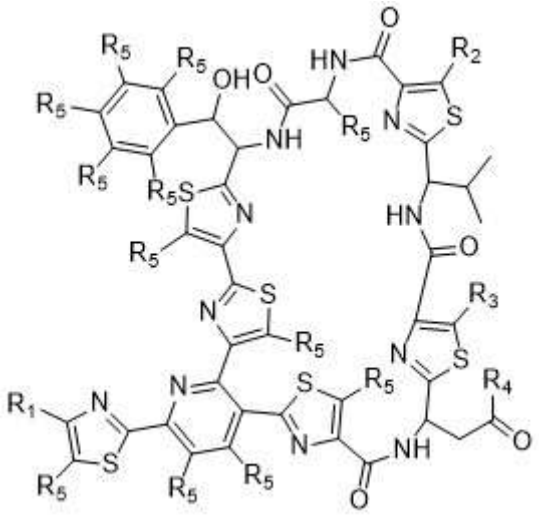
Summary

In the present disclosure, there is provided a compound of Formula (I) or a pharmaceutically acceptable salt, metabolite, prodrug or stereoisomer thereof:



Formula (I)

wherein:

R_1 is -C(O)-R_6 or -A-G-J-L;

A is optionally substituted carbocyclylene, optionally substituted heterocarbocyclylene, optionally substituted cycloalkylene, optionally substituted heterocycloalkylene, optionally substituted arylene, optionally substituted heteroarylene, or -C(O)N(R_{7a})-;

G is -C(O)- or optionally substituted -alkylene-C(O)-;

J is optionally substituted carbocyclylene, optionally substituted heterocarbocyclylene, optionally substituted cycloalkylene, optionally substituted heterocycloalkylene, optionally substituted arylene, or optionally substituted heteroarylene;

L is -C(O)-R_6;

R_2 is -H, optionally substituted alkyl, optionally substituted alkenyl, or optionally substituted alkynyl, or optionally substituted alkalkoxy;

R_3 is -H, optionally substituted alkyl, optionally substituted alkenyl, or optionally substituted alkynyl;

R_4 is -H, -OH, optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, or -N(R_{7a})(R_{7b});

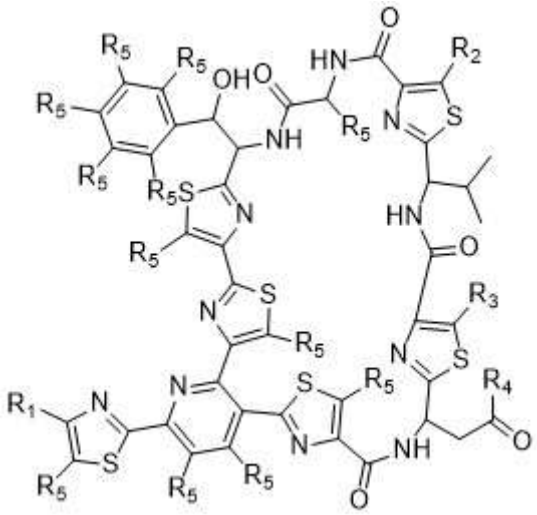
R_5 is independently selected from the group consisting of -H, halogen, -N(R_{7a})(R_{7b}), optionally substituted alkoxy, optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted carbocyclyl, optionally substituted heterocarbocyclyl, optionally substituted cycloalkyl, optionally substituted heterocycloalkyl, optionally substituted aryl, or optionally substituted heteroaryl;

R_6 is -OH, alkoxy, or -N(R_{7a})(R_{7b}); and

R_{7a} and R_{7b} are independently -H or optionally substituted alkyl,

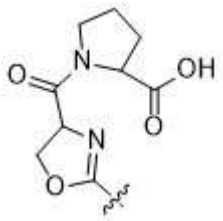
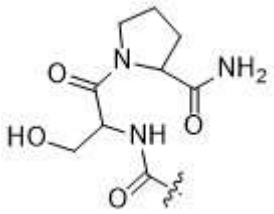
wherein when R_2 is optionally substituted alkalkoxy, R_3 is -H, optionally substituted alkenyl, or optionally substituted alkynyl.

In one aspect of the present disclosure, there is provided a compound of Formula (I) or a pharmaceutically acceptable salt or stereoisomer thereof:



Formula (I)

wherein:

R_1 is selected from the group consisting of -COOH, -C(O)OCH$_3$, , and ;

R_2 is -H, optionally substituted alkyl, optionally substituted alkenyl, or optionally substituted alkynyl;

R_3 is -H, optionally substituted alkyl, optionally substituted alkenyl, or optionally substituted alkynyl;

R_4 is -H, -OH, optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, or -N(R_{7a})(R_{7b});

R_5 is independently selected from the group consisting of -H, halogen, -N(R_{7a})(R_{7b}), optionally substituted alkoxy, optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted carbocyclyl, optionally substituted heterocarbocyclyl, optionally substituted cycloalkyl, optionally substituted heterocycloalkyl, optionally substituted aryl, or optionally substituted heteroaryl;

R_6 is -OH, alkoxy, or -N(R_{7a})(R_{7b}); and

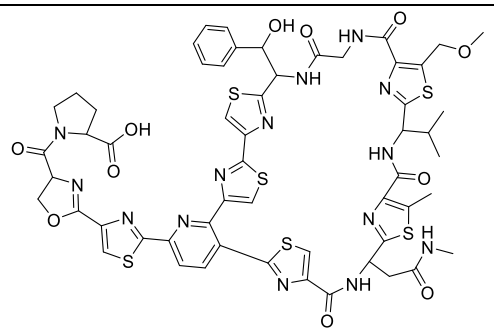
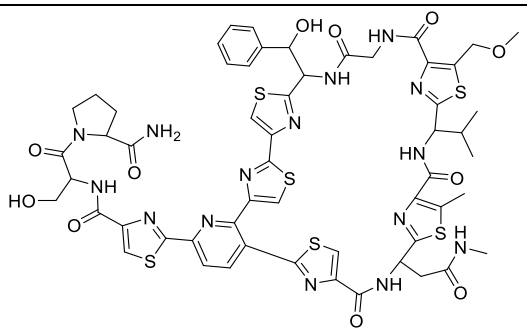
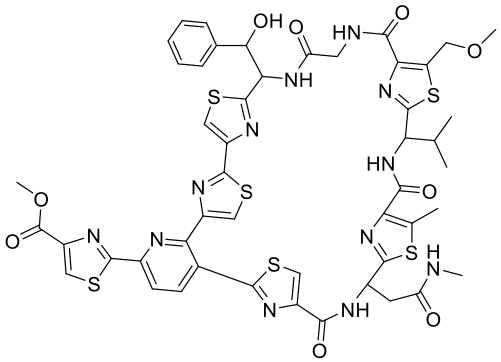
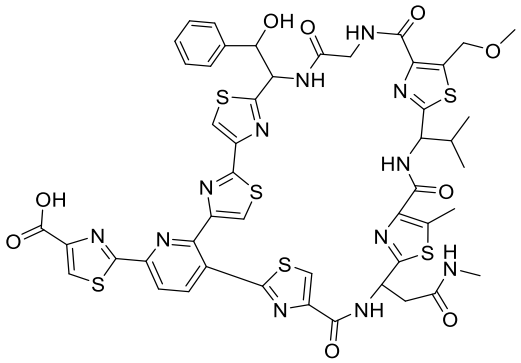
R_{7a} and R_{7b} are independently -H or optionally substituted alkyl,

