Z^5, Z^2 and Z^4, Z^2 and Z^5, Z^3 and Z^5, R^4 and Z^2, R^4 and Z^3, R^4 and Z^4, or R^4 and Z^5 may be taken together to form a substituted or unsubstituted C1-C4 cross-link optionally interrupted by a heteroatom selected from NR^{5c}, O and S;

R^{5a} and R^{5b} are each independently hydrogen, halogen, substituted or unsubstituted alkyl, or substituted or unsubstituted alkyloxy;

R^{5a} and R^{5b} on the same carbon atom may be taken together to form a substituted or unsubstituted nonaromatic carbocycle, or a substituted or unsubstituted nonaromatic heterocycle;

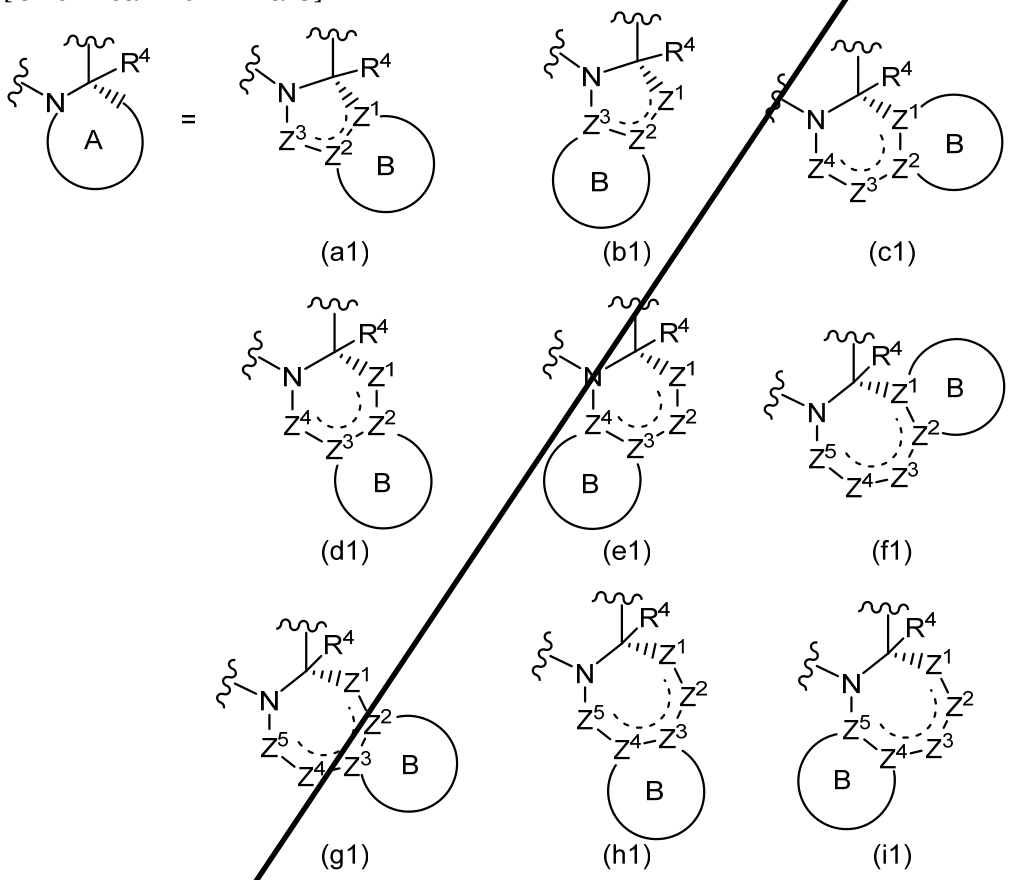
R^{5c} is each independently hydrogen, substituted or unsubstituted alkyl, substituted or unsubstituted alkylcarbonyl, substituted or unsubstituted alkyloxycarbonyl, substituted or unsubstituted carbamoyl, substituted or unsubstituted aromatic carbocyclyl, substituted or unsubstituted nonaromatic carbocyclyl, substituted or unsubstituted aromatic heterocyclyl, or substituted or unsubstituted nonaromatic heterocyclyl;

R^3 and R^4 may be taken together with the adjacent atoms to form a substituted or unsubstituted nonaromatic heterocycle.

