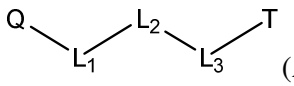
Claims

WHAT IS CLAIMED IS:

1. A compound, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof, wherein the compound comprises a structure represented by formula (A):



(A),

wherein, Q is a linking group,

L_1 comprises $-L_{1a}-C(=O)-$,

wherein, L_{1a} is selected from the group consisting of optionally substituted alkylene groups, optionally substituted polyethylene glycol groups, optionally substituted alkenylene groups, optionally substituted alkynylene groups, optionally substituted aliphatic cyclylene groups, optionally substituted aliphatic heterocyclylene groups, optionally substituted arylene groups, and optionally substituted heteroarylene groups;

L_2 comprises an optionally substituted polypeptide residue,

L_3 comprises an optionally substituted spacer group;

wherein, L_2 and/or L_3 comprise optionally substituted polysarcosine residues,

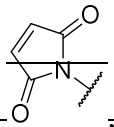
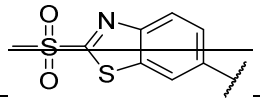
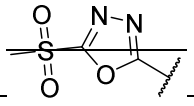
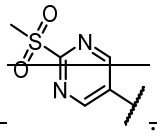
T comprises a drug unit.

2. The compound according to claim 1, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate

thereof,

wherein, Q comprises a group capable of coupling with mercapto.

~~3. The compound according to any one of claims 1-2, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,~~

~~wherein, Q is selected from the group consisting of optionally substituted~~  ~~, optionally substituted~~  ~~, optionally substituted~~  ~~, and optionally substituted~~  ~~.~~

~~4.~~3. The compound according to any one of claims 1-~~3~~2, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,

wherein, L_{1a} is selected from the group consisting of optionally substituted C_1-C_7 alkylene groups, optionally substituted diethylene glycol to octaethylene glycol groups, optionally substituted C_3-C_6 aliphatic cyclylene groups, optionally substituted arylene groups, and optionally substituted heteroarylene groups.

~~5. The compound according to any one of claims 1-4, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,~~

~~wherein, L_{1a} is selected from the group consisting of optionally substituted methylene groups, optionally substituted ethylene groups, optionally substituted propylene groups, optionally substituted butylene groups, optionally substituted pentylene groups, optionally substituted diethylene glycol groups, optionally substituted tetraethylene glycol groups, optionally substituted hexaethylene glycol groups, optionally substituted octaethylene glycol groups and optionally substituted cyclohexylene groups.~~

~~6. The compound according to any one of claims 1-5, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,~~

~~wherein, L_2 comprises optionally substituted polypeptide residues composed of amino acids selected from the group consisting of phenylalanine, isoleucine, leucine, tryptophan, valine, methionine, tyrosine, alanine, threonine, histidine, serine, glutamine, arginine, lysine, asparagine, glutamic acid, proline, citrulline, aspartic acid and glycine.~~

~~7.~~4. The compound according to any one of claims 1-3~~6~~, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,

wherein, L_2 comprises optionally substituted polypeptide residues composed of amino acids selected from the group consisting of glycine, phenylalanine, valine, alanine, arginine, citrulline, aspartic acid, asparagine and lysine.

~~8. The compound according to any one of claims 1-7, or a tautomer, mesomer, racemate,~~

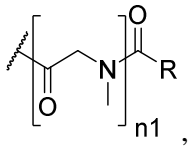
~~enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,~~

~~wherein, L_2 comprises optionally substituted polypeptide residues selected from the group consisting of phenylalanine-lysine (Phe-Lys), valine-alanine (Val-Ala), valine-citrulline (Val-Cit), glutamic acid-valine-alanine (Glu-Val-Ala), glutamic acid-valine-citrulline (Glu-Val-Cit), valine-lysine (Val-Lys), alanine-alanine-alanine (Ala-Ala-Ala), alanine-alanine-asparagine (Ala-Ala-Asn), and glycine-glycine-phenylalanine-glycine (Gly-Gly-Phe-Gly).~~

~~9.~~5. The compound according to any one of claims 1-~~8~~4, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,

wherein, when L_2 comprises a lysine residue, the lysine residue is substituted with a structure R_1 comprising a polysarcosine residue.

~~10.~~6. The compound according to claim ~~9~~5, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,

wherein, the R_1 is optionally substituted 

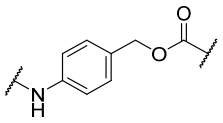
, wherein n1 is a number from 4 to 18, and R is selected from the group consisting of C_1-C_6 alkyl, C_1-C_6 cycloalkyl, and C_1-C_6 alkoxy.

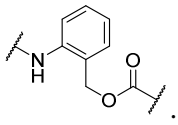
~~11. The compound according to claim 10, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate~~

~~thereof,~~

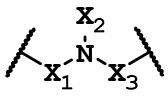
~~wherein, n1 is 8 to 12.~~

~~12.~~7. The compound according to any one of claims 1~~-11~~6, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,

wherein, L_3 is selected from the group consisting of optionally substituted ,

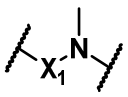
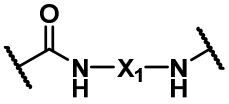
and optionally substituted .

~~13.~~8. The compound according to any one of claims 1~~-12~~7, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,

wherein, the benzene ring of L_3 is linked to the optionally substituted polysarcosine residue through a structural unit -X-, and the structural unit -X- is selected from the group consisting of optionally substituted , wherein X_1 is selected from the group consisting of carbonyl, C_1-C_8 alkyl, C_1-C_8 alkoxy, C_1-C_6 cycloalkyl, linear heteroalkyl comprising 1-8 atoms, and linear-cyclic heteroalkyl comprising 1-8 atoms, where the heteroalkyl comprises 1-3 atoms selected from N, O or S; wherein X_2 is selected from the group consisting of hydrogen, C_1-C_8 alkyl, C_1-C_8 alkoxy, C_1-C_6 cycloalkyl, linear heteroalkyl comprising 1-8 atoms, and linear-cyclic heteroalkyl comprising 1-8 atoms, where the heteroalkyl comprises 1-3 atoms selected from N, O or S; wherein

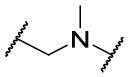
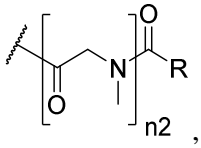
X_3 is a covalent bond or selected from the group consisting of hydrogen, C_1-C_8 alkyl, C_1-C_8 alkoxy, C_1-C_6 cycloalkyl, linear heteroalkyl comprising 1-8 atoms, and linear-cyclic heteroalkyl comprising 1-8 atoms, where the heteroalkyl comprises 1-3 atoms selected from N, O or S; and the C_1-C_8 alkyl, C_1-C_8 alkoxy, C_1-C_6 cycloalkyl, linear heteroalkyl comprising 1-8 atoms, and linear-cyclic heteroalkyl comprising 1-8 atoms are each independently optionally substituted with one or more substituents selected from deuterium, halogen, cyano, nitro, amino, alkyl, carboxy, alkoxy, or cycloalkyl.

~~14.~~9. The compound according to any one of claims 1-~~13~~8, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,

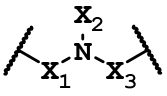
wherein, the benzene ring of L_3 is linked to the optionally substituted polysarcosine residue through a structural unit -X-, and the structural unit -X- is selected from the group consisting of optionally substituted , and optionally substituted , wherein X_1 is selected from the group consisting of C_1-C_8 alkyl, C_1-C_8 alkoxy, C_1-C_6 cycloalkyl, linear heteroalkyl comprising 1-8 atoms, and linear-cyclic heteroalkyl comprising 1-8 atoms, where the heteroalkyl comprises 1-3 atoms selected from N, O or S, and the C_1-C_8 alkyl, C_1-C_8 alkoxy, C_1-C_6 cycloalkyl, linear heteroalkyl comprising 1-8 atoms, and linear-cyclic heteroalkyl comprising 1-8 atoms are each independently optionally substituted with one or more substituents selected from deuterium, halogen, cyano, nitro, amino, alkyl, carboxy, alkoxy, or cycloalkyl.

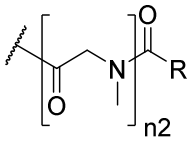
~~15.~~10. The compound according to any one of claims ~~13-14~~8-9, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically

acceptable salt, prodrug or solvate thereof,

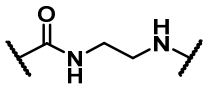
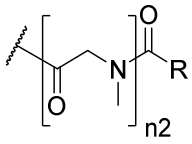
wherein, the structural unit -X- is optionally substituted , and the optionally substituted polysarcosine residue comprises , wherein n2 is a number from 4 to 18, and R is selected from the group consisting of C_1-C_6 alkyl, C_1-C_6 cycloalkyl, and C_1-C_6 alkoxy.

~~16.~~11. The compound according to any one of claims ~~13-15~~8-10, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,

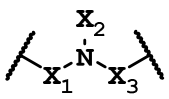
wherein, the structural unit -X- is selected from the group consisting of optionally substituted , wherein X_1 is selected from the group consisting of carbonyl, C_1-C_8 alkyl, C_1-C_8 alkoxy, C_1-C_6 cycloalkyl, linear heteroalkyl comprising 1-8 atoms, and linear-cyclic heteroalkyl comprising 1-8 atoms, where the heteroalkyl comprises 1-3 atoms selected from N, O or S; wherein X_2 is selected from the group consisting of hydrogen, C_1-C_8 alkyl, C_1-C_8 alkoxy, C_1-C_6 cycloalkyl, linear heteroalkyl comprising 1-8 atoms, and linear-cyclic heteroalkyl comprising 1-8 atoms, where the heteroalkyl comprises 1-3 atoms selected from N, O or S; wherein X_3 is a covalent bond or selected from the group consisting of hydrogen, C_1-C_8 alkyl, C_1-C_8 alkoxy, C_1-C_6 cycloalkyl, linear heteroalkyl comprising 1-8 atoms, and linear-cyclic heteroalkyl comprising 1-8 atoms, where the heteroalkyl comprises 1-3 atoms selected from N, O or S; the C_1-C_8 alkyl, C_1-C_8 alkoxy, C_1-C_6 cycloalkyl, linear heteroalkyl comprising 1-8 atoms, and linear-cyclic heteroalkyl comprising 1-8 atoms are each independently optionally substituted with one or more substituents

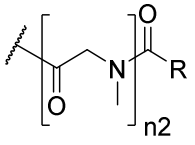
selected from deuterium, halogen, cyano, nitro, amino, alkyl, carboxy, alkoxy, or cycloalkyl, and the optionally substituted polysarcosine residue comprises , wherein n2 is a number from 4 to 18, and R is selected from the group consisting of C_1-C_6 alkyl, C_1-C_6 cycloalkyl, and C_1-C_6 alkoxy.

~~17.~~12. The compound according to any one of claims ~~13-14~~8-9, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,

wherein, the structural unit -X- is optionally substituted , and the optionally substituted polysarcosine residue comprises , wherein n2 is a number from 4 to 18, and R is selected from the group consisting of C_1-C_6 alkyl, C_1-C_6 cycloalkyl, and C_1-C_6 alkoxy.

~~18.~~13. The compound according to any one of claims ~~13-14~~8-9 and ~~17~~12, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,

wherein, the structural unit -X- is selected from the group consisting of optionally substituted , wherein X_1 is selected from the group consisting of carbonyl, C_1-C_8 alkyl, C_1-C_8 alkoxy, C_1-C_6 cycloalkyl, linear heteroalkyl comprising 1-8 atoms, and linear-cyclic heteroalkyl comprising 1-8 atoms, where the heteroalkyl comprises 1-3 atoms selected from N, O or S; wherein X_2 is selected from the group consisting of hydrogen, C_1-C_8 alkyl, C_1-C_8 alkoxy, C_1-C_6 cycloalkyl,

linear heteroalkyl comprising 1-8 atoms, and linear-cyclic heteroalkyl comprising 1-8 atoms, where the heteroalkyl comprises 1-3 atoms selected from N, O or S; wherein X_3 is a covalent bond or selected from the group consisting of hydrogen, C_1-C_8 alkyl, C_1-C_8 alkoxy, C_1-C_6 cycloalkyl, linear heteroalkyl comprising 1-8 atoms, and linear-cyclic heteroalkyl comprising 1-8 atoms, where the heteroalkyl comprises 1-3 atoms selected from N, O or S; the C_1-C_8 alkyl, C_1-C_8 alkoxy, C_1-C_6 cycloalkyl, linear heteroalkyl comprising 1-8 atoms, and linear-cyclic heteroalkyl comprising 1-8 atoms are each independently optionally substituted with one or more substituents selected from deuterium, halogen, cyano, nitro, amino, alkyl, carboxy, alkoxy, or cycloalkyl, and the optionally substituted polysarcosine residue comprises 

, wherein n2 is a number from 4 to 18, and R is selected from the group consisting of C_1-C_6 alkyl, C_1-C_6 cycloalkyl, and C_1-C_6 alkoxy.

~~19. The compound according to any one of claims 15-18, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,~~

~~wherein, n2 is 4 to 18.~~

~~20.~~14. The compound according to any one of claims 1-~~19~~13, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,

wherein, T comprises a compound with anti-tumor activity.

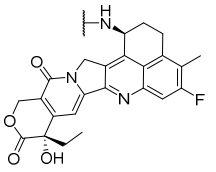
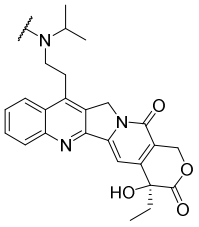
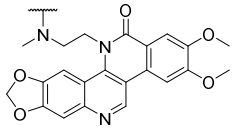
~~21. The compound according to any one of claims 1-20, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,~~

~~wherein, T comprises a topoisomerase inhibitor.~~

~~22. The compound according to any one of claims 1-21, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,~~

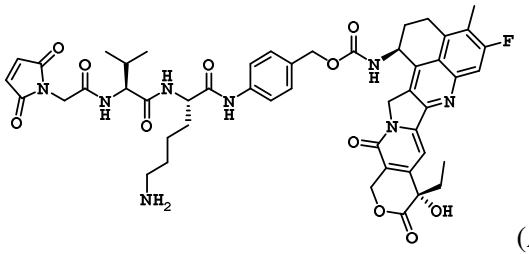
~~wherein, T comprises camptothecin and non-camptothecin topoisomerase I inhibitors.~~

~~23.~~15. The compound according to any one of claims 1-~~22~~14, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,

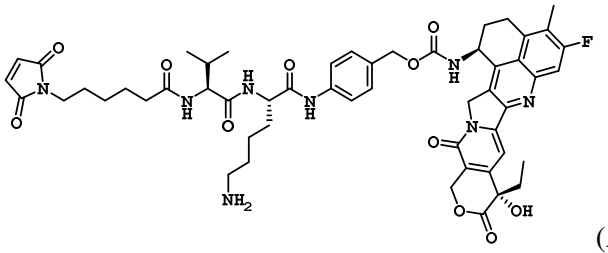
wherein, T is a structure selected from the group consisting of ,  and .