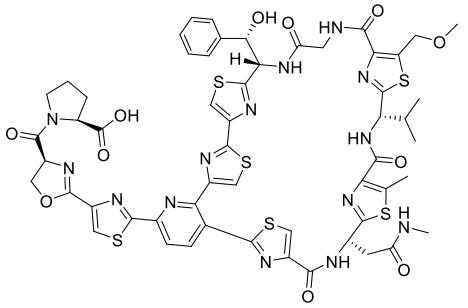
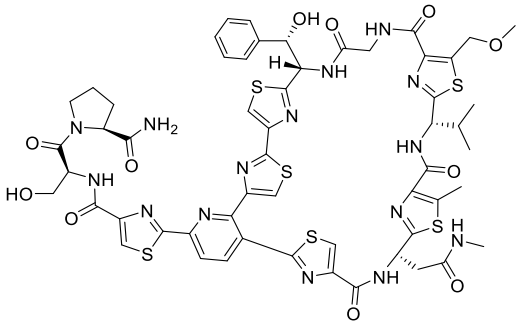
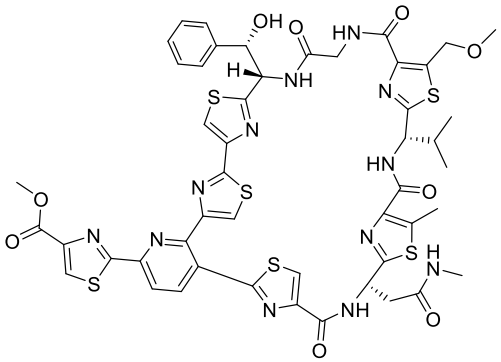
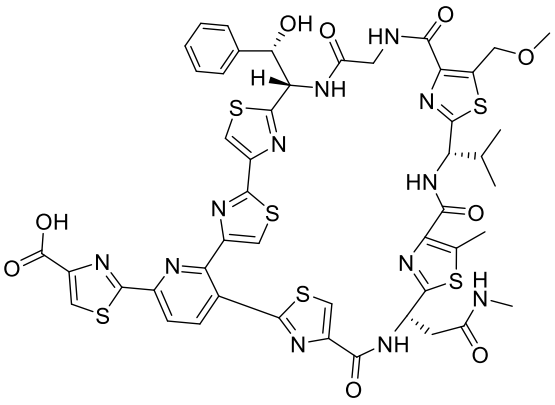
wherein when R_2 is -CH_2OCH_3, R3 is -H, optionally substituted alkenyl, or optionally substituted alkynyl.

In the present disclosure, there is provided a pharmaceutical composition comprising a therapeutically effective amount of a compound disclosed herein, or a pharmaceutically acceptable salt, metabolite, prodrug or stereoisomer thereof, and a pharmaceutically acceptable excipient.

In another aspect of the present disclosure, there is provided a pharmaceutical composition comprising a therapeutically effective amount of a compound disclosed herein, or a pharmaceutically acceptable salt or stereoisomer thereof, and a pharmaceutically acceptable excipient.

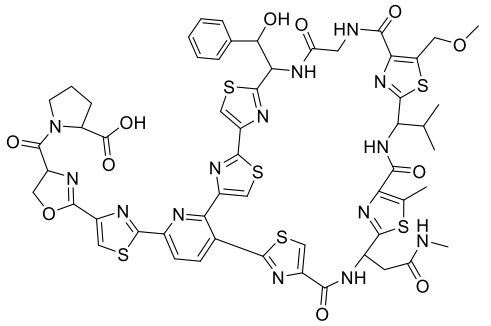
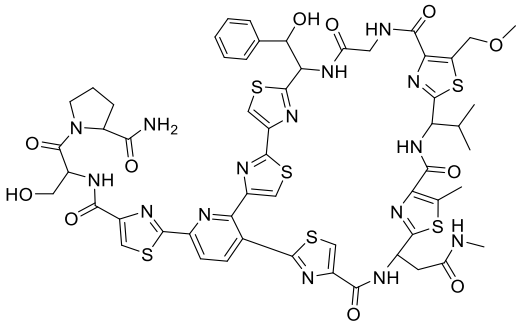
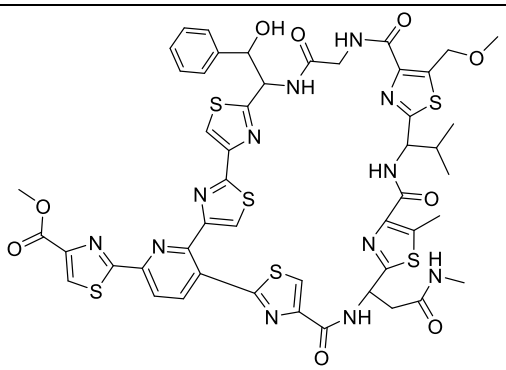
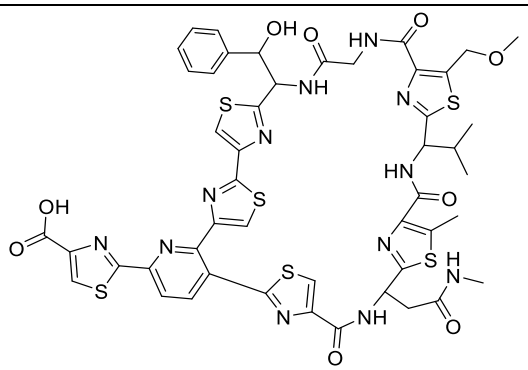
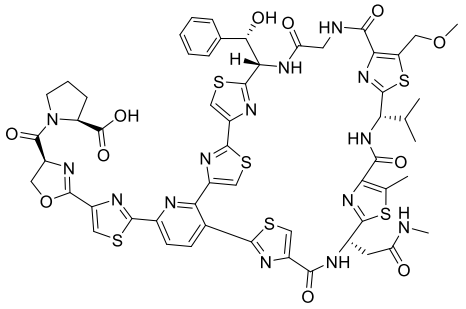
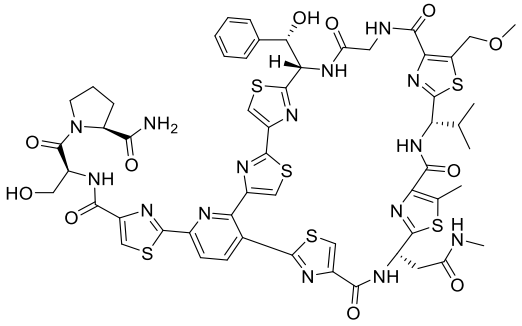
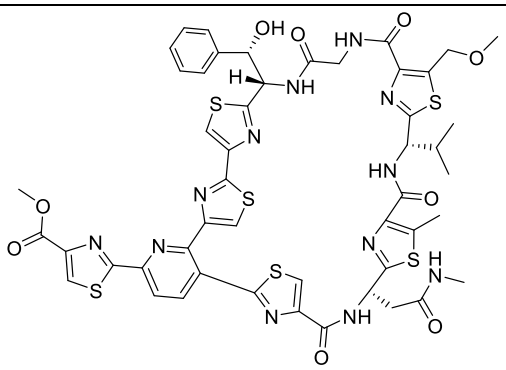
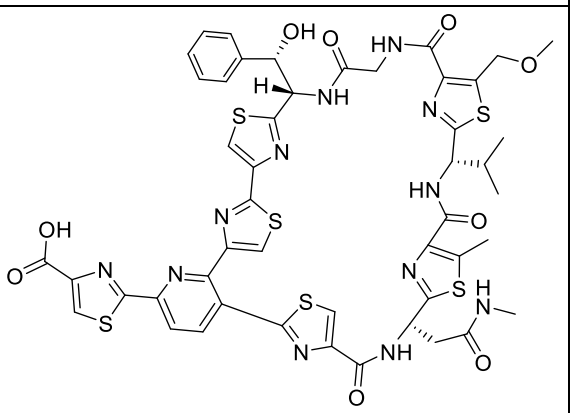
In another aspect of the present disclosure, there is provided a compound disclosed herein or a compound selected from the following table, or a pharmaceutically acceptable salt or stereoisomer thereof, for use in therapy

 Compound 1a	 Compound 6a
 Compound 8a	 Compound 9a

 Compound 1	 Compound 6
 Compound 8	 Compound 9

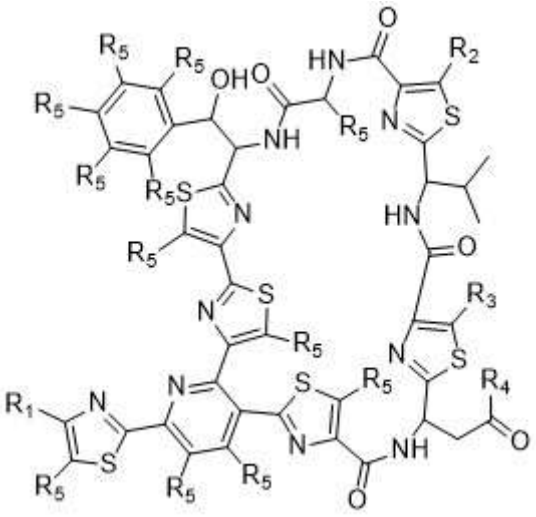
.