[Claim 3]

The compound according to claim 1 or a pharmaceutically acceptable salt thereof, wherein ring A is any of the following rings:

[Chemical Formula 3]



wherein

R^4 is hydrogen, or substituted or unsubstituted alkyl;

the broken line represents the presence or absence of a bond;

ring B is a substituted or unsubstituted aromatic carbocycle, a substituted or unsubstituted nonaromatic carbocycle, or a substituted or unsubstituted nonaromatic heterocycle;

Z^1, Z^2, Z^3, Z^4 and Z^5 are each independently $CR^{5a}R^{5b}$, CR^{5a}, C, O, N, NR^{5c}, or S (provided that an atom constituting ring B is CR^{5a}, C, or N);

Z^1 and Z^3, Z^1 and Z^4, Z^1 and Z^5, Z^2 and Z^4, Z^2 and Z^5, Z^3 and Z^5, R^4 and Z^2, R^4 and Z^3, R^4 and Z^4, or R^4 and Z^5 may be taken together to form a substituted or unsubstituted C2-C4 cross-link optionally interrupted by a heteroatom selected from NR^{5c}, O and S;

R^{5a} and R^{5b} are each independently hydrogen, halogen, substituted or unsubstituted alkyl, or substituted or unsubstituted alkyloxy;

R^{5a} and R^{5b} on the same carbon atom may be taken together to form a substituted or unsubstituted nonaromatic carbocycle, or a substituted or unsubstituted nonaromatic heterocycle;

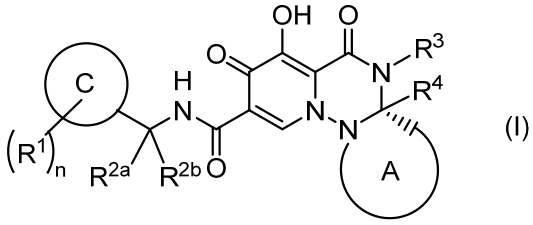
R^{5c} is hydrogen, substituted or unsubstituted alkyl, substituted or unsubstituted alkylcarbonyl, substituted or unsubstituted alkyloxycarbonyl, substituted or unsubstituted carbamoyl, substituted or unsubstituted aromatic carbocyclyl, substituted or unsubstituted nonaromatic carbocyclyl, substituted or unsubstituted aromatic heterocyclyl, or substituted or unsubstituted nonaromatic heterocyclyl;

R^3 and R^4 may be taken together with the adjacent atoms to form a substituted or unsubstituted nonaromatic heterocycle.

[Claim 4]

The compound according to any one of claims 1 to 3 or a pharmaceutically acceptable salt thereof, wherein the compound is represented by the following formula (I):

[Chemical Formula 4]

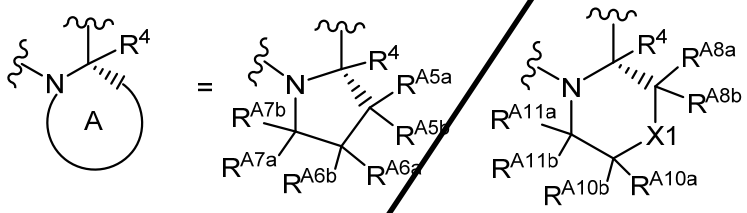


(I)

wherein

ring A is any of the following ring:

[Chemical Formula 5]



(a2) (b2)

X1 is $CR^{A9a}R^{A9b}$ or O;

R^{A5a}, R^{A5b}, R^{A6a}, R^{A6b}, R^{A7a} and R^{A7b} are each independently hydrogen, alkyl, alkyloxy, or alkyloxyalkyl;

R^{A5a} and R^{A6a}, or R^{A6a} and R^{A7a} may be taken together with the adjacent atoms to form an aromatic carbocycle optionally substituted by halogen, a 3- to 6-membered nonaromatic carbocycle optionally substituted by halogen, or a 4- to 6-membered nonaromatic heterocycle optionally substituted by halogen (provided that, when forming an aromatic carbocycle, R^{A5b} and R^{A6b}, or R^{A6b} and R^{A7b} are taken together to form a bond);