~~24.~~16. A compound, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,

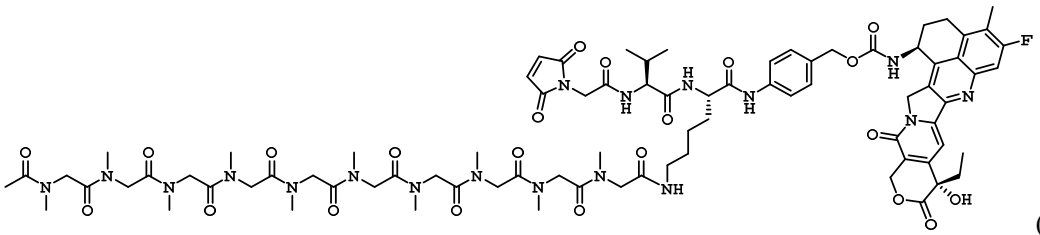
wherein, the compound comprises a structure selected from the group consisting of



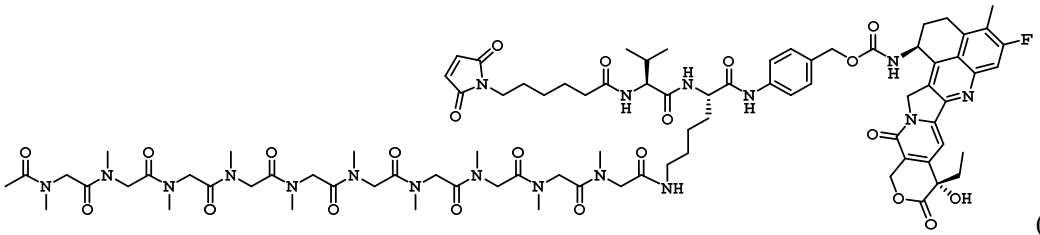
(A-1),



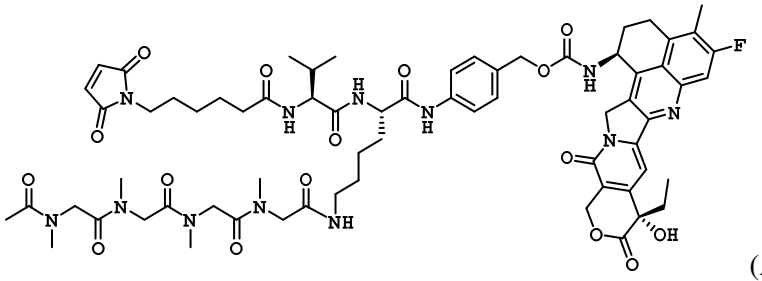
(A-2),



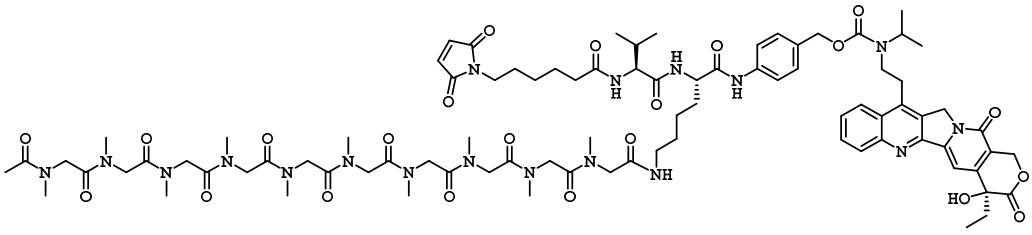
(A-3),



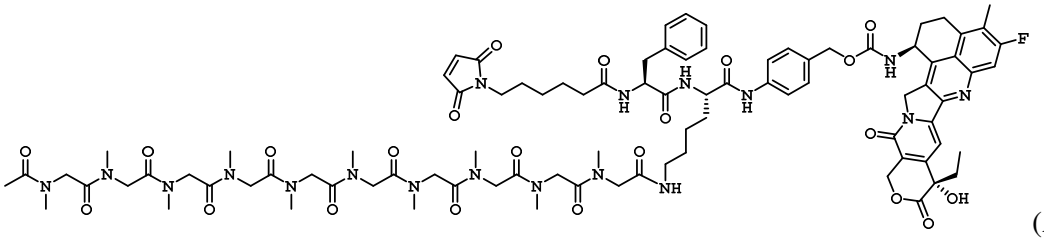
(A-4),



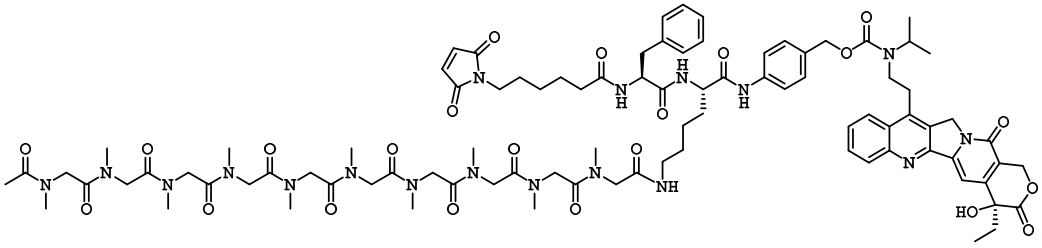
(A-5),



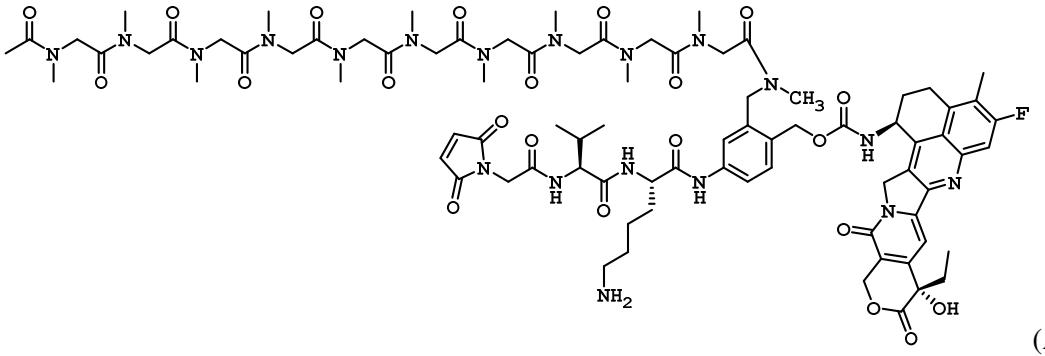
(A-6),



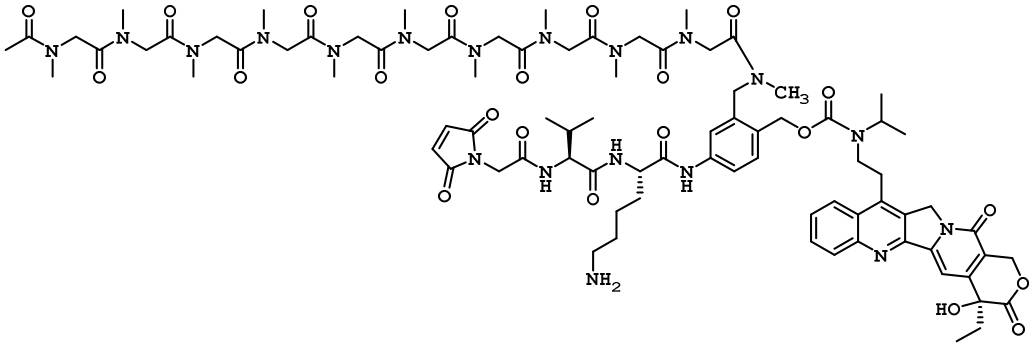
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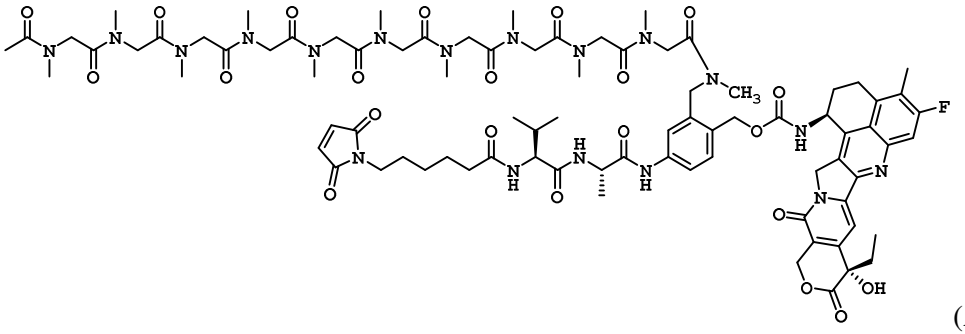
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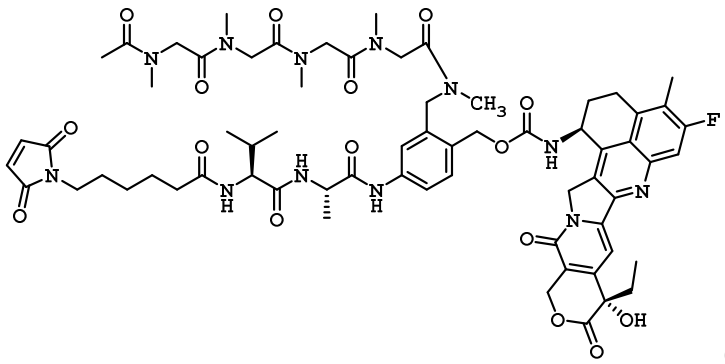
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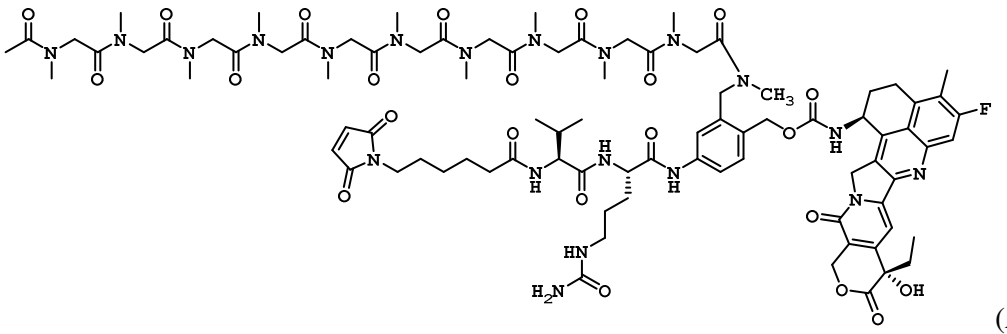
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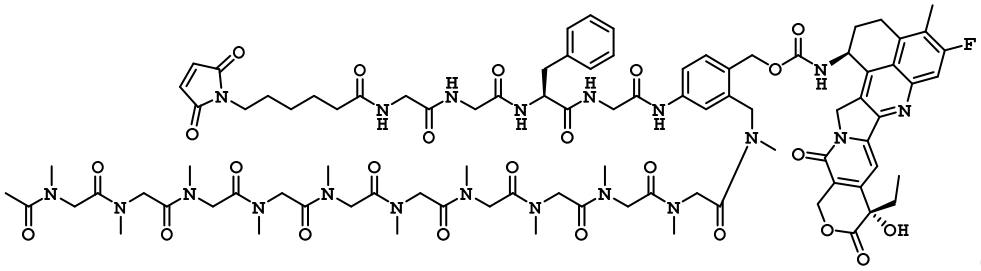
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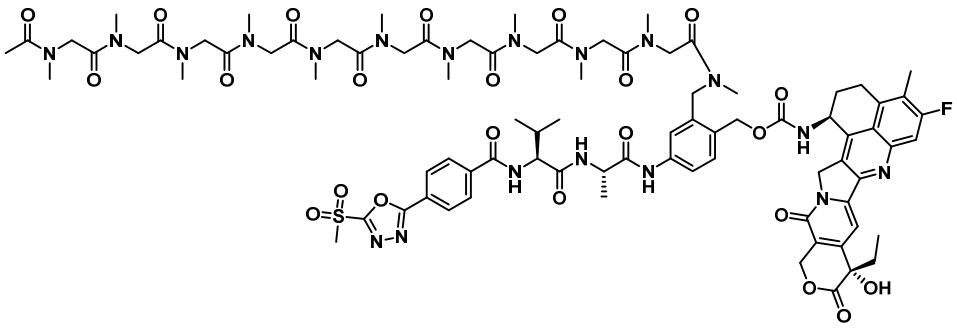
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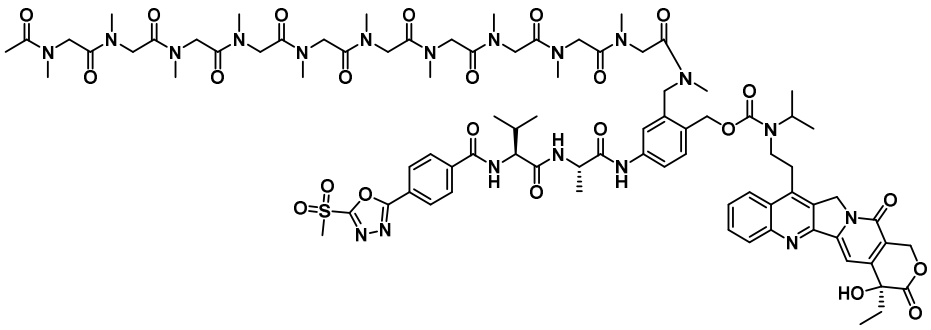
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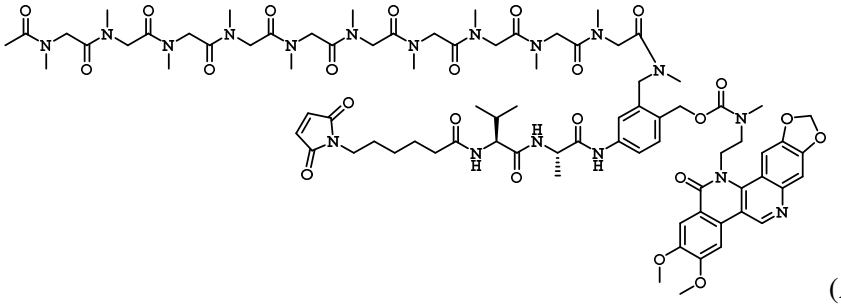
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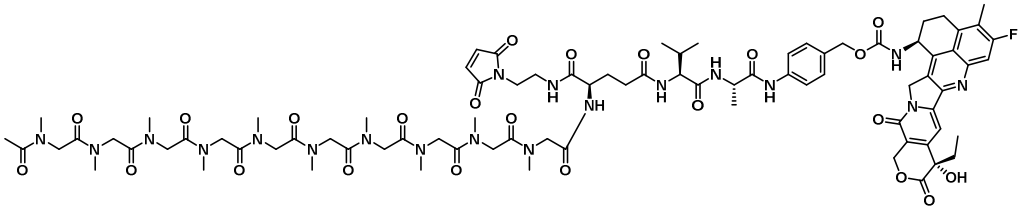
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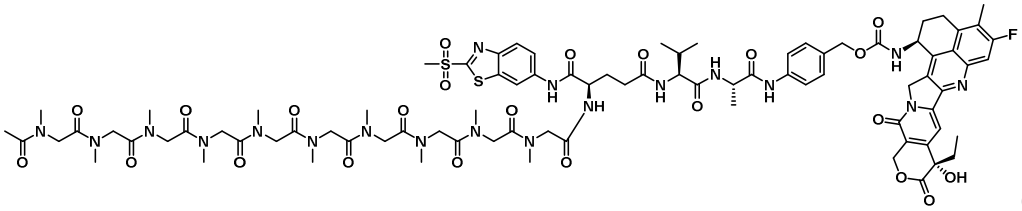
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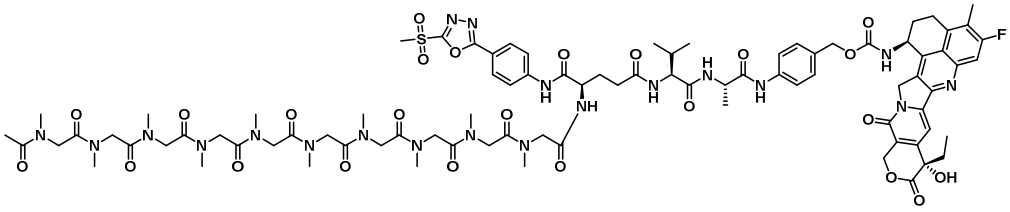
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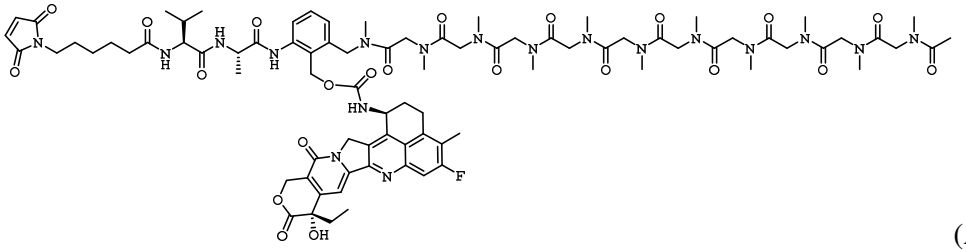
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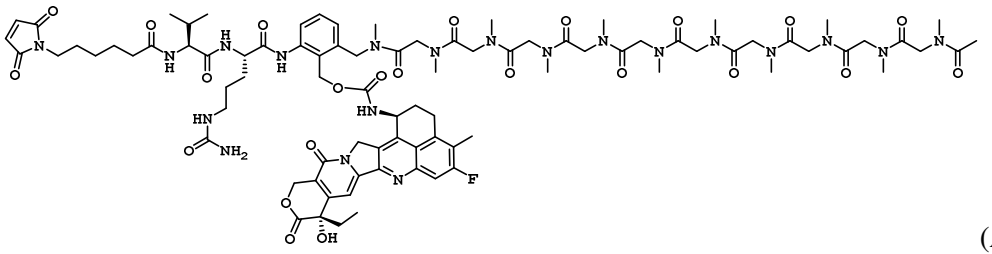
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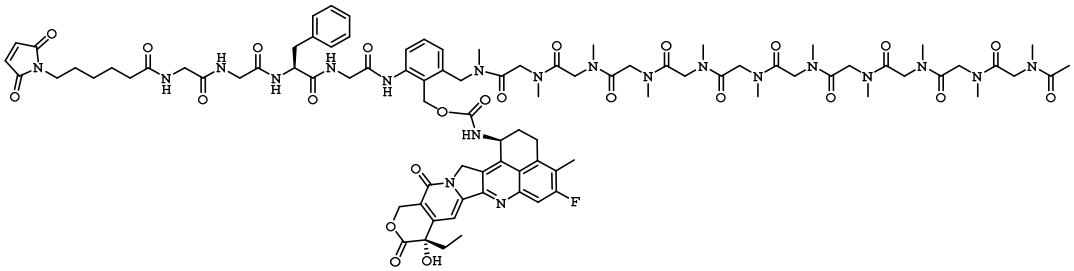
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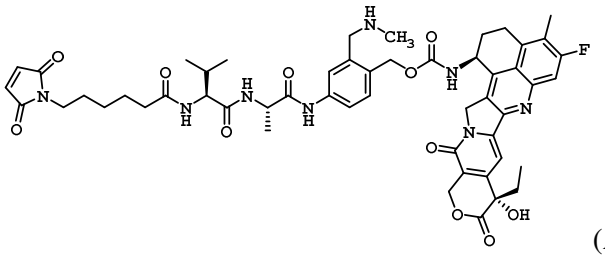
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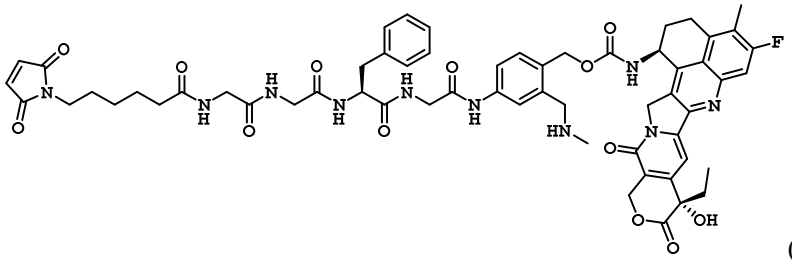
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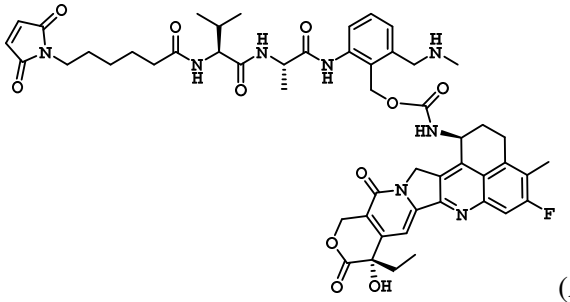
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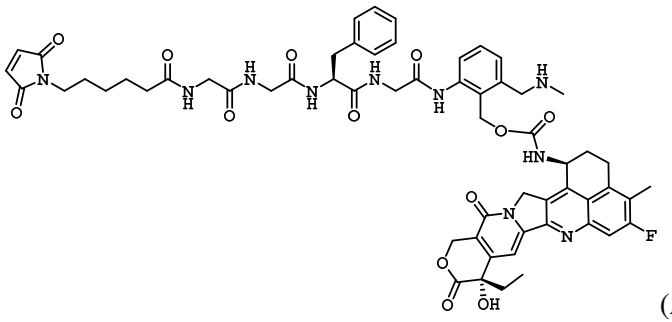
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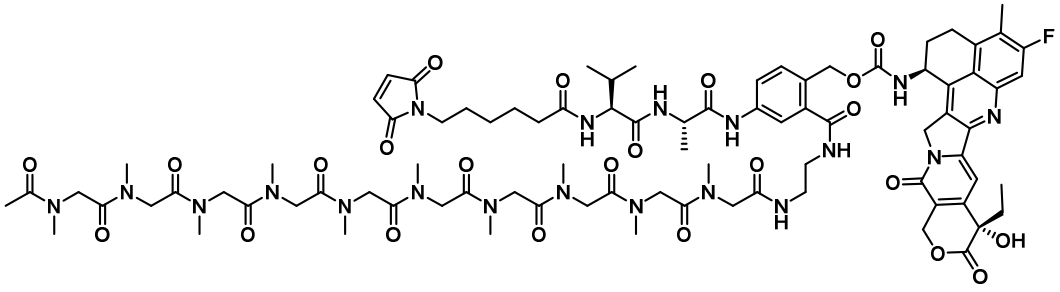
(A-25),