In another aspect of the present disclosure, there is provided use of a compound disclosed herein or a compound selected from the following table, or a pharmaceutically acceptable salt or stereoisomer thereof, in the manufacture of a medicament for the treatment of cancer or a bacterial, microbial and/or fungal infection

 Compound 1a	 Compound 6a
 Compound 8a	 Compound 9a
 Compound 1	 Compound 6
 Compound 8	 Compound 9

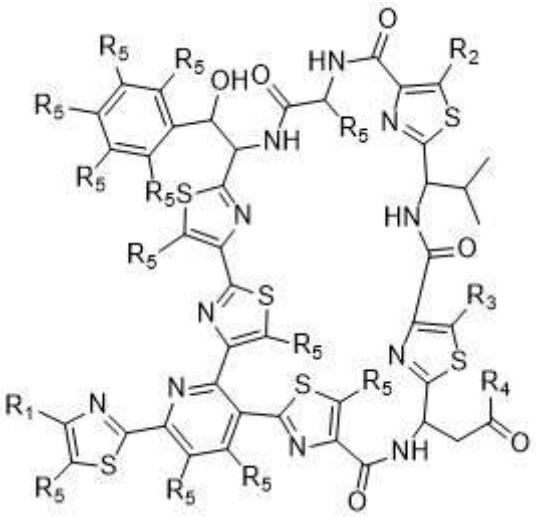
.

In the present disclosure, there is provided a method of treating a bacterial, microbial and/or fungal infection, comprising administering a therapeutically effective amount of a compound of Formula (I), or a pharmaceutically acceptable salt, metabolite, prodrug or stereoisomer thereof, to a subject in need of treatment:



Formula (I)

In the present disclosure, there is provided a method of treating cancer, comprising administering a therapeutically effective amount of a compound of Formula (I), or a pharmaceutically acceptable salt, metabolite, prodrug or stereoisomer thereof, to a subject in need of treatment:



Formula (I)

wherein:

R_1 is -C(O)-R_6 or -A-G-J-L;

A is optionally substituted carbocyclylene, optionally substituted heterocarbocyclylene, optionally substituted cycloalkylene, optionally substituted heterocycloalkylene, optionally substituted arylene, optionally substituted heteroarylene, or -C(O)N(R_{7a})-;

G is -C(O)- or optionally substituted -alkylene-C(O)-;

J is optionally substituted carbocyclylene, optionally substituted heterocarbocyclylene, optionally substituted cycloalkylene, optionally substituted heterocycloalkylene, optionally substituted arylene, or optionally substituted heteroarylene;

L is -C(O)-R_6;

R_2 is -H, optionally substituted alkyl, optionally substituted alkenyl, or optionally substituted alkynyl, or optionally substituted alkalkoxy;

R_3 is -H, optionally substituted alkyl, optionally substituted alkenyl, or optionally substituted alkynyl;

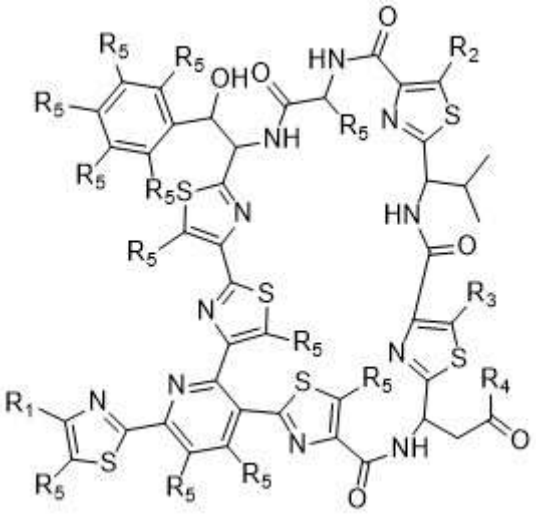
R_4 is -H, -OH, optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, or -N(R_{7a})(R_{7b});

R_5 is independently selected from the group consisting of -H, halogen, -N(R_{7a})(R_{7b}), optionally substituted alkoxy, optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted carbocyclyl, optionally substituted heterocarbocyclyl, optionally substituted cycloalkyl, optionally substituted heterocycloalkyl, optionally substituted aryl, or optionally substituted heteroaryl;

R_6 is -OH, alkoxy, or -N(R_{7a})(R_{7b}); and

R_{7a} and R_{7b} are independently -H or optionally substituted alkyl.

In the present disclosure, there is provided a method of isolating a compound of Formula (I),



Formula (I)

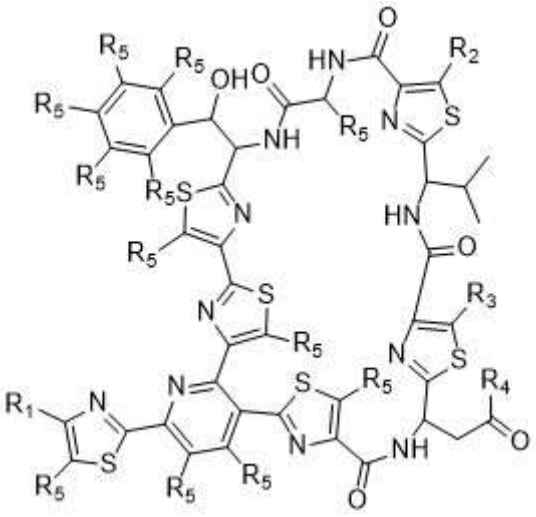
wherein:

R_1 is -C(O)-R_6 or -A-G-J-L;

A is optionally substituted carbocyclylene, optionally substituted heterocarbocyclylene, optionally substituted cycloalkylene, optionally substituted heterocycloalkylene, optionally substituted arylene, optionally substituted heteroarylene, or -C(O)N(R_{7a})-;

G is -C(O)- or optionally substituted -alkylene-C(O)-;

In another aspect of the present disclosure, there is provided a method of isolating a compound of Formula (I),



Formula (I)

wherein:

R_1 is -C(O)-R_6 or -A-G-J-L;

A is optionally substituted carbocyclylene, optionally substituted heterocarbocyclylene, optionally substituted cycloalkylene, optionally substituted heterocycloalkylene, optionally substituted arylene, optionally substituted heteroarylene, or -C(O)N(R_{7a})-;

G is -C(O)- or optionally substituted -alkylene-C(O)-;

J is optionally substituted carbocyclylene, optionally substituted heterocarbocyclylene, optionally substituted cycloalkylene, optionally substituted heterocycloalkylene, optionally substituted arylene, or optionally substituted heteroarylene;

L is -C(O)-R_6;

R_2 is -H, optionally substituted alkyl, optionally substituted alkenyl, or optionally substituted alkynyl;

R_3 is -H, optionally substituted alkyl, optionally substituted alkenyl, or optionally substituted alkynyl;

R_4 is -H, -OH, optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, or -N(R_{7a})(R_{7b});