R^{A5b} and R^{A6b} may be taken together to form a bond;

R^{A8a}, R^{A8b}, R^{A9a}, R^{A9b}, R^{A10a}, R^{A10b}, R^{A11a} and R^{A11b} are each independently hydrogen, alkyl, alkyloxy, or alkyloxyalkyl;

R^{A8a} and R^{A10a} may be taken together to form a C1-C3 cross-link;

R^{A10a} and R^{A11a} may be taken together with the adjacent atoms to form a 5-membered nonaromatic carbocycle;

R^{A9a} and R^{A9b} may be takentogether with the adjacent atom to form a 4-

membered nonaromatic carbocycle or a 5-membered nonaromatic heterocycle;

R^{A8a} and R^{A9a} may be taken together to form a bond;

ring C is a benzene ring or a pyridine ring;

R^1 is each independently halogen, alkyl, haloalkyl, alkyloxy, cyano, or haloalkyloxy;

R^{2a} and R^{2b} are each independently hydrogen, alkyl, or haloalkyl;

R^3 is alkyl or haloalkyl;

R^4 is hydrogen or alkyl; and

n is an integer of 1 to 3.

[Claim 5]

The compound according to any one of claims 1 to 3 or a pharmaceutically acceptable salt thereof, wherein R^3 is alkyl or haloalkyl.

[Claim 6]

The compound according to any one of claims 1 to 4 or a pharmaceutically acceptable salt thereof, wherein R^3 is alkyl.

[Claim 7]

The compound according to any one of claims 1 to 3, 5 and 6 or a pharmaceutically acceptable salt thereof, wherein R^4 is hydrogen or alkyl.

[Claim 8]

The compound according to any one of claims 1 to 7 or a pharmaceutically acceptable salt thereof, wherein R^1 is each independently halogen, alkyl, or haloalkyl.

[Claim 9]

The compound according to any one of claims 1 to 7 or a pharmaceutically acceptable salt thereof, wherein R^1 is each independently halogen.

[Claim 10]

The compound according to any one of claims 1 to 3 and 5 to 9 or a pharmaceutically acceptable salt thereof, wherein R^{2a} is hydrogen and R^{2b} is hydrogen or alkyl,
or R^{2a} and R^{2b} are taken together with the adjacent carbon atom to form a C3-C4 carbocycle.

[Claim 11]

The compound according to any one of claims 1 to 9 or a pharmaceutically acceptable salt thereof, wherein R^{2a} is hydrogen and R^{2b} is hydrogen or alkyl.

[Claim 12]

The compound according to any one of claims 1 to 3 and 5 to 11 or a pharmaceutically acceptable salt thereof, wherein ring C is a benzene ring or a pyridine ring.

[Claim 13]

The compound according to claim 1 or a pharmaceutically acceptable salt thereof, wherein the compound is selected from the group consisting of compounds I-2, I-6, I-11, and I-15.

[Claim 14]

The compound according to claim 1 or a pharmaceutically acceptable salt thereof, wherein the compound is selected from the group consisting of compounds II-4, II-8, II-9, II-15, II-18, II-20, II-21, II-22, II-23, II-24, II-26, II-28, II-31, II-37, II-40, II-41, II-42, II-44, II-46, II-49, II-51, II-53, II-57, II-60, II-66, II-70, II-71, II-87, II-90, II-99, II-106, II-112, II-133, II-136, II-153 and II-156.

[Claim 15]

A pharmaceutical composition comprising the compound according to any one

of claims 1 to 14 or a pharmaceutically acceptable salt thereof.

[Claim 16]

The pharmaceutical composition according to claim 15, wherein the pharmaceutical composition is an anti-HIV agent.

[Claim 17]

An HIV integrase inhibitor comprising the compound according to any one of claims 1 to 14 or a pharmaceutically acceptable salt thereof.