(A-26),

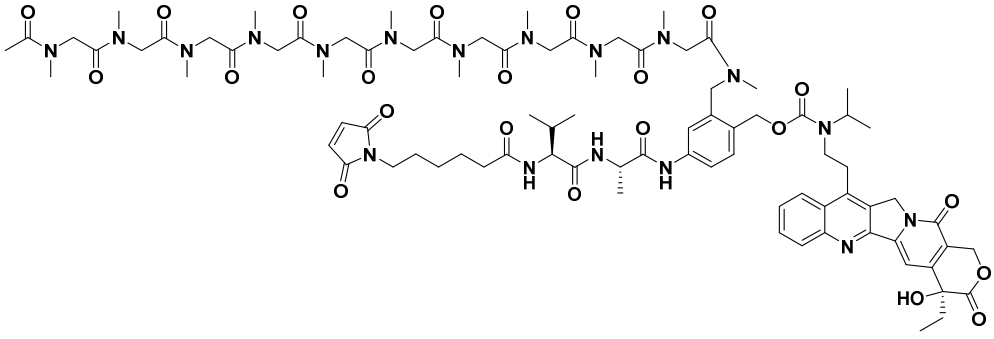


(A-27),



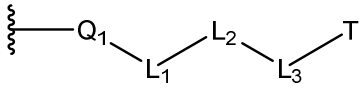
(A-28),

and



(A-29).

~~25.~~ 17. A compound, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof, wherein the compound comprises a structure represented by formula (B):



(B),

wherein, Q_1 comprises a linker,

L_1 comprises -L_{1a}-C(=O)-,

wherein, L_{1a} is selected from the group consisting of optionally substituted alkylene groups, optionally substituted polyethylene glycol groups, optionally substituted alkenylene groups, optionally substituted alkynylene groups, optionally substituted aliphatic cyclylene groups, optionally substituted aliphatic heterocyclylene groups, optionally substituted arylene groups, and optionally substituted heteroarylene groups;

L_2 comprises an optionally substituted polypeptide residue,

L_3 comprises an optionally substituted spacer group;

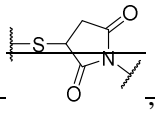
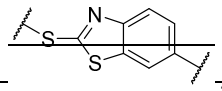
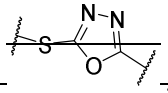
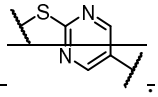
wherein, L_2 and/or L_3 comprise optionally substituted polysarcosine residues,

T comprises a drug unit.

~~26. The compound according to claim 25, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,~~

~~wherein, Q_1 comprises a linker coupled with mercapto.~~

~~27. The compound according to any one of claims 25-26, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,~~

~~wherein, Q_1 is selected from the group consisting of optionally substituted~~  ~~, optionally substituted~~  ~~, optionally substituted~~  ~~, and optionally substituted~~  ~~.~~

~~28. The compound according to any one of claims 25-27, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,~~

~~wherein, L_{1a} is selected from the group consisting of optionally substituted C_1-C_7 alkylene groups, optionally substituted diethylene glycol to octaethylene glycol groups, optionally substituted C_3-C_6 aliphatic cyclylene groups, optionally substituted arylene groups, and optionally substituted heteroarylene groups.~~

~~29. The compound according to any one of claims 25-28, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,~~

~~wherein, L_{1a} is selected from the group consisting of optionally substituted methylene groups, optionally substituted ethylene groups, optionally substituted propylene groups, optionally substituted butylene groups, optionally substituted pentylene groups, optionally substituted diethylene glycol groups, optionally substituted tetraethylene glycol groups, optionally substituted hexaethylene glycol groups, optionally substituted octaethylene glycol groups and optionally substituted cyclohexylene groups.~~

30. The compound according to any one of claims 25-29, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,

wherein, L_2 comprises optionally substituted polypeptide residues composed of amino acids selected from the group consisting of phenylalanine, isoleucine, leucine, tryptophan, valine, methionine, tyrosine, alanine, threonine, histidine, serine, glutamine, arginine, lysine, asparagine, glutamic acid, proline, citrulline, aspartic acid and glycine.

31. The compound according to any one of claims 25-30, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,

wherein, L_2 comprises optionally substituted polypeptide residues composed of amino acids selected from the group consisting of glycine, phenylalanine, valine, alanine, arginine, citrulline, aspartic acid, asparagine and lysine.

32. The compound according to any one of claims 25-31, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,

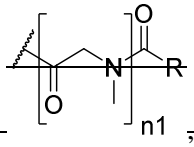
wherein, L_2 comprises optionally substituted polypeptide residues selected from the group consisting of phenylalanine-lysine (Phe-Lys), valine-alanine (Val-Ala), valine-citrulline (Val-Cit), glutamic acid-valine-alanine (Glu-Val-Ala), glutamic acid-valine-citrulline (Glu-Val-Cit), valine-

lysine (Val Lys), alanine alanine alanine (Ala Ala Ala), alanine alanine asparagine (Ala Ala Asn), and glycine glycine phenylalanine glycine (Gly Gly Phe Gly).

33. The compound according to any one of claims 25 32, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,

wherein, when L_2 comprises a lysine residue, the lysine residue is substituted with a structure R_1 comprising a polysarcosine residue.

34. The compound according to claim 33, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,

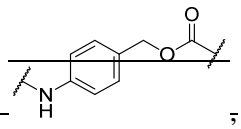
wherein, the R_1 is optionally substituted 

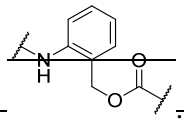
, wherein n1 is a number from 4 to 18, and R is selected from the group consisting of C_1 C_6 alkyl, C_1 C_6 cycloalkyl, and C_1 C_6 alkoxy.

35. The compound according to claim 34, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,

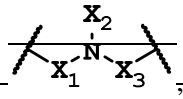
wherein, n1 is 4 to 18.

36. The compound according to any one of claims 25 35, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,

wherein, L_3 is selected from the group consisting of optionally substituted ,

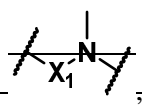
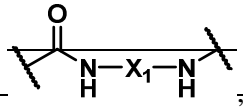
and optionally substituted .