R_5 is independently selected from the group consisting of -H, halogen, -N(R_{7a})(R_{7b}), optionally substituted alkoxy, optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted carbocyclyl, optionally substituted heterocarbocyclyl, optionally substituted cycloalkyl, optionally substituted heterocycloalkyl, optionally substituted aryl, or optionally substituted heteroaryl;

R_6 is -OH, alkoxy, or -N(R_{7a})(R_{7b}); and

R_{7a} and R_{7b} are independently -H or optionally substituted alkyl,

the method comprising:

(i) expanding a *Nonomuraea jiangxiensis* strain under culture conditions that allow expansion of the strain to obtain a seed culture;

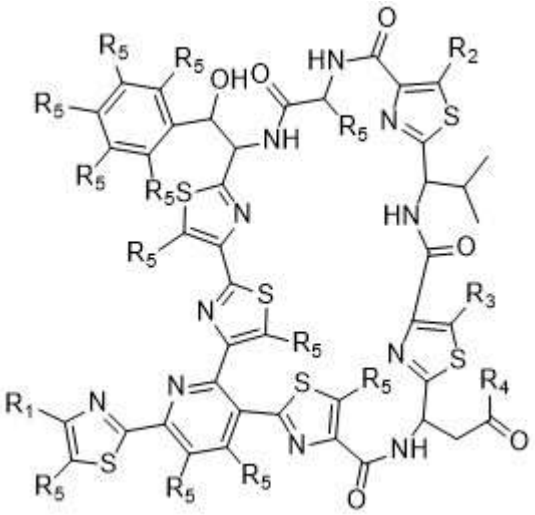
(ii) using the seed culture to inoculate a fermentation culture;

(iii) incubating the fermentation culture; and

(iv) isolating the compound from the fermentation culture.

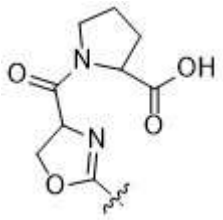
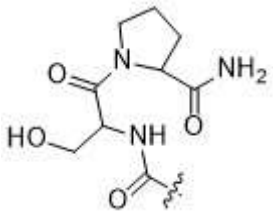
Claims

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



Formula (I)

wherein:

R_1 is selected from the group consisting of -COOH, -C(O)OCH$_3$, , and ;

R_2 is -H, optionally substituted alkyl, optionally substituted alkenyl, or optionally substituted alkynyl;

R_3 is -H, optionally substituted alkyl, optionally substituted alkenyl, or optionally substituted alkynyl;

R_4 is -H, -OH, optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, or -N(R_{7a})(R_{7b});

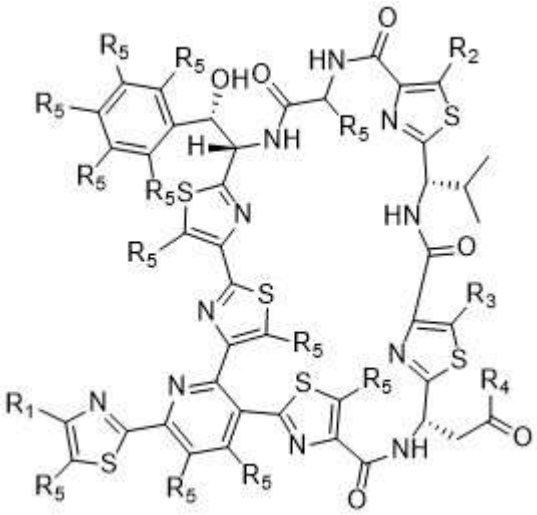
R_5 is independently selected from the group consisting of -H, halogen, -N(R_{7a})(R_{7b}), optionally substituted alkoxy, optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted carbocyclyl, optionally substituted heterocarbocyclyl, optionally substituted cycloalkyl, optionally substituted heterocycloalkyl, optionally substituted aryl, or optionally substituted heteroaryl;

R_6 is -OH, alkoxy, or -N(R_{7a})(R_{7b}); and

R_{7a} and R_{7b} are independently -H or optionally substituted alkyl,

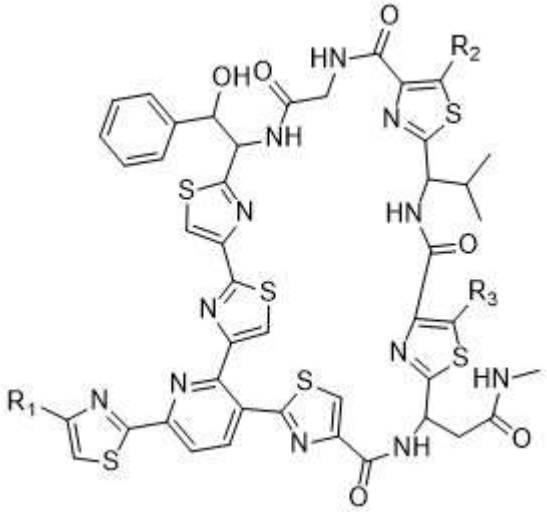
wherein when R_2 is -CH_2OCH_3, R_3 is -H, optionally substituted alkenyl, or optionally substituted alkynyl.

2. The compound of claim 1, wherein the compound has the structure and stereochemical configuration of Formula (II):



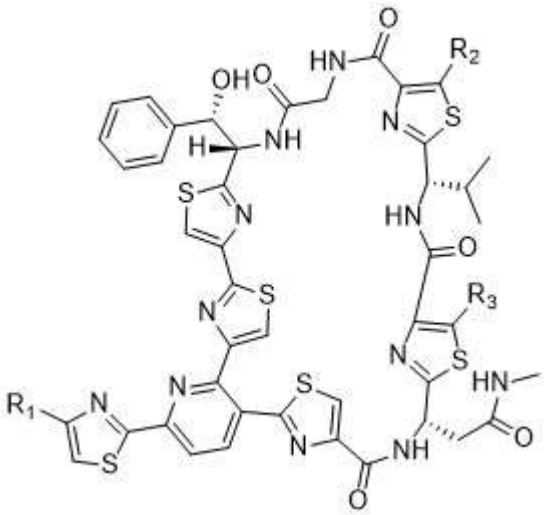
Formula (II).

3. The compound of any one of claims 1 to 2, wherein the compound is of Formula (III):

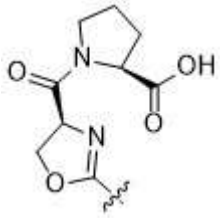
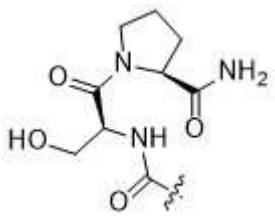


Formula (III).

4. The compound of any one of claims 1 to 3, wherein the compound is of Formula (IV):



Formula (IV).