[Claim 18]

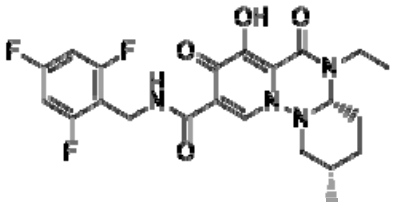
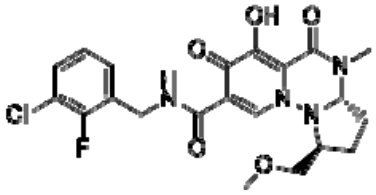
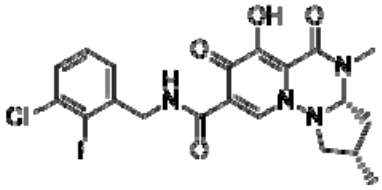
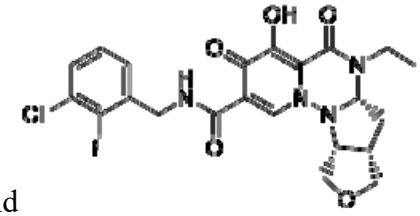
A method for treating and/or preventing HIV infection, comprising administering the compound according to any one of claims 1 to 14 or a pharmaceutically acceptable salt thereof.

[Claim 19]

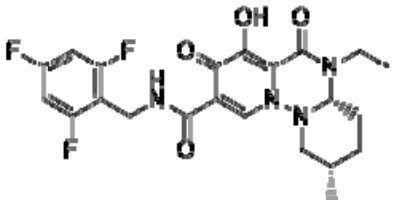
The compound according to any one of claims 1 to 14 or a pharmaceutically acceptable salt thereof for use in treating and/or preventing HIV infection.

CLAIMS

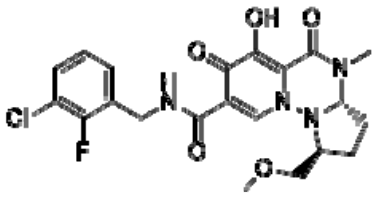
1. A compound or a pharmaceutically acceptable salt thereof, wherein the compound is selected from the group consisting of


II-20,

II-31,

II-42, and

II-60.

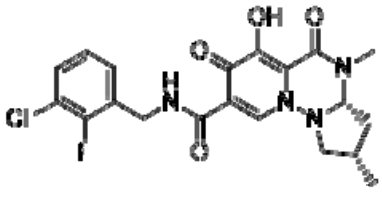
2. A compound or a pharmaceutically acceptable salt thereof, wherein the compound is


II-20.

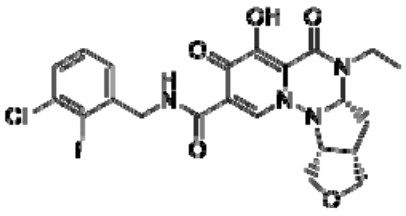
3. A compound or a pharmaceutically acceptable salt thereof, wherein the compound is


II-31.

4. A compound or a pharmaceutically acceptable salt thereof, wherein the compound is


II-42.

5. A compound or a pharmaceutically acceptable salt thereof, wherein the compound is



II-60.

6. A pharmaceutical composition comprising the compound according to claim 1 or a pharmaceutically acceptable salt thereof and a pharmaceutically acceptable carrier or pharmaceutically acceptable diluent.

7. A pharmaceutical composition comprising the compound according to claim 2 or a pharmaceutically acceptable salt thereof and a pharmaceutically acceptable carrier or pharmaceutically acceptable diluent.

8. A pharmaceutical composition comprising the compound according to claim 3 or a pharmaceutically acceptable salt thereof and a pharmaceutically acceptable carrier or pharmaceutically acceptable diluent.

9. A pharmaceutical composition comprising the compound according to claim 4 or a pharmaceutically acceptable salt thereof and a pharmaceutically acceptable carrier or pharmaceutically acceptable diluent.

10. A pharmaceutical composition comprising the compound according to claim 5 or a pharmaceutically acceptable salt thereof and a pharmaceutically acceptable carrier or pharmaceutically acceptable diluent.