37. The compound according to any one of claims 25-36, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,

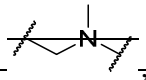
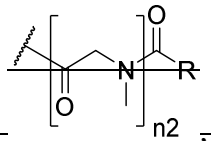
wherein, the benzene ring of L_3 is linked to the optionally substituted polysarcosine residue through a structural unit -X-, and the structural unit -X- is selected from the group consisting of optionally substituted , wherein X_1 is selected from the group consisting of carbonyl, C_1-C_8 alkyl, C_1-C_8 alkoxy, C_1-C_6 cycloalkyl, linear heteroalkyl comprising 1-8 atoms, and linear-cyclic heteroalkyl comprising 1-8 atoms, where the heteroalkyl comprises 1-3 atoms selected from N, O or S; wherein X_2 is selected from the group consisting of hydrogen, C_1-C_8 alkyl, C_1-C_8 alkoxy, C_1-C_6 cycloalkyl, linear heteroalkyl comprising 1-8 atoms, and linear-cyclic heteroalkyl comprising 1-8 atoms, where the heteroalkyl comprises 1-3 atoms selected from N, O or S; wherein X_3 is a covalent bond or selected from the group consisting of hydrogen, C_1-C_8 alkyl, C_1-C_8 alkoxy, C_1-C_6 cycloalkyl, linear heteroalkyl comprising 1-8 atoms, and linear-cyclic heteroalkyl comprising 1-8 atoms, where the heteroalkyl comprises 1-3 atoms selected from N, O or S; and the C_1-C_8 alkyl, C_1-C_8 alkoxy, C_1-C_6 cycloalkyl, linear heteroalkyl comprising 1-8 atoms, and linear-cyclic heteroalkyl comprising 1-8 atoms are each independently optionally substituted with one or

more substituents selected from deuterium, halogen, cyano, nitro, amino, alkyl, carboxy, alkoxy, or cycloalkyl.

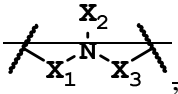
38. The compound according to any one of claims 25-37, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,

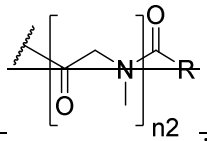
wherein, the benzene ring of L_3 is linked to the optionally substituted polysarcosine residue through a structural unit -X-, and the structural unit -X- is selected from the group consisting of optionally substituted , and optionally substituted , wherein X_1 is selected from the group consisting of C_1-C_8 alkyl, C_1-C_8 alkoxy, C_1-C_6 cycloalkyl, linear heteroalkyl comprising 1-8 atoms, and linear cyclic heteroalkyl comprising 1-8 atoms, where the heteroalkyl comprises 1-3 atoms selected from N, O or S, and the C_1-C_8 alkyl, C_1-C_8 alkoxy, C_1-C_6 cycloalkyl, linear heteroalkyl comprising 1-8 atoms, and linear cyclic heteroalkyl comprising 1-8 atoms are each independently optionally substituted with one or more substituents selected from deuterium, halogen, cyano, nitro, amino, alkyl, carboxy, alkoxy, or cycloalkyl.

39. The compound according to any one of claims 25-38, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,

wherein, the structural unit X is optionally substituted , and the optionally substituted polysarcosine residue comprises , wherein n2 is a number from 4 to 18, and R is selected from the group consisting of C_1-C_6 alkyl, C_1-C_6 cycloalkyl, and C_1-C_6 alkoxy.

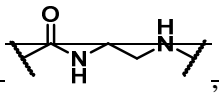
40. The compound according to any one of claims 25-39, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,

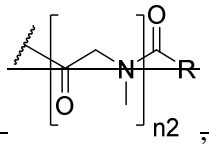
wherein, the structural unit X is selected from the group consisting of optionally substituted , wherein X_1 is selected from the group consisting of carbonyl, C_1-C_8 alkyl, C_1-C_8 alkoxy, C_1-C_6 cycloalkyl, linear heteroalkyl comprising 1-8 atoms, and linear cyclic heteroalkyl comprising 1-8 atoms, where the heteroalkyl comprises 1-3 atoms selected from N, O or S; wherein X_2 is selected from the group consisting of hydrogen, C_1-C_8 alkyl, C_1-C_8 alkoxy, C_1-C_6 cycloalkyl, linear heteroalkyl comprising 1-8 atoms, and linear cyclic heteroalkyl comprising 1-8 atoms, where the heteroalkyl comprises 1-3 atoms selected from N, O or S; wherein X_3 is a covalent bond or selected from the group consisting of hydrogen, C_1-C_8 alkyl, C_1-C_8 alkoxy, C_1-C_6 cycloalkyl, linear heteroalkyl comprising 1-8 atoms, and linear cyclic heteroalkyl comprising 1-8 atoms, where the heteroalkyl comprises 1-3 atoms selected from N, O or S; the C_1-C_8 alkyl, C_1-C_8 alkoxy, C_1-C_6 cycloalkyl, linear heteroalkyl comprising 1-8 atoms, and linear cyclic heteroalkyl comprising 1-8 atoms are each independently optionally substituted with one or more substituents selected from deuterium, halogen, cyano, nitro, amino, alkyl, carboxy, alkoxy, or cycloalkyl, and

the optionally substituted polysarcosine residue comprises 

, wherein n2 is a number from 4 to 18, and R is selected from the group consisting of C_1-C_6 alkyl, C_1-C_6 cycloalkyl, and C_1-C_6 alkoxy.

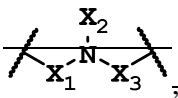
41. The compound according to any one of claims 25-38, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,

wherein, the structural unit "X" is optionally substituted 

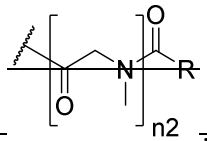
, and the optionally substituted polysarcosine residue comprises 

, wherein n2 is a number from 4 to 18, and R is selected from the group consisting of C_1-C_6 alkyl, C_1-C_6 cycloalkyl, and C_1-C_6 alkoxy.

42. The compound according to any one of claims 25-38 and 41, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,

wherein, the structural unit "X" is selected from the group consisting of optionally substituted 

, wherein X_1 is selected from the group consisting of carbonyl, C_1-C_8 alkyl, C_1-C_8 alkoxy, C_1-C_6 cycloalkyl, linear heteroalkyl comprising 1-8 atoms, and linear-cyclic heteroalkyl comprising 1-8 atoms, where the heteroalkyl comprises 1-3 atoms selected from N, O or S; wherein X_2 is selected from the group consisting of hydrogen, C_1-C_8 alkyl, C_1-C_8 alkoxy, C_1-C_6 cycloalkyl, linear heteroalkyl comprising 1-8 atoms, and linear-cyclic heteroalkyl comprising 1-8 atoms,

where the heteroalkyl comprises 1-3 atoms selected from N, O or S; wherein X_3 is a covalent bond or selected from the group consisting of hydrogen, C_1-C_8 alkyl, C_1-C_8 alkoxy, C_1-C_6 cycloalkyl, linear heteroalkyl comprising 1-8 atoms, and linear cyclic heteroalkyl comprising 1-8 atoms, where the heteroalkyl comprises 1-3 atoms selected from N, O or S; the C_1-C_8 alkyl, C_1-C_8 alkoxy, C_1-C_6 cycloalkyl, linear heteroalkyl comprising 1-8 atoms, and linear cyclic heteroalkyl comprising 1-8 atoms are each independently optionally substituted with one or more substituents selected from deuterium, halogen, cyano, nitro, amino, alkyl, carboxy, alkoxy, or cycloalkyl, and the optionally substituted polysarcosine residue comprises 

, wherein n2 is a number from 4 to 18, and R is selected from the group consisting of C_1-C_6 alkyl, C_1-C_6 cycloalkyl, and C_1-C_6 alkoxy.

43. The compound according to any one of claims 39-42, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,

wherein, n2 is 4 to 18.

44. The compound according to any one of claims 25-43, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,

wherein, T comprises a compound with anti-tumor activity.

45. The compound according to any one of claims 25-44, or a tautomer, mesomer, racemate,

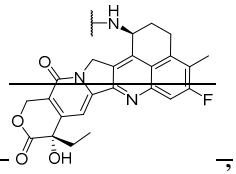
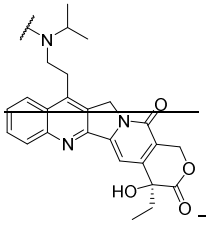
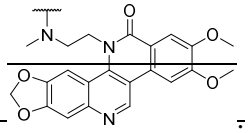
~~enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,~~

~~wherein, T comprises a topoisomerase inhibitor.~~

~~46. The compound according to any one of claims 25-45, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,~~

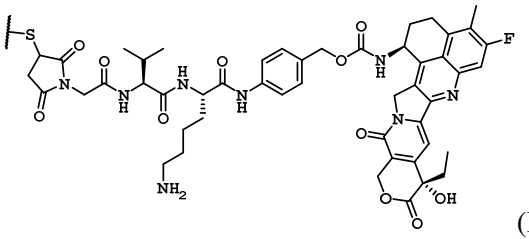
~~wherein, T comprises camptothecin and non-camptothecin topoisomerase I inhibitors.~~

~~47. The compound according to any one of claims 25-46, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,~~

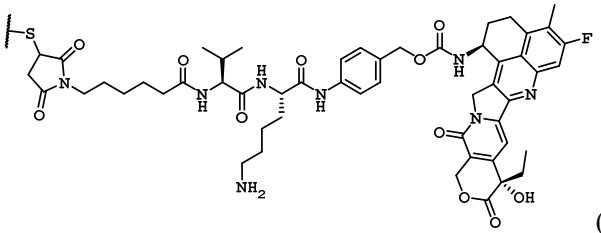
~~wherein, T is a structure selected from the group consisting of~~  ~~,~~  ~~and~~  ~~.~~

~~48.~~18. A compound, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,

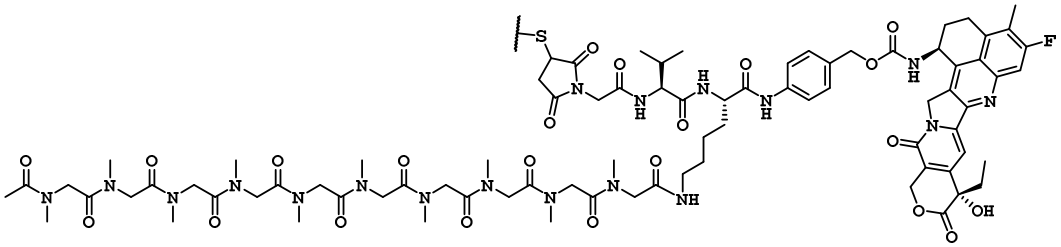
wherein, the compound comprises a structure selected from the group consisting of