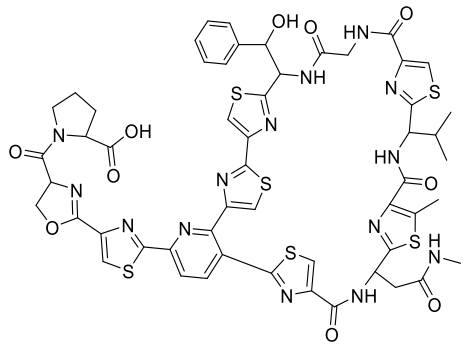
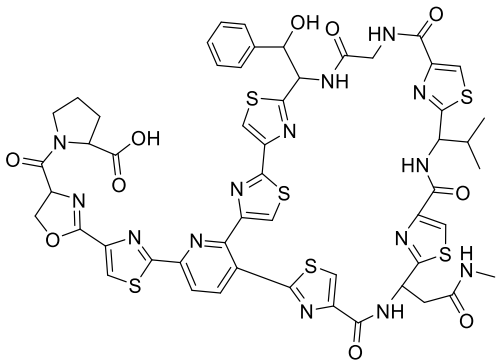
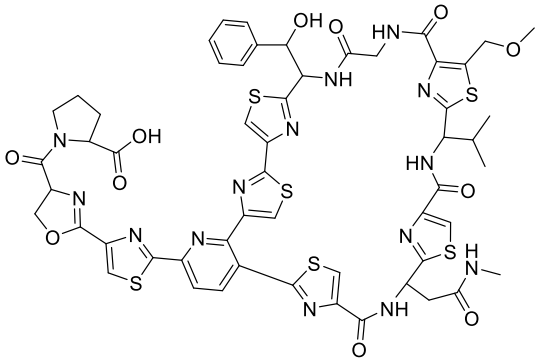
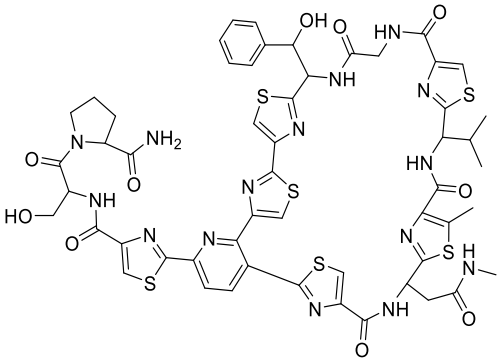
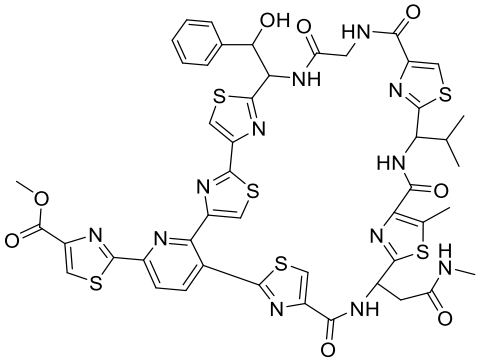
5. The compound of any one of claims to 1 to 4, wherein R_1 is selected from the group consisting of -COOH, -C(O)OCH$_3$, , and .

6. The compound of any one of claims 1 to 5, wherein R_2 is -H or -CH_2OCH_3.

7. The compound of any one of claims 1 to 6, wherein R_3 is -H or -CH_3.

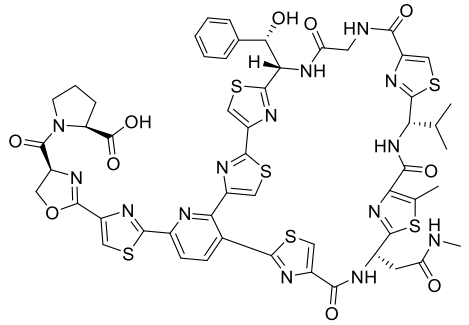
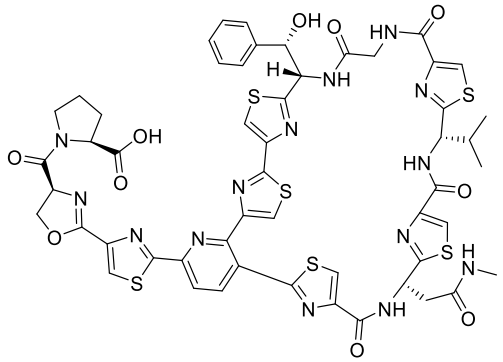
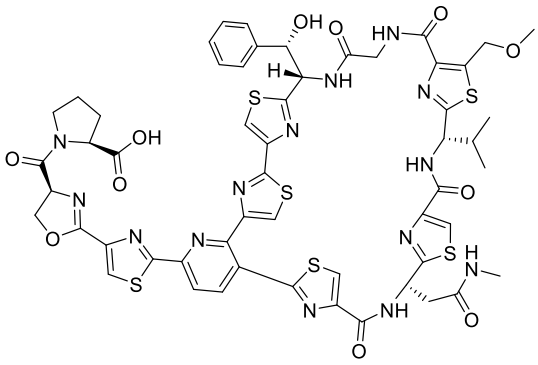
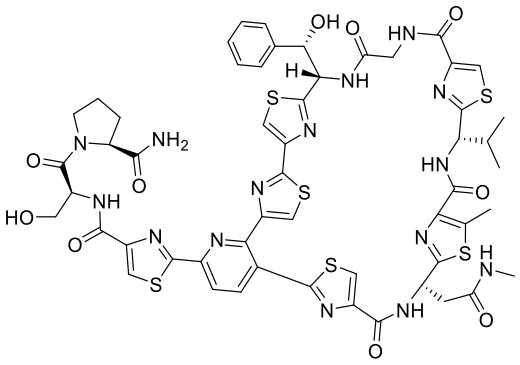
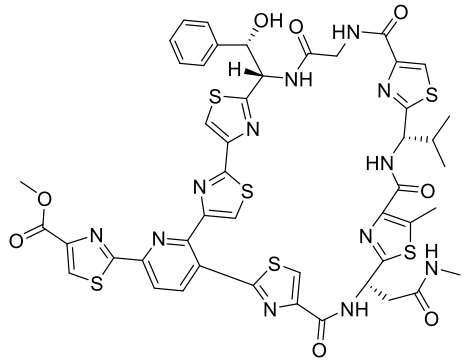
8. The compound of any one of claims 1 to 7, wherein R_4 is -NH(CH_3).

9. The compound of any one of claims 1 to 8, wherein the compound is selected from the group consisting of:

 Compound 2a	 Compound 3a
 Compound 4a	 Compound 5a
 Compound 7a	

.

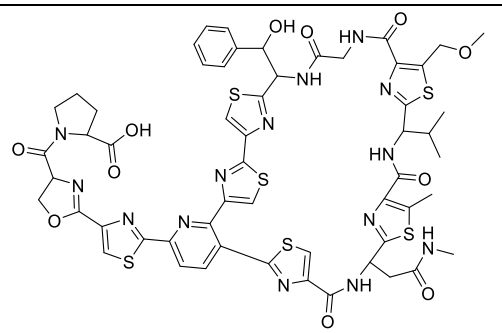
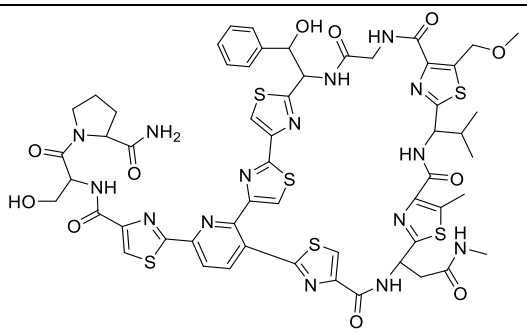
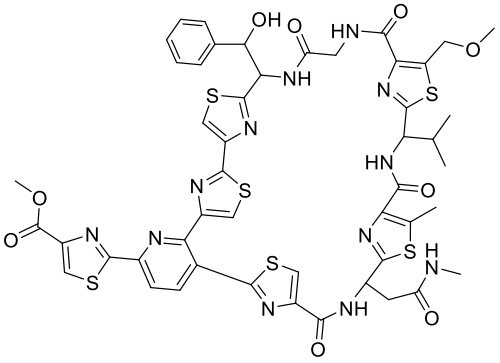
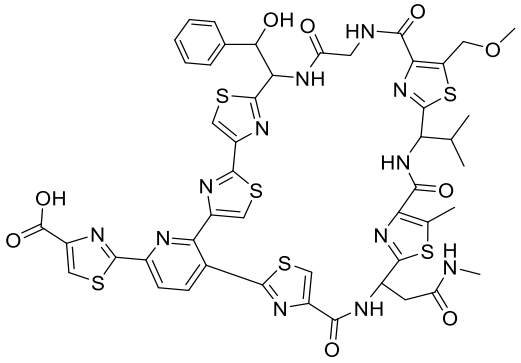
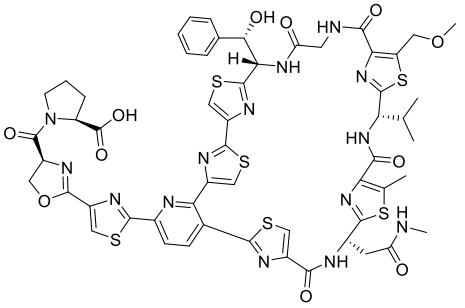
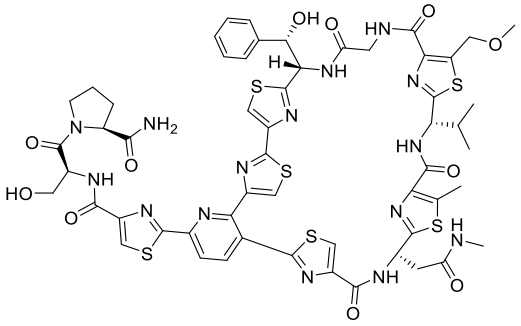
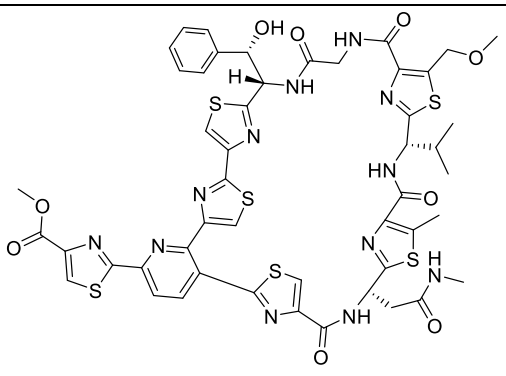
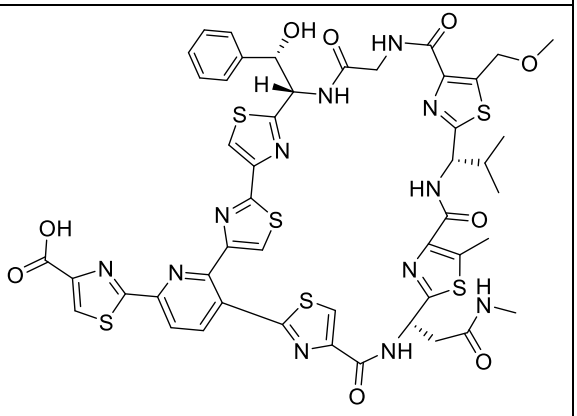
10. The compound of any one of claims 1 to 9, wherein the compound is selected from the group consisting of:

 Compound 2	 Compound 3
 Compound 4	 Compound 5
 Compound 7	

.

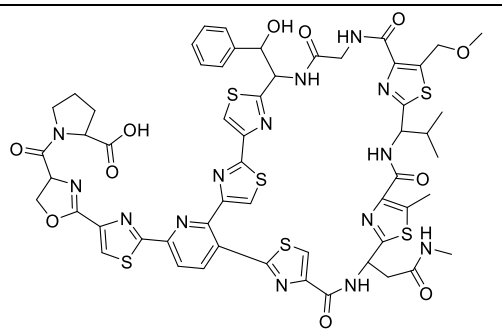
11. A pharmaceutical composition comprising a therapeutically effective amount of a compound of any one of claims 1 to 10, or a pharmaceutically acceptable salt or stereoisomer thereof, and a pharmaceutically acceptable excipient.

12. A compound of any one of claims 1 to 10 or a compound selected from the following table, or a pharmaceutically acceptable salt or stereoisomer thereof, for use in therapy

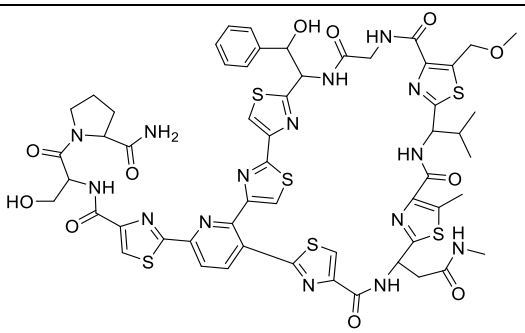
 Compound 1a	 Compound 6a
 Compound 8a	 Compound 9a
 Compound 1	 Compound 6
 Compound 8	 Compound 9

.

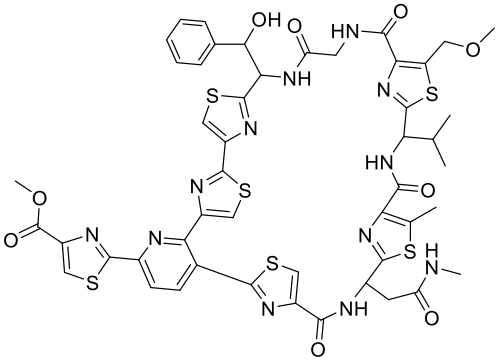
13. Use of a compound of any one of claims 1 to 10 or a compound selected from the following table, or a pharmaceutically acceptable salt or stereoisomer thereof, in the manufacture of a medicament for the treatment of cancer or a bacterial, microbial and/or fungal infection