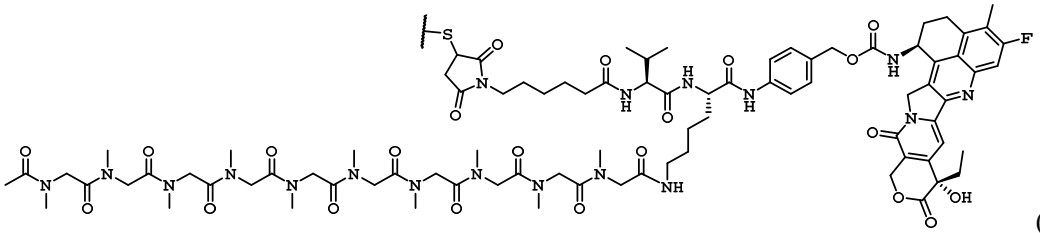
(B-1),



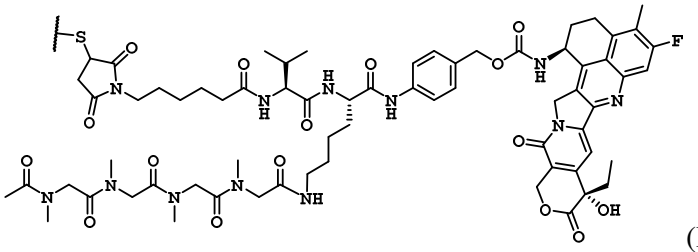
(B-2),



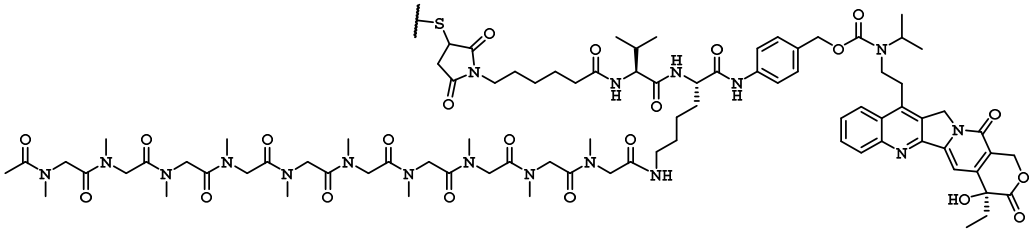
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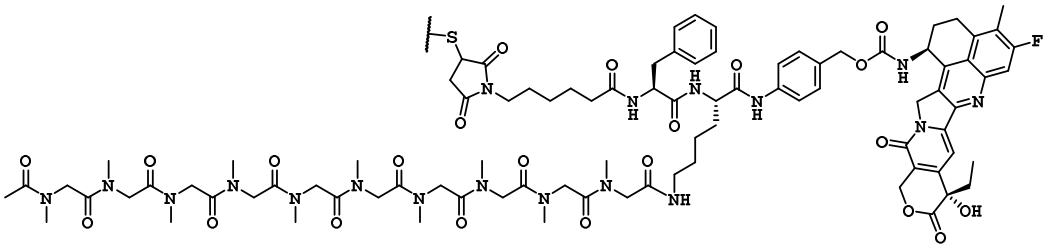
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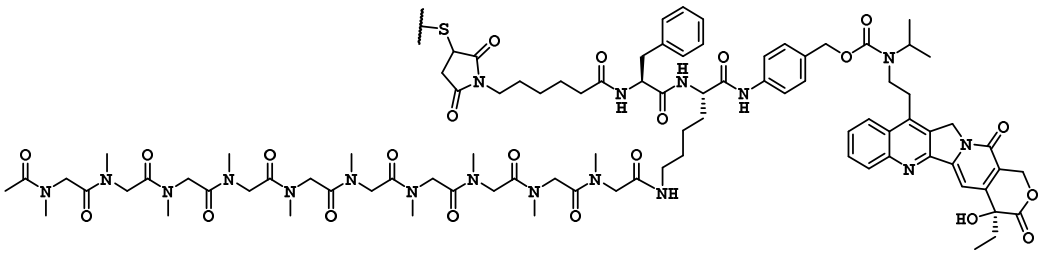
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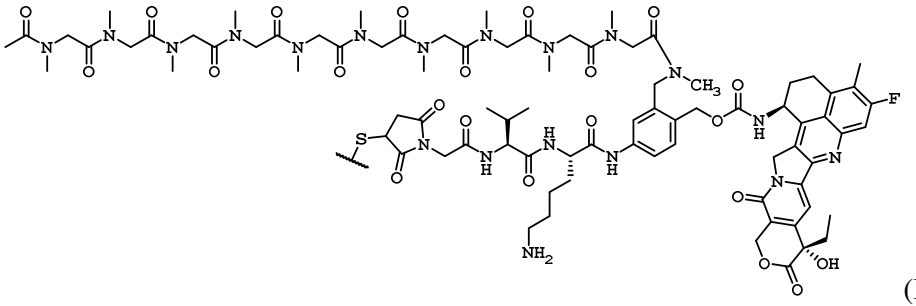
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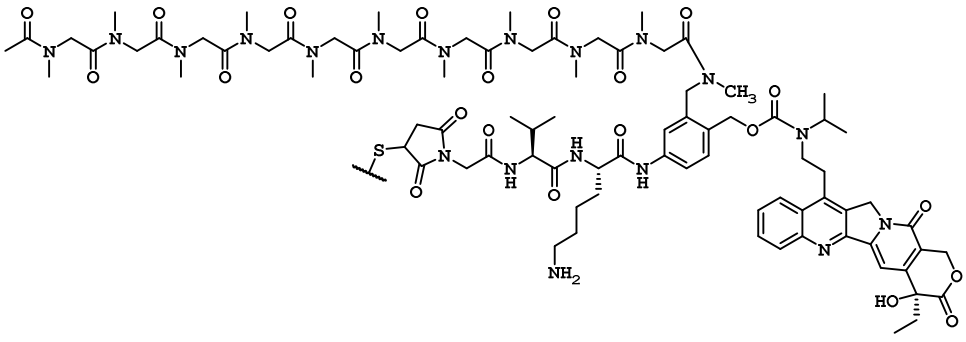
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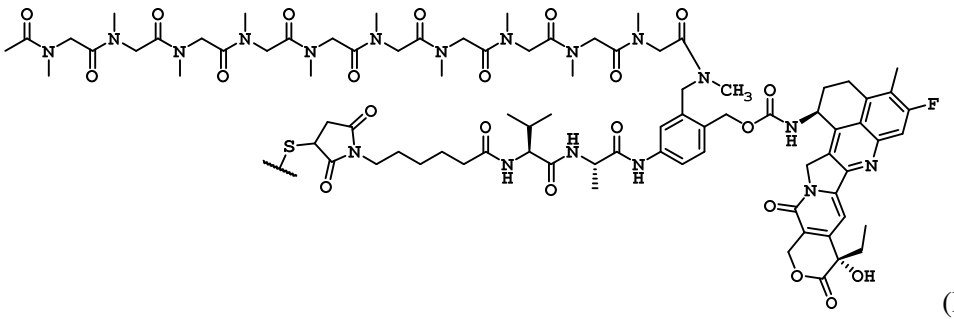
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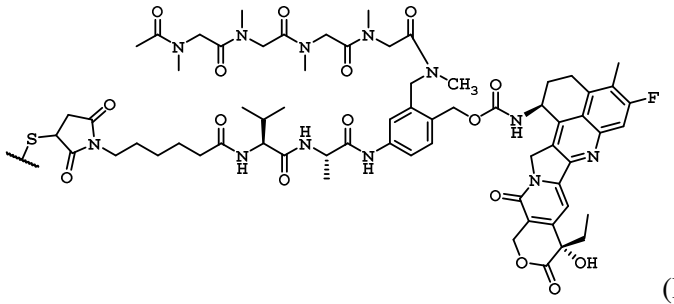
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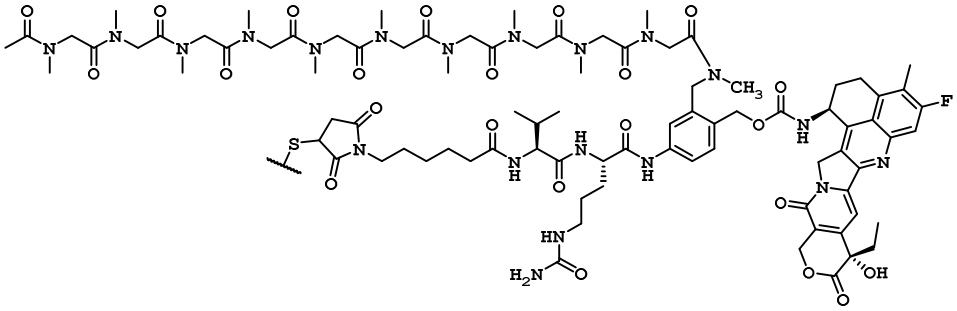
(B-10),



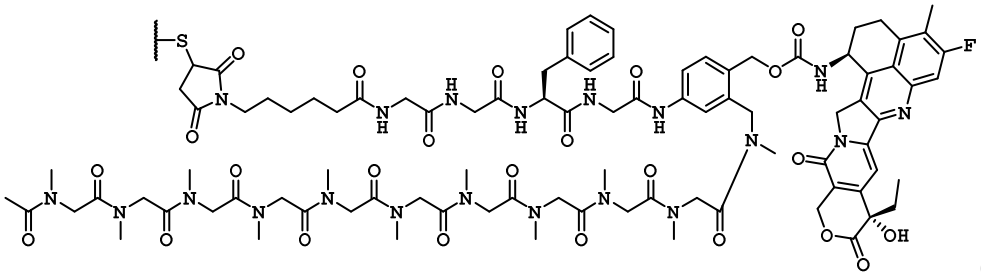
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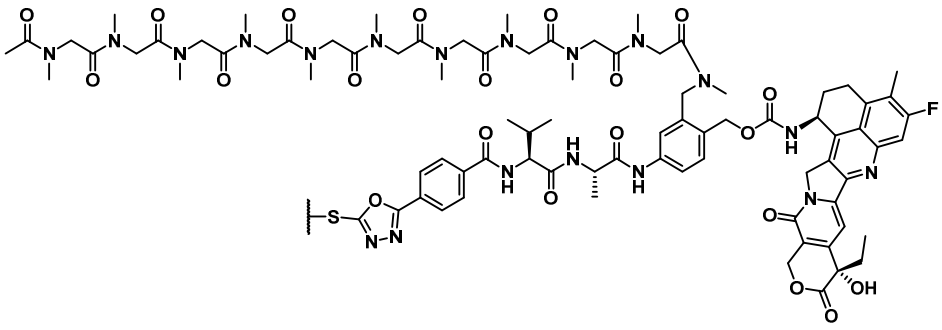
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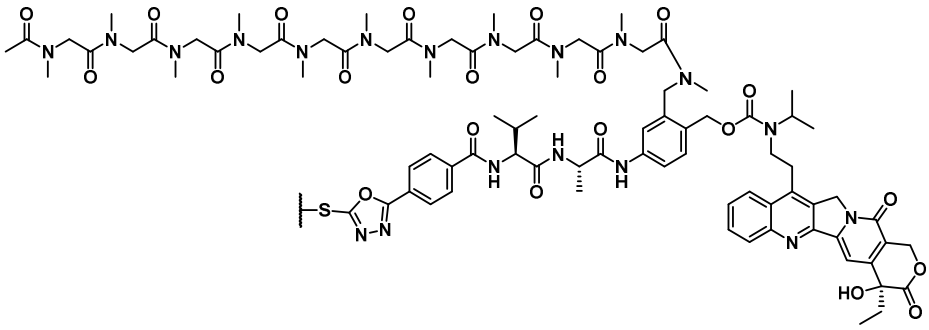
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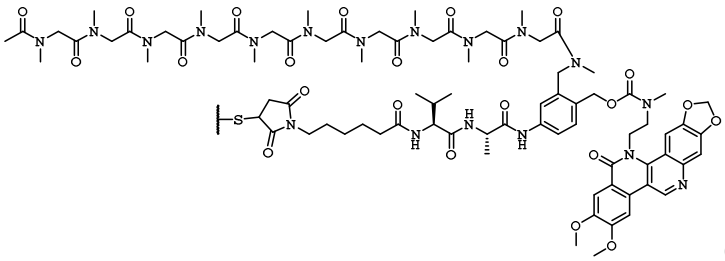
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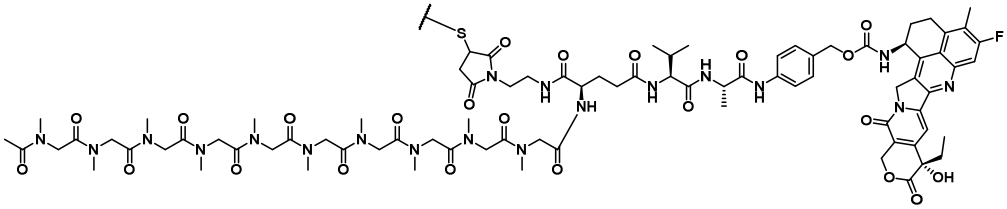
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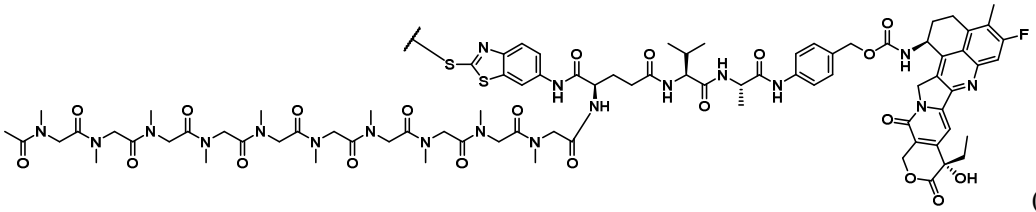
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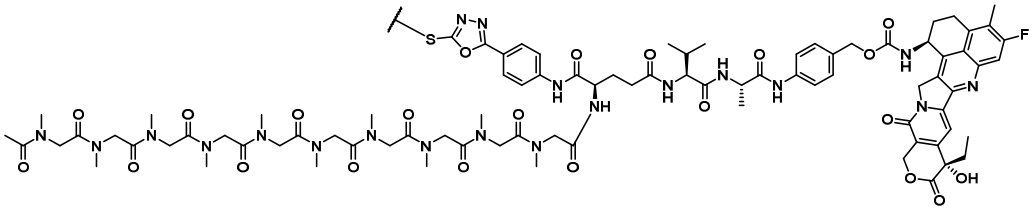
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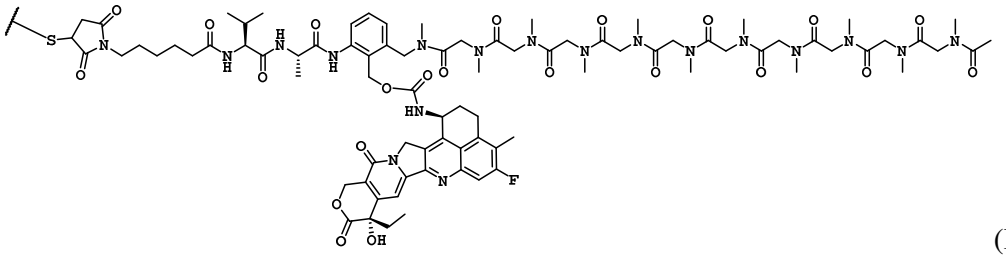
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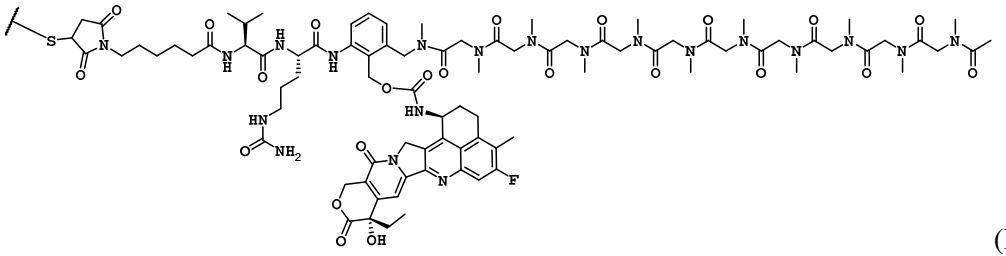
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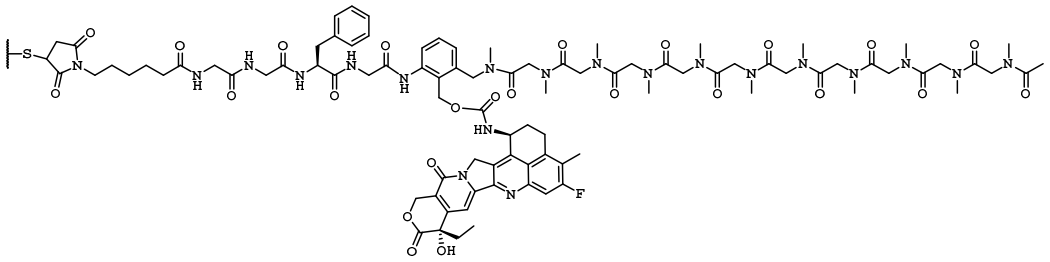
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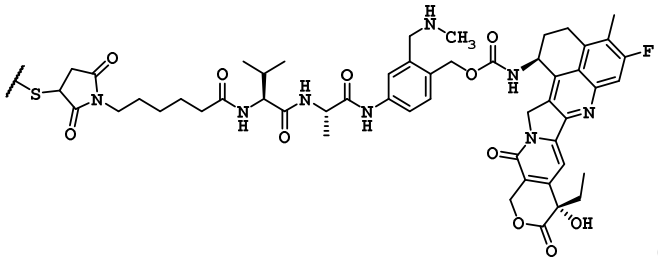
(B-21),



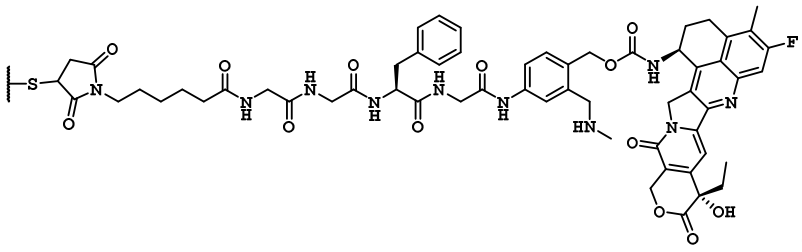
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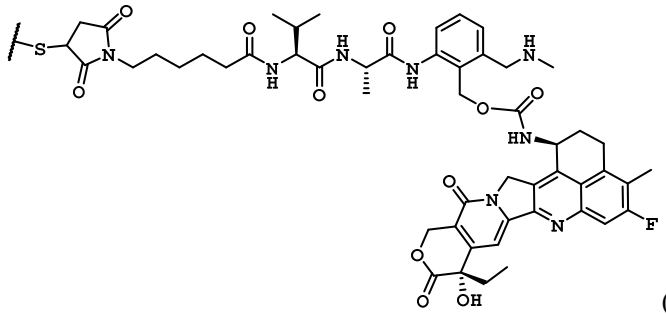
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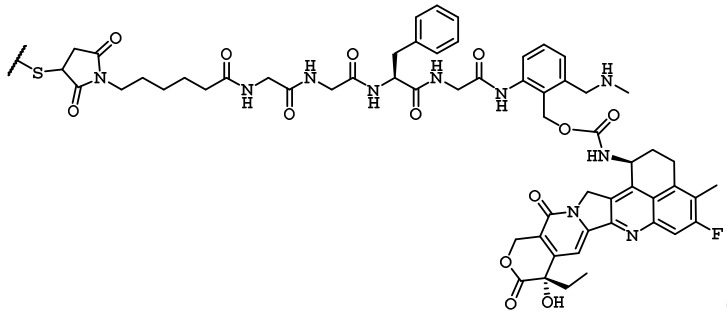
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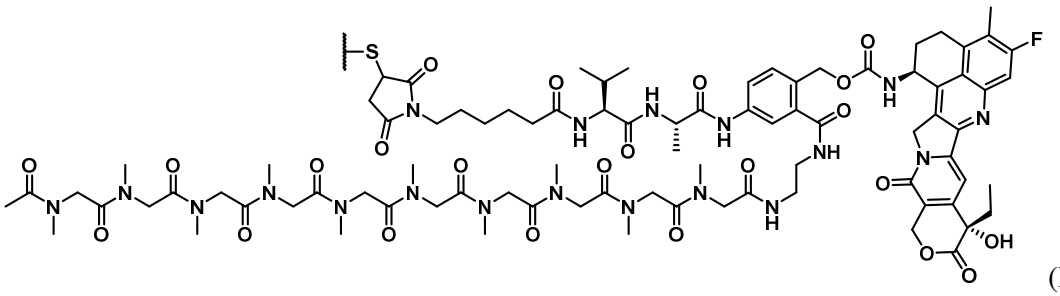
(B-25),



(B-26),

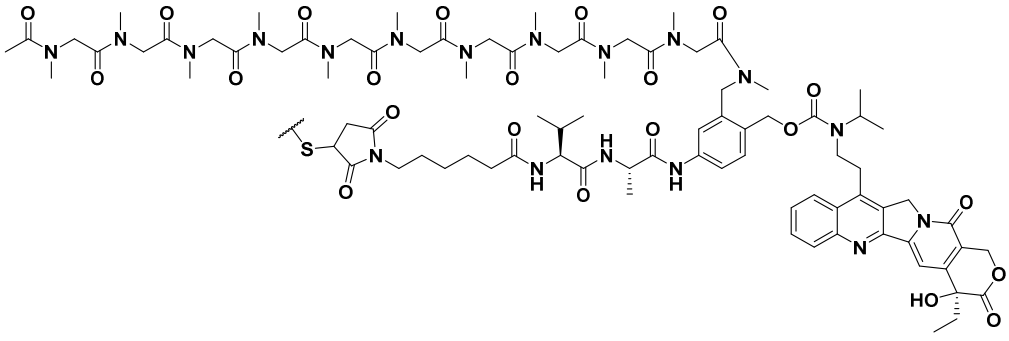


(B-27),



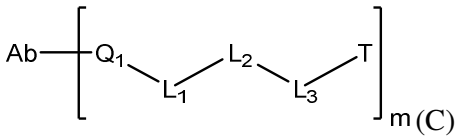
(B-28)

and



(B-29).

~~49.~~19. A compound, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof, wherein the compound comprises a structure represented by formula (C):



(C)

wherein, Q_1 comprises a linker,

L_1 comprises $-L_{1a}-C(=O)-$,

wherein, L_{1a} is selected from the group consisting of optionally substituted alkylene groups, optionally substituted polyethylene glycol groups, optionally substituted alkenylene groups, optionally substituted alkynylene groups, optionally substituted aliphatic cyclylene groups,

optionally substituted aliphatic heterocyclylene groups, optionally substituted arylene groups, and optionally substituted heteroarylene groups;

L_2 comprises an optionally substituted polypeptide residue,

L_3 comprises an optionally substituted spacer group,

wherein, L_2 and/or L_3 comprise optionally substituted polysarcosine residues,

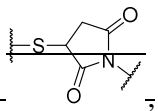
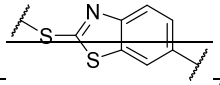
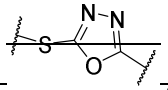
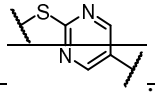
T comprises a drug unit,

Ab is a ligand, and m is a number from 1 to 8.

~~50. The compound according to claim 49, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,~~

~~wherein, Q_1 comprises a linker coupled with mercapto.~~

~~51. The compound according to any one of claims 49-50, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,~~

~~wherein, Q_1 is selected from the group consisting of optionally substituted~~  ~~,~~ ~~optionally substituted~~  ~~, optionally substituted~~  ~~, and optionally substituted~~  ~~.~~

52. The compound according to any one of claims 49-51, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,

wherein, L_{1a} is selected from the group consisting of optionally substituted C_1-C_7 alkylene groups, optionally substituted diethylene glycol to octaethylene glycol groups, optionally substituted C_3-C_6 aliphatic cyclylene groups, optionally substituted arylene groups, and optionally substituted heteroarylene groups.

53. The compound according to any one of claims 49-52, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,

wherein, L_{1a} is selected from the group consisting of optionally substituted methylene groups, optionally substituted ethylene groups, optionally substituted propylene groups, optionally substituted butylene groups, optionally substituted pentylene groups, optionally substituted diethylene glycol groups, optionally substituted tetraethylene glycol groups, optionally substituted hexaethylene glycol groups, optionally substituted octaethylene glycol groups and optionally substituted cyclohexylene groups.

54. The compound according to any one of claims 49-53, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,

wherein, L_2 comprises optionally substituted polypeptide residues composed of amino acids selected from the group consisting of phenylalanine, isoleucine, leucine, tryptophan, valine, methionine, tyrosine, alanine, threonine, histidine, serine, glutamine, arginine, lysine, asparagine, glutamic acid, proline, citrulline, aspartic acid and glycine.

55. The compound according to any one of claims 49-54, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,

wherein, L_2 comprises optionally substituted polypeptide residues composed of amino acids selected from the group consisting of glycine, phenylalanine, valine, alanine, arginine, citrulline, aspartic acid, asparagine and lysine.

56. The compound according to any one of claims 49-55, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,

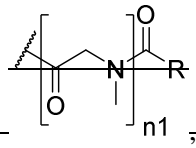
wherein, L_2 comprises optionally substituted polypeptide residues selected from the group consisting of phenylalanine-lysine (Phe-Lys), valine-alanine (Val-Ala), valine-citrulline (Val-Cit), glutamic acid-valine-alanine (Glu-Val-Ala), glutamic acid-valine-citrulline (Glu-Val-Cit), valine-lysine (Val-Lys), alanine-alanine-alanine (Ala-Ala-Ala), alanine-alanine-asparagine (Ala-Ala-Asn), and glycine-glycine-phenylalanine-glycine (Gly-Gly-Phe-Gly).

57. The compound according to any one of claims 49-56, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt,

~~prodrug or solvate thereof,~~

~~wherein, when L_2 comprises a lysine residue, the lysine residue is substituted with a structure R_1 comprising a polysarcosine residue.~~

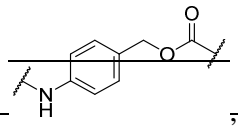
~~58. The compound according to claim 57, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,~~

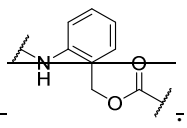
~~wherein, the R_1 is optionally substituted~~  ~~, wherein n1 is a number from 4 to 18, and R is selected from the group consisting of C_1-C_6 alkyl, C_1-C_6 cycloalkyl, and C_1-C_6 alkoxy.~~

~~59. The compound according to claim 58, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,~~

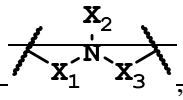
~~wherein, n1 is 4 to 18.~~

~~60. The compound according to any one of claims 49-59, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,~~

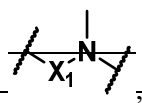
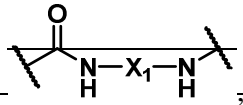
~~wherein, L_3 is selected from the group consisting of optionally substituted~~  ~~,~~

~~and optionally substituted~~  ~~.~~

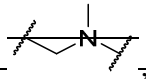
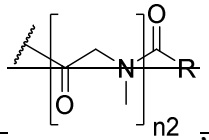
~~61. The compound according to any one of claims 49-60, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,~~

~~wherein, the benzene ring of L_3 is linked to the optionally substituted polysarcosine residue through a structural unit -X-, and the structural unit -X- is selected from the group consisting of optionally substituted~~  ~~, wherein X_1 is selected from the group consisting of carbonyl, C_1-C_8 alkyl, C_1-C_8 alkoxy, C_1-C_6 cycloalkyl, linear heteroalkyl comprising 1-8 atoms, and linear cyclic heteroalkyl comprising 1-8 atoms, where the heteroalkyl comprises 1-3 atoms selected from N, O or S; wherein X_2 is selected from the group consisting of hydrogen, C_1-C_8 alkyl, C_1-C_8 alkoxy, C_1-C_6 cycloalkyl, linear heteroalkyl comprising 1-8 atoms, and linear cyclic heteroalkyl comprising 1-8 atoms, where the heteroalkyl comprises 1-3 atoms selected from N, O or S; wherein X_3 is a covalent bond or selected from the group consisting of hydrogen, C_1-C_8 alkyl, C_1-C_8 alkoxy, C_1-C_6 cycloalkyl, linear heteroalkyl comprising 1-8 atoms, and linear cyclic heteroalkyl comprising 1-8 atoms, where the heteroalkyl comprises 1-3 atoms selected from N, O or S; and the C_1-C_8 alkyl, C_1-C_8 alkoxy, C_1-C_6 cycloalkyl, linear heteroalkyl comprising 1-8 atoms, and linear cyclic heteroalkyl comprising 1-8 atoms are each independently optionally substituted with one or more substituents selected from deuterium, halogen, cyano, nitro, amino, alkyl, carboxy, alkoxy, or cycloalkyl.~~

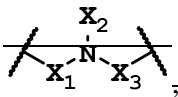
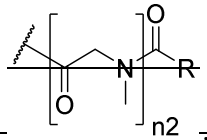
~~62. The compound according to any one of claims 49-61, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,~~

~~wherein, the benzene ring of L_3 is linked to the optionally substituted polysarcosine residue through a structural unit X, and the structural unit X is selected from the group consisting of optionally substituted~~  ~~, and optionally substituted~~  ~~, wherein X_1 is selected from the group consisting of C_1-C_8 alkyl, C_1-C_8 alkoxy, C_1-C_6 cycloalkyl, linear heteroalkyl comprising 1-8 atoms, and linear cyclic heteroalkyl comprising 1-8 atoms, where the heteroalkyl comprises 1-3 atoms selected from N, O or S, and the C_1-C_8 alkyl, C_1-C_8 alkoxy, C_1-C_6 cycloalkyl, linear heteroalkyl comprising 1-8 atoms, and linear cyclic heteroalkyl comprising 1-8 atoms are each independently optionally substituted with one or more substituents selected from deuterium, halogen, cyano, nitro, amino, alkyl, carboxy, alkoxy, or cycloalkyl.~~

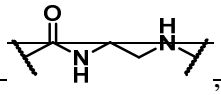
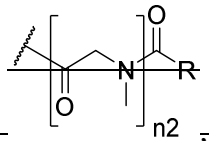
~~63. The compound according to any one of claims 61-62, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,~~

~~wherein, the structural unit X is optionally substituted~~  ~~, and the optionally substituted polysarcosine residue comprises~~  ~~, wherein n2 is a number from 4 to 18, and R is selected from the group consisting of C_1-C_6 alkyl, C_1-C_6 cycloalkyl, and C_1-C_6 alkoxy.~~

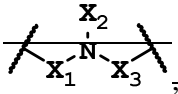
~~64. The compound according to any one of claims 61-63, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,~~

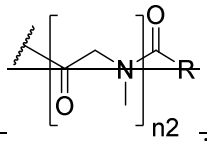
wherein, the structural unit -X- is selected from the group consisting of optionally substituted , wherein X_1 is selected from the group consisting of carbonyl, C_1-C_8 alkyl, C_1-C_8 alkoxy, C_1-C_6 cycloalkyl, linear heteroalkyl comprising 1-8 atoms, and linear cyclic heteroalkyl comprising 1-8 atoms, where the heteroalkyl comprises 1-3 atoms selected from N, O or S; wherein X_2 is selected from the group consisting of hydrogen, C_1-C_8 alkyl, C_1-C_8 alkoxy, C_1-C_6 cycloalkyl, linear heteroalkyl comprising 1-8 atoms, and linear cyclic heteroalkyl comprising 1-8 atoms, where the heteroalkyl comprises 1-3 atoms selected from N, O or S; wherein X_3 is a covalent bond or selected from the group consisting of hydrogen, C_1-C_8 alkyl, C_1-C_8 alkoxy, C_1-C_6 cycloalkyl, linear heteroalkyl comprising 1-8 atoms, and linear cyclic heteroalkyl comprising 1-8 atoms, where the heteroalkyl comprises 1-3 atoms selected from N, O or S; the C_1-C_8 alkyl, C_1-C_8 alkoxy, C_1-C_6 cycloalkyl, linear heteroalkyl comprising 1-8 atoms, and linear cyclic heteroalkyl comprising 1-8 atoms are each independently optionally substituted with one or more substituents selected from deuterium, halogen, cyano, nitro, amino, alkyl, carboxy, alkoxy, or cycloalkyl, and the optionally substituted polysarcosine residue comprises , wherein n2 is a number from 4 to 18, and R is selected from the group consisting of C_1-C_6 alkyl, C_1-C_6 cycloalkyl, and C_1-C_6 alkoxy.

65. The compound according to any one of claims 61-62, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,

wherein, the structural unit X is optionally substituted , and the optionally substituted polysarcosine residue comprises , wherein n2 is a number from 4 to 18, and R is selected from the group consisting of C_1-C_6 alkyl, C_1-C_6 cycloalkyl, and C_1-C_6 alkoxy.

66. The compound according to any one of claims 61-62 and 65, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,

wherein, the structural unit X is selected from the group consisting of optionally substituted , wherein X_1 is selected from the group consisting of carbonyl, C_1-C_8 alkyl, C_1-C_8 alkoxy, C_1-C_6 cycloalkyl, linear heteroalkyl comprising 1-8 atoms, and linear cyclic heteroalkyl comprising 1-8 atoms, where the heteroalkyl comprises 1-3 atoms selected from N, O or S; wherein X_2 is selected from the group consisting of hydrogen, C_1-C_8 alkyl, C_1-C_8 alkoxy, C_1-C_6 cycloalkyl, linear heteroalkyl comprising 1-8 atoms, and linear cyclic heteroalkyl comprising 1-8 atoms, where the heteroalkyl comprises 1-3 atoms selected from N, O or S; wherein X_3 is a covalent bond or selected from the group consisting of hydrogen, C_1-C_8 alkyl, C_1-C_8 alkoxy, C_1-C_6 cycloalkyl, linear heteroalkyl comprising 1-8 atoms, and linear cyclic heteroalkyl comprising 1-8 atoms, where the heteroalkyl comprises 1-3 atoms selected from N, O or S; the C_1-C_8 alkyl, C_1-C_8 alkoxy, C_1-C_6 cycloalkyl, linear heteroalkyl comprising 1-8 atoms, and linear cyclic heteroalkyl comprising 1-8 atoms are each independently optionally substituted with one or more substituents selected from deuterium, halogen, cyano, nitro, amino, alkyl, carboxy, alkoxy, or cycloalkyl, and

the optionally substituted polysarcosine residue comprises 

, wherein n2 is a number from 4 to 18, and R is selected from the group consisting of C_1-C_6 alkyl, C_1-C_6 cycloalkyl, and C_1-C_6 alkoxy.

67. The compound according to any one of claims 63-66, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,

wherein, n2 is 4 to 18.

68. The compound according to any one of claims 49-67, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,

wherein, T comprises a compound with anti-tumor activity.

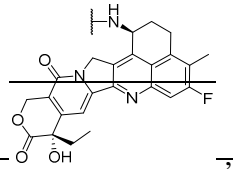
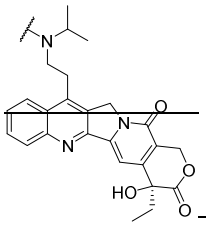
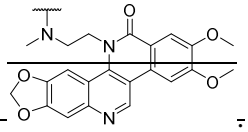
69. The compound according to any one of claims 49-68, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,

wherein, T comprises a topoisomerase inhibitor.

70. The compound according to any one of claims 49-69, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,

~~wherein, T comprises camptothecin and non-camptothecin topoisomerase I inhibitors.~~

~~71. The compound according to any one of claims 49-70, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,~~

~~wherein, T is a structure selected from the group consisting of~~  ~~,~~  ~~and~~  ~~.~~

~~72. The compound according to any one of claims 49-71, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,~~

~~wherein the Ab comprises an antibody or an antigen-binding fragment thereof.~~

~~73. The compound according to claim 72, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,~~

~~wherein the antibody is selected from the group consisting of a murine antibody, a chimeric antibody, a humanized antibody and a fully human antibody.~~

~~74. The compound according to any one of claims 72-73, or a tautomer, mesomer, racemate,~~

enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,

wherein the antibody comprises a monoclonal antibody.

75. The compound according to any one of claims 72-74, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,

wherein the antibody comprises a bispecific antibody.

76. The compound according to any one of claims 72-75, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,

wherein the antigen-binding fragment is selected from the group consisting of Fab, Fab', an Fv fragment, $F(ab')_2$, $F(ab)_2$, scFv, di-scFv, VHH and dAb.

77. The compound according to any one of claims 49-76, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,

wherein, the Ab is selected from the group consisting of an anti-HER2 antibody, an anti-HER3 antibody, an anti-TROP2 antibody, an anti-B7-H3 antibody, an anti-GPC20 antibody, an anti-CDH6 antibody, an anti-EGFR antibody, an anti-EGFRvIII antibody, an anti-AXL antibody, an anti-Nectin-4 antibody, an anti-Tissue factor antibody, an anti-TIM-1 antibody, an anti-PSMA antibody, an anti-EpCAM antibody, an anti-MUC1 antibody, an anti-STEAP1 antibody, an anti-

~~GPNMB antibody, an anti-FGF2 antibody, an anti-FOLR1 antibody, an anti-c-MET antibody, an anti-GFR antibody, an anti-AGS-16, an anti-Guanylyl cyclase C antibody, an anti-Mesothelin antibody, an anti-SLC44A4 antibody, an anti-PSMA antibody, an anti-EphA2 antibody, an anti-AGS-5 antibody, an anti-GPC-3 antibody, an anti-c-KIT antibody, an anti-ROR1 antibody, an anti-PD-L1 antibody, an anti-CD27L antibody, an anti-5T4 antibody, an anti-Mucin-16 antibody, an anti-NaPi2b antibody, an anti-STEAP antibody, an anti-SLITRK6 antibody, an anti-ETBR antibody, an anti-BCMA antibody, an anti-CEACAM5 antibody, an anti-SC-16 antibody, an anti-SLC39A6 antibody, an anti-Delta-like protein3 antibody, an anti-Claudin-18.2 antibody, an anti-CD19 antibody, an anti-CD20 antibody, an anti-CD22 antibody, an anti-CD30 antibody, an anti-CD33 antibody, an anti-CD37 antibody, an anti-CD45 antibody, an anti-CD56 antibody, an anti-CD66e antibody, an anti-CD70 antibody, an anti-CD73 antibody, an anti-CD74 antibody, an anti-CD79b antibody, an anti-CD138 antibody, an anti-CD147 antibody, an anti-CD166 antibody, an anti-CD223 antibody, an anti-MUC16 antibody, an anti-MSLN antibody, an anti-ENPP3 antibody, an anti-SLTRK6 antibody, an anti-FGFR antibody, an anti-LIV-1 antibody, an anti-Lewis-Y antibody, an anti-av integrin antibody, an anti-ASCT2 antibody, an anti-C4.4a antibody, an anti-CA-IX antibody, an anti-CD324 antibody, an anti-CD352 antibody, an anti-CD44v6 antibody, an anti-CD48a antibody, an anti-CLL-1 antibody, an anti-Cripto antibody, an anti-CS1 antibody, an anti-DPEP3 antibody, an anti-Ephrin-A2 antibody, an anti-Ephrin-A4 antibody, an anti-ETBR antibody, an anti-FGFR2 antibody, an anti-FGFR3 antibody, an anti-FLT3 antibody, an anti-GD3 antibody, an anti-Globo-H antibody, an anti-GPC3 antibody, an anti-LAMP-1 antibody, an anti-LRRC15 antibody, an anti-Ly6E antibody, an anti-MFI2 antibody, an anti-NOTCH3 antibody, an~~

anti-p-cadherin antibody, an anti-PRLR antibody and an anti-RNF43 antibody, as well as antigen-binding fragments of the above.

78. The compound according to any one of claims 49-77, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,

wherein the heavy chains HCDR1, HCDR2 and HCDR3 and the light chains LCDR1, LCDR2 and LCDR3 of the Ab comprise the heavy chains HCDR1, HCDR2 and HCDR3 and the light chains LCDR1, LCDR2 and LCDR3 of the antibody, respectively.

79. The compound according to any one of claims 49-78, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,

wherein the heavy chain variable region VHs and the light chain variable region VLs of the Ab comprise the heavy chain variable region VHs and the light chain variable region VLs of the antibody, respectively.

80. The compound according to any one of claims 49-79, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,

wherein the heavy chains and light chains of the Ab comprise the heavy chains and light chains of the antibody, respectively.

81. The compound according to any one of claims 49-80, or a tautomer, mesomer, racemate,

~~enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,~~

~~wherein the Ab comprises Sacituzumab.~~

~~82. The compound according to any one of claims 49-81, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,~~

~~wherein the Ab comprises Trastuzumab or Pertuzumab.~~

~~83. The compound according to any one of claims 49-82, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,~~

~~wherein the Ab comprises Enfortumab.~~

~~84. The compound according to any one of claims 49-83, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,~~

~~wherein the Ab comprises Patritumab.~~

~~85. The compound according to any one of claims 49-84, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,~~

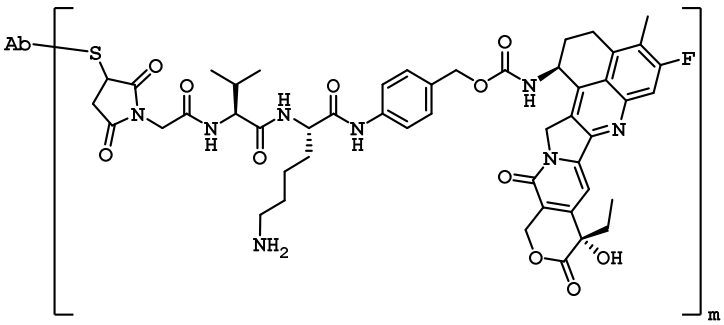
~~wherein the Ab comprises the antibody H01L02.~~

~~86. The compound according to any one of claims 49-85, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,~~

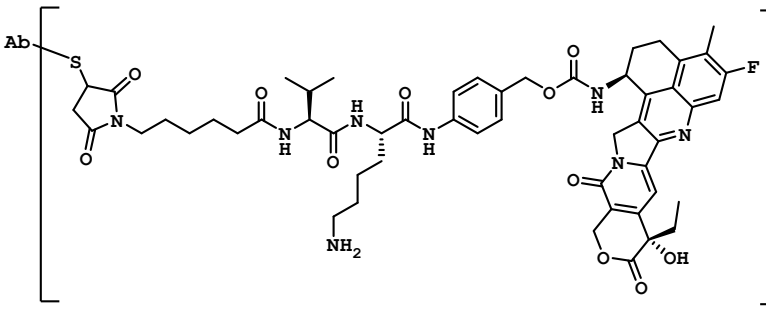
~~wherein the m is determined by a method selected from the group consisting of hydrophobic chromatography, sodium dodecyl sulfate polyacrylamide gel electrophoresis, and liquid chromatograph-mass spectrometer.~~

~~87.~~20. A compound, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof,

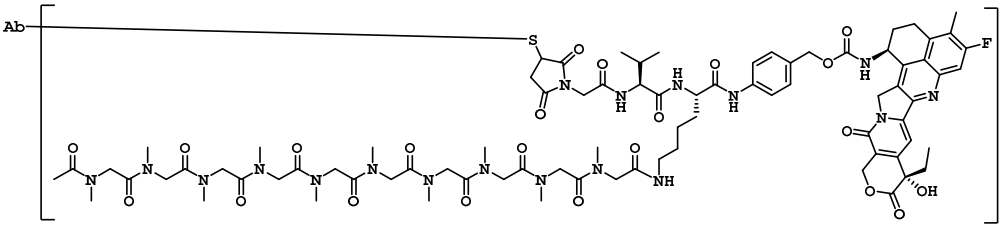
wherein, the compound comprises a structure selected from the group consisting of



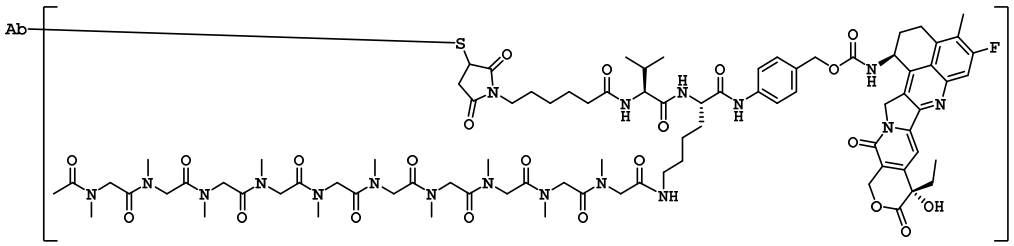
m(C-1),



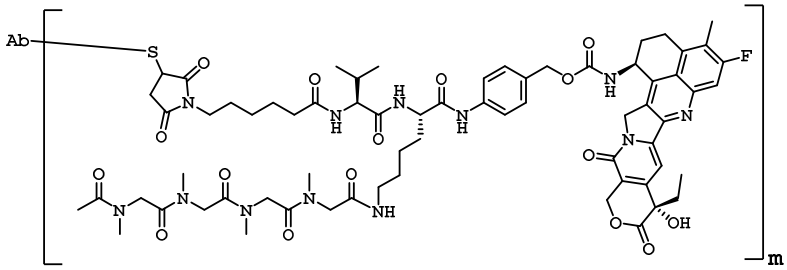
m(C-2),



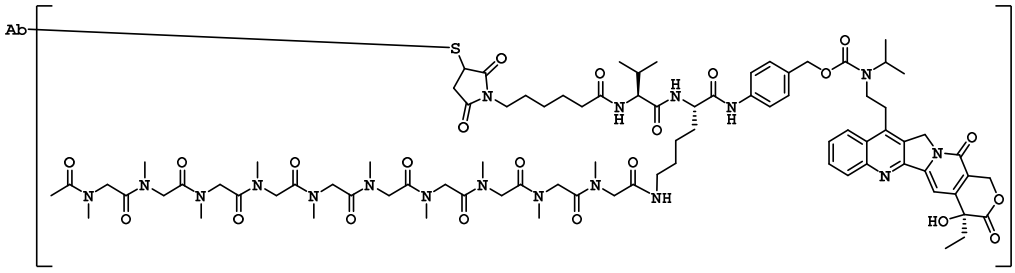
m(C-3),



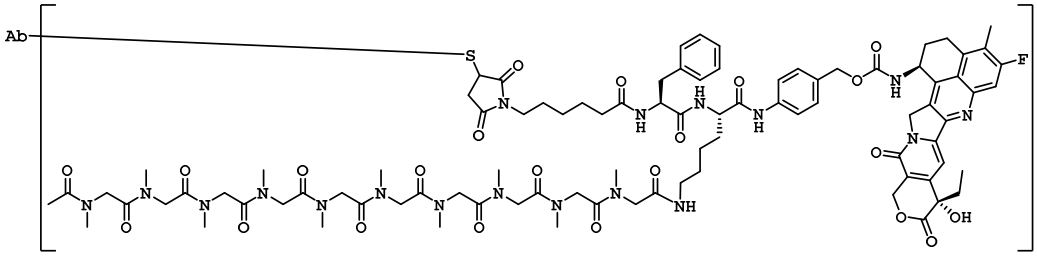
m(C-4),



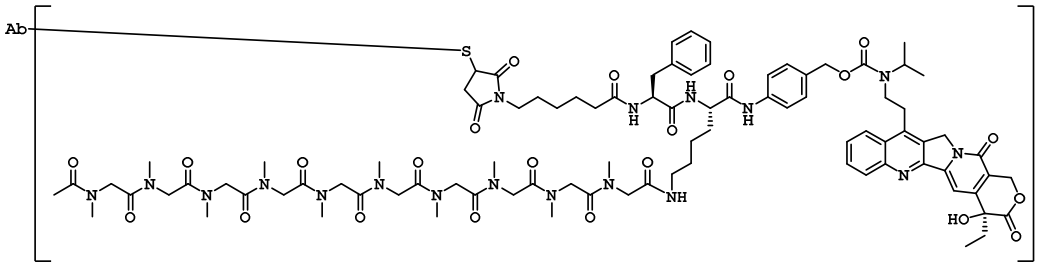
m(C-5),



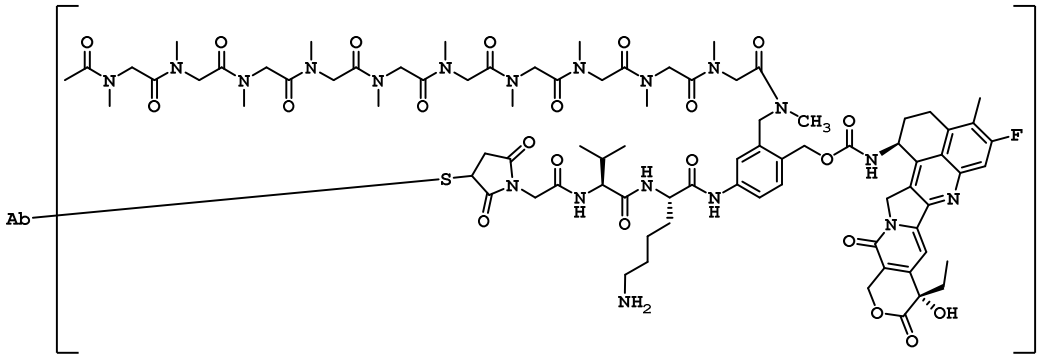
m(C-6),



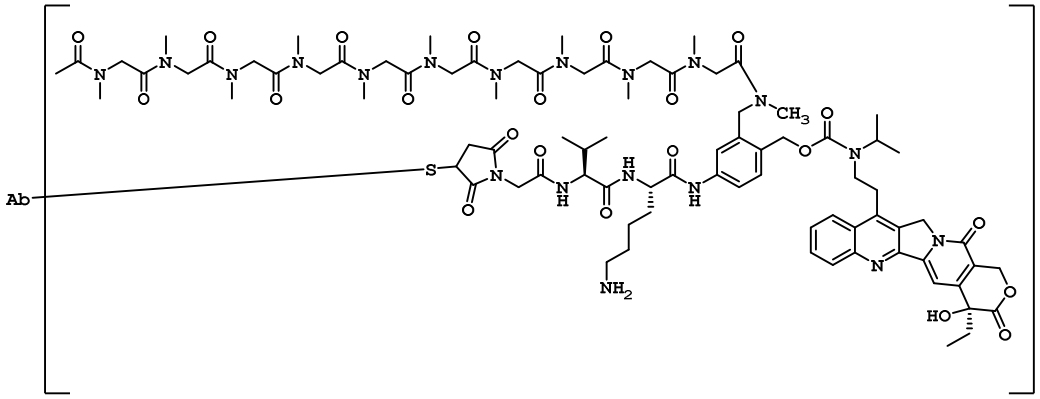
m (C-7),



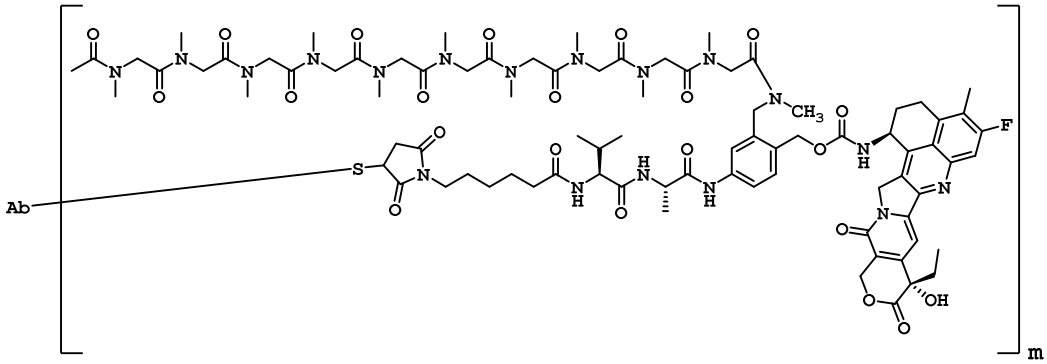
m (C-8),



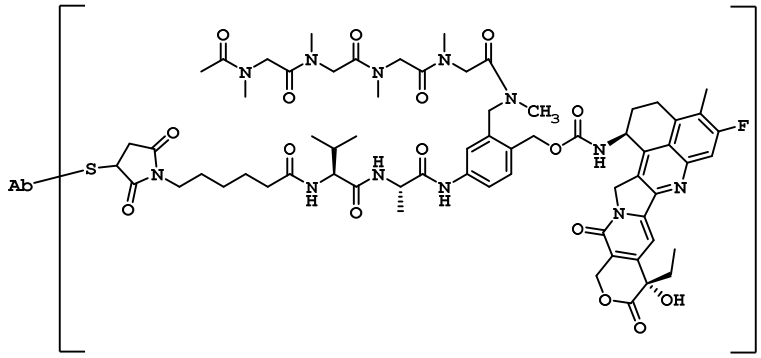
(C-9),



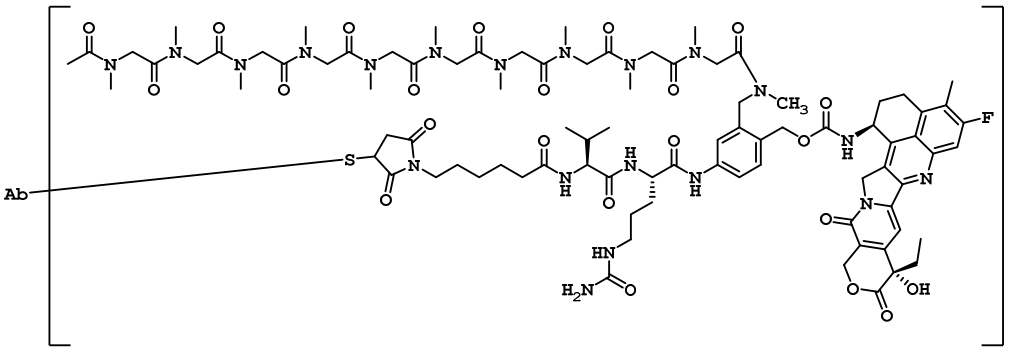
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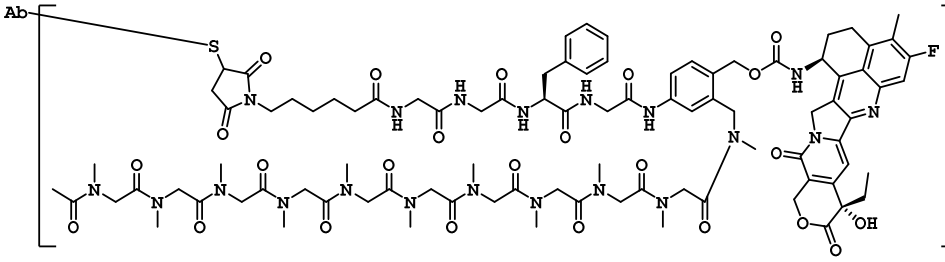
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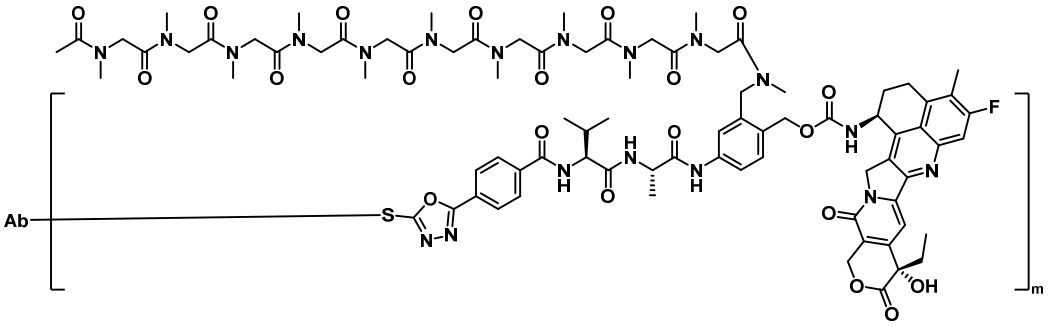
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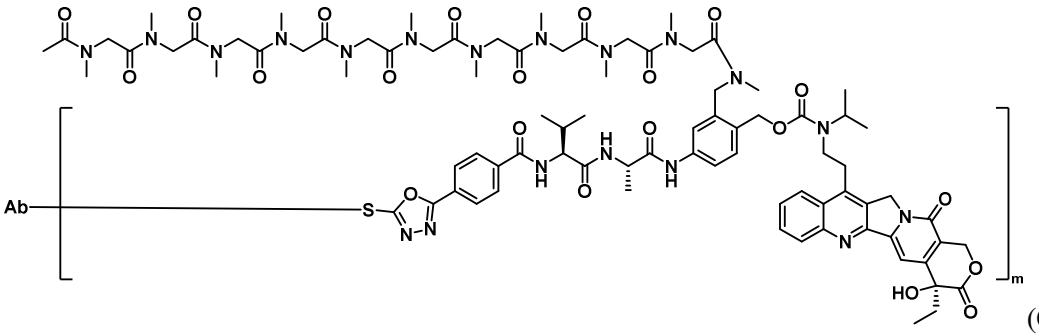
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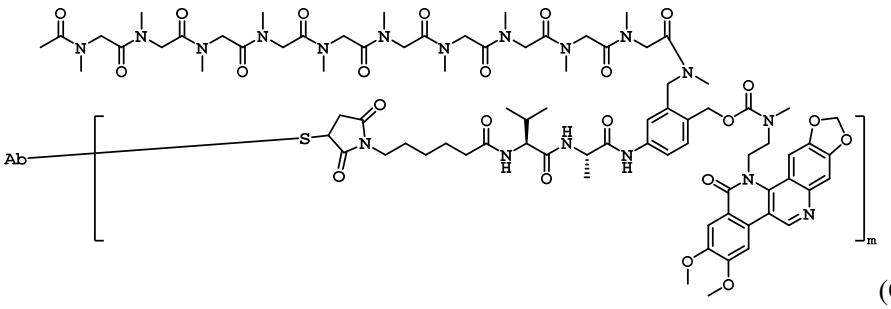
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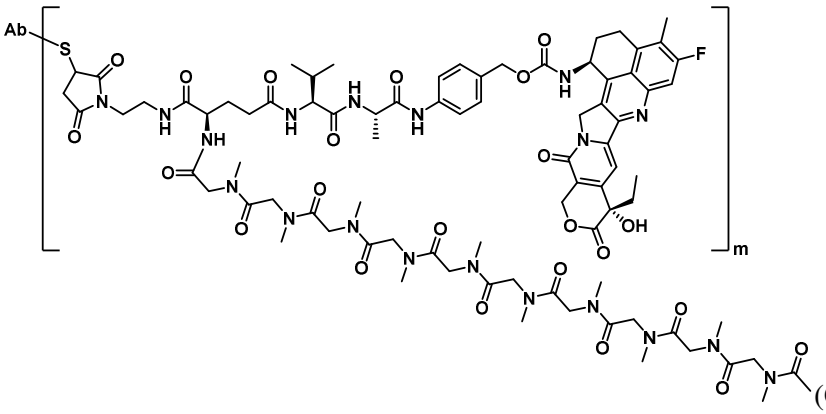
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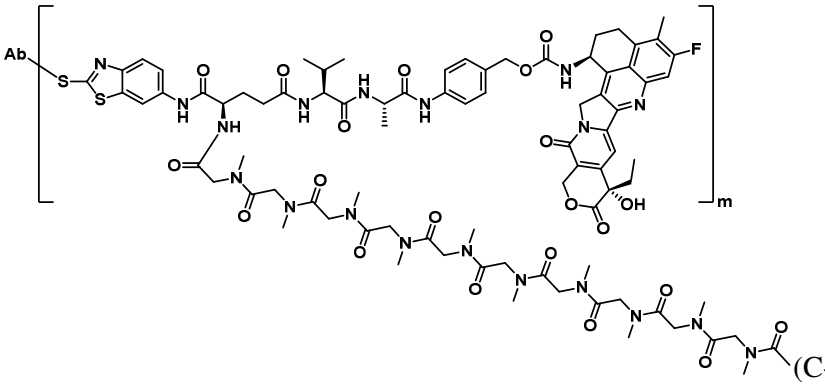
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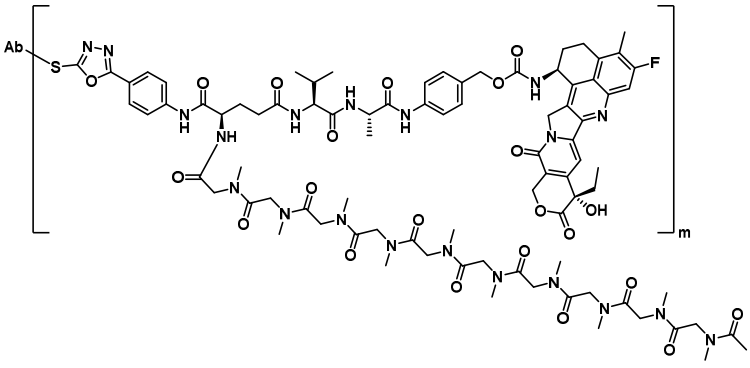
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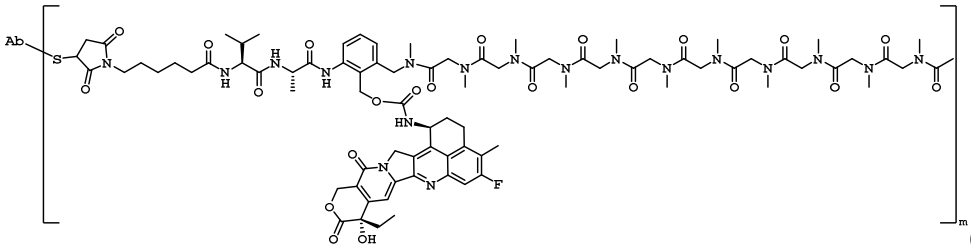
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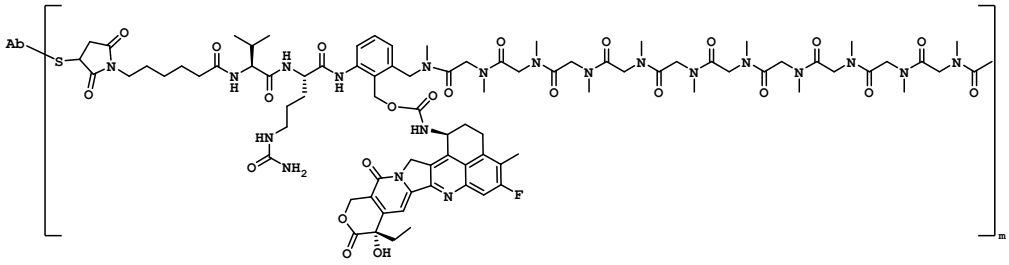


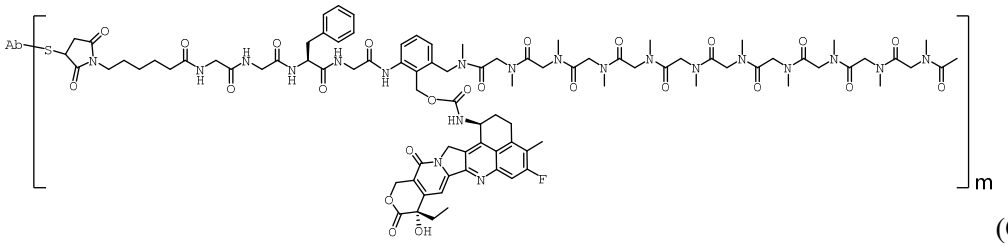
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