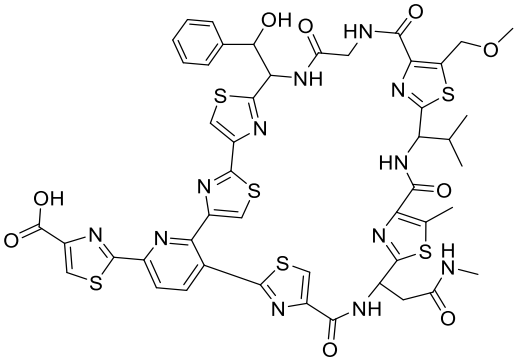
Compound 1a



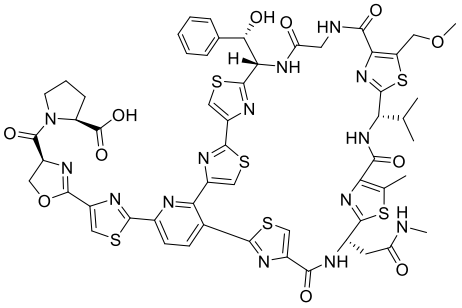
Compound 6a



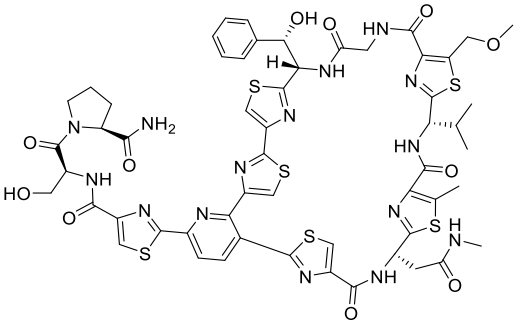
Compound 8a



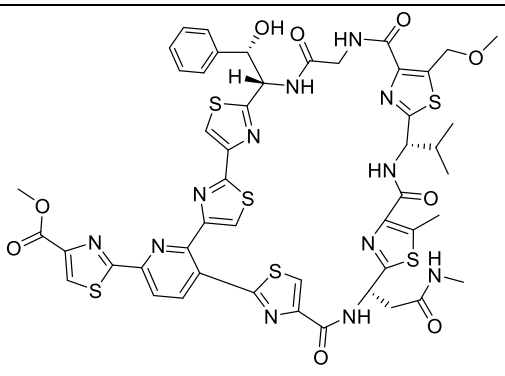
Compound 9a



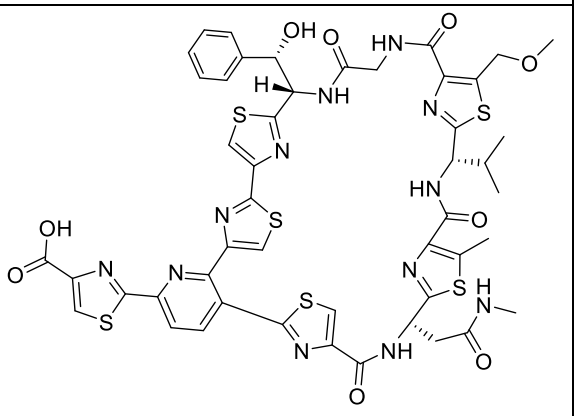
Compound 1



Compound 6



Compound 8



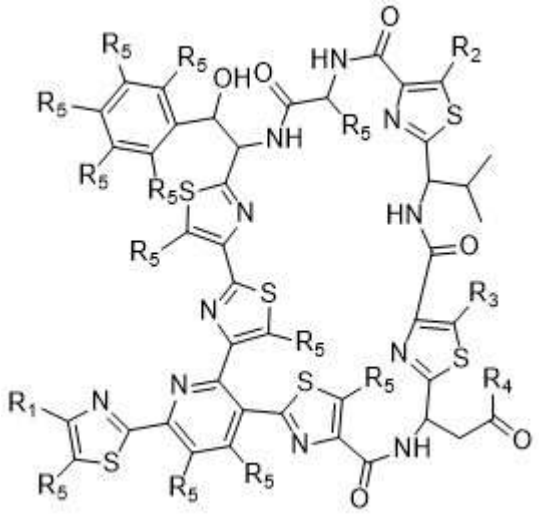
Compound 9

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14. The use of claim 13, wherein the infection is caused by *Staphylococcus aureus, Staphylococcus aureus* Rosenbach*, gram-positive methicillin-resistant Staphylococcus aureus (MRSA), Bacillus cereus*, *Bacillus subtilis*, *Clostridium perfringens*, *Acinetobacter baumannii*, *Klebsiella aerogenes*,

Pseudomonas aeruginosa, Candida albicans, Clostridium difficile, Enterococcus faecalis, Enterococcus faecium, or Micrococcus luteus.

15. A method of isolating a compound of Formula (I),



Formula (I)

wherein:

R_1 is -C(O)-R_6 or -A-G-J-L;

A is optionally substituted carbocyclylene, optionally substituted heterocarbocyclylene, optionally substituted cycloalkylene, optionally substituted heterocycloalkylene, optionally substituted arylene, optionally substituted heteroarylene, or -C(O)N(R_{7a})-;

G is -C(O)- or optionally substituted -alkylene-C(O)-;

J is optionally substituted carbocyclylene, optionally substituted heterocarbocyclylene, optionally substituted cycloalkylene, optionally substituted heterocycloalkylene, optionally substituted arylene, or optionally substituted heteroarylene;

L is -C(O)-R_6;

R_2 is -H, optionally substituted alkyl, optionally substituted alkenyl, or optionally substituted alkynyl;

R_3 is -H, optionally substituted alkyl, optionally substituted alkenyl, or optionally substituted alkynyl;

R_4 is -H, -OH, optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, or -N(R_{7a})(R_{7b});

R_5 is independently selected from the group consisting of -H, halogen, -N(R_{7a})(R_{7b}), optionally substituted alkoxy, optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted carbocyclyl, optionally substituted heterocarbocyclyl, optionally substituted cycloalkyl, optionally substituted heterocycloalkyl, optionally substituted aryl, or optionally substituted heteroaryl;

R_6 is -OH, alkoxy, or -N(R_{7a})(R_{7b}); and

R_{7a} and R_{7b} are independently -H or optionally substituted alkyl,

the method comprising:

(i) expanding a *Nonomuraea jiangxiensis* strain under culture conditions that allow expansion of the strain to obtain a seed culture;
(ii) using the seed culture to inoculate a fermentation culture;
(iii) incubating the fermentation culture; and
(iv) isolating the compound from the fermentation culture.

16. The method of claim 15, wherein step (iii) comprises incubating the fermentation culture for about 7 to about 12 days.

17. The method of claim 15 or 16, wherein step (iii) comprises incubating the fermentation culture at a temperature of about 25 °C to 35 °C.

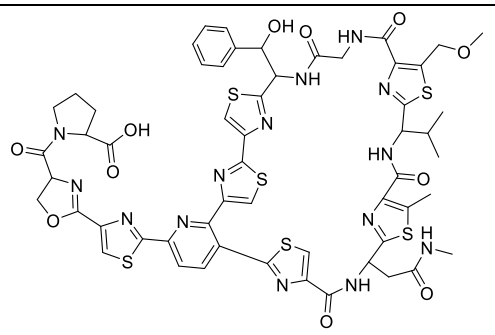
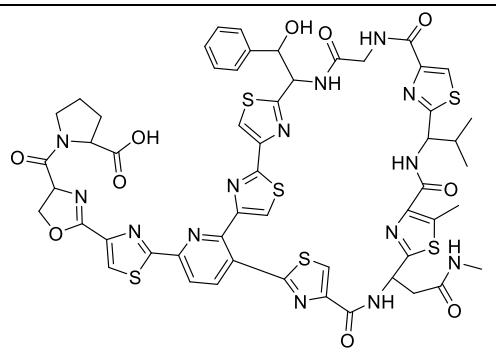
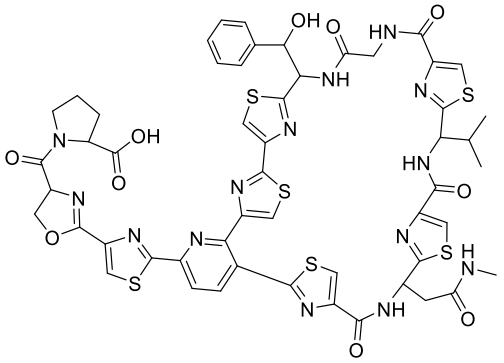
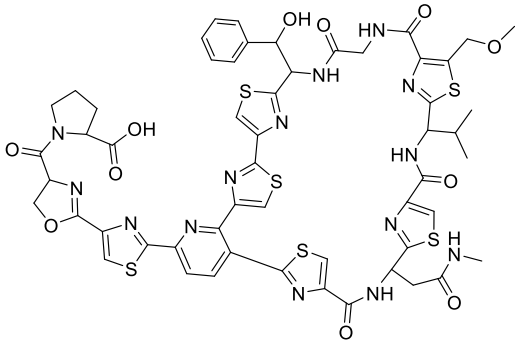
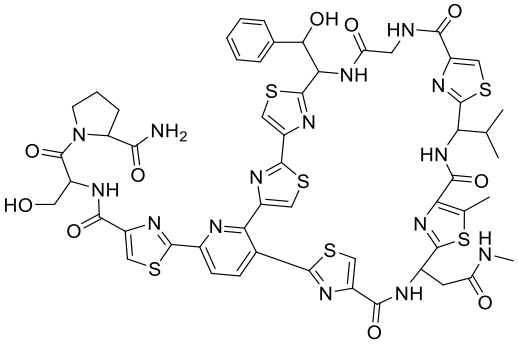
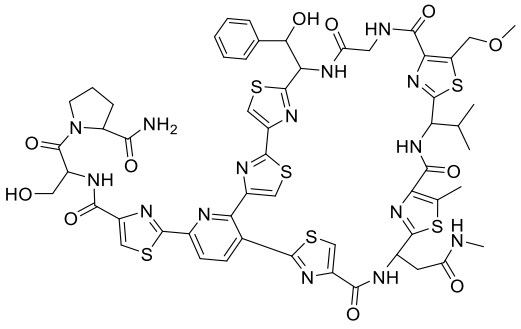
18. The method of any one of claims 15 to 17, wherein step (iii) comprises incubating the fermentation culture with a shaking condition of about 150 to 350 rpm.

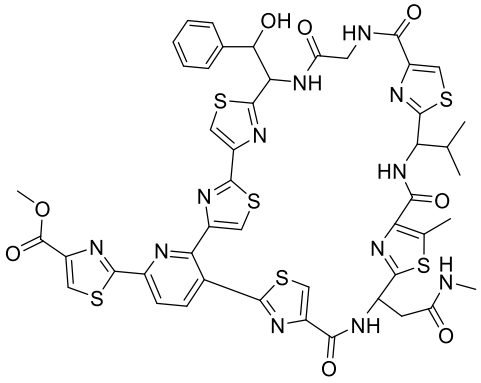
19. The method of any one of claims 15 to 18, wherein step (iii) comprises incubating the fermentation culture for 9 days at 28 °C with shaking condition of 200 rpm.

20. The method of any one of claims 15 to 19, wherein the compound is isolated using a method selected from the group consisting of centrifugation, precipitation, filtration, liquid extraction, methanol extraction, chromatography, column chromatography, affinity chromatography, evaporation, lyophilization, and combinations thereof.

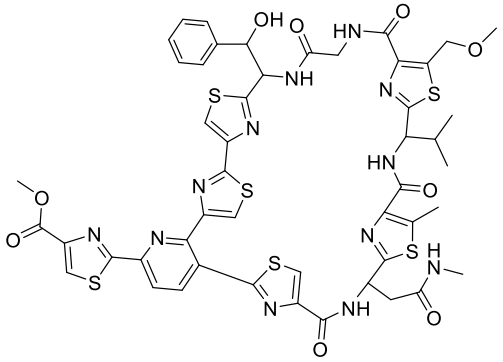
21. The method of any one of claims 15 to 20, wherein the compound is a compound of any one of claims 1 to 10.

22. The method of any one of claims 15 to 21, wherein the compound is a compound selected from the group consisting of

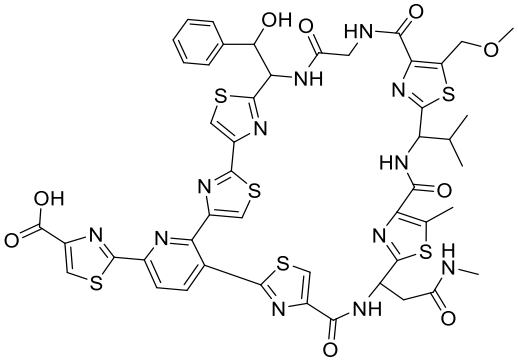
 Compound 1a	 Compound 2a
 Compound 3a	 Compound 4a
 Compound 5a	 Compound 6a



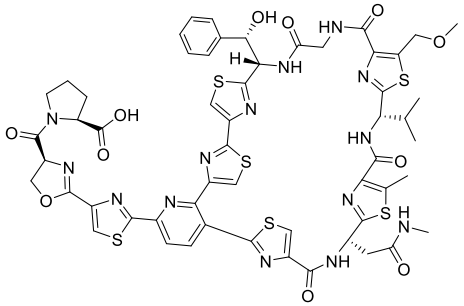
Compound 7a



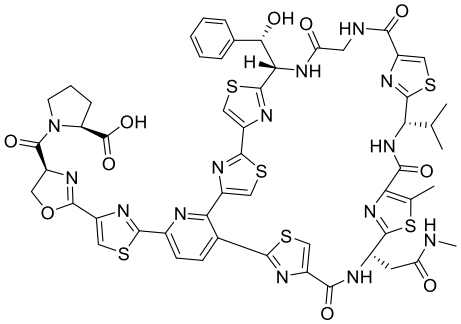
Compound 8a



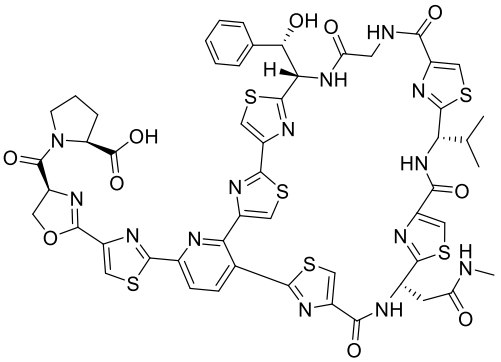
Compound 9a



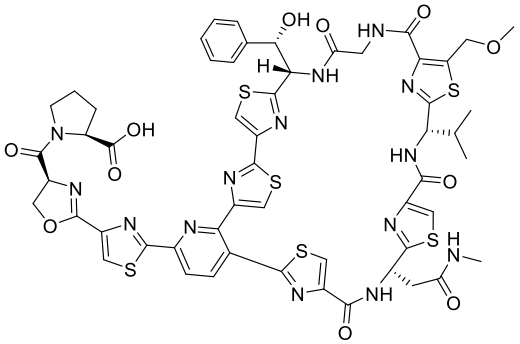
Compound 1



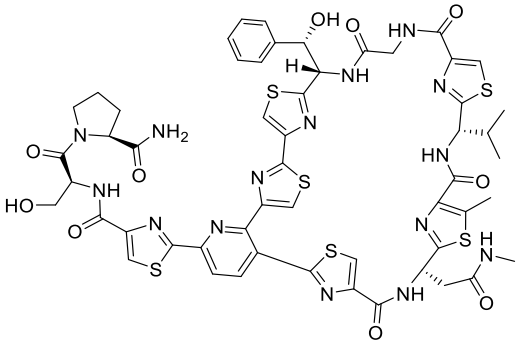
Compound 2



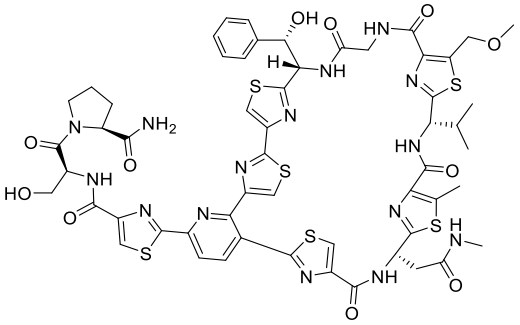
Compound 3



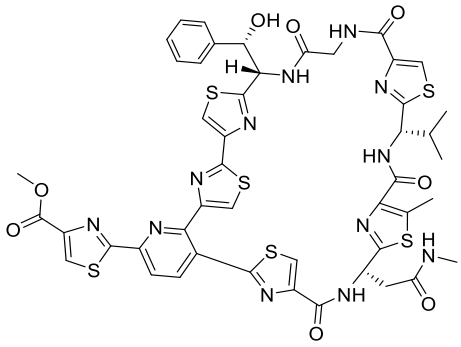
Compound 4



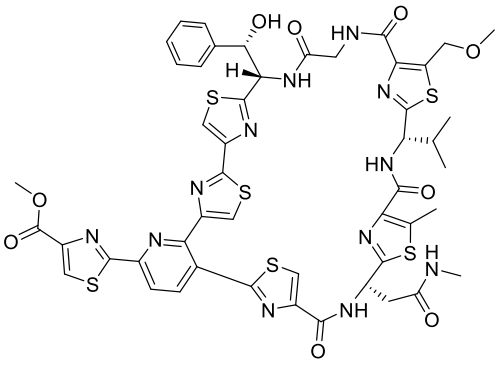
Compound 5



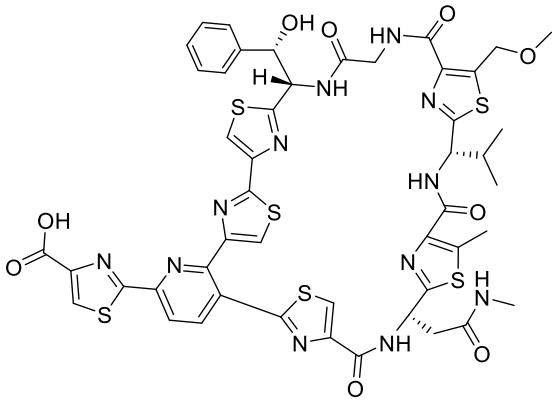
Compound 6



Compound 7



Compound 8



Compound 9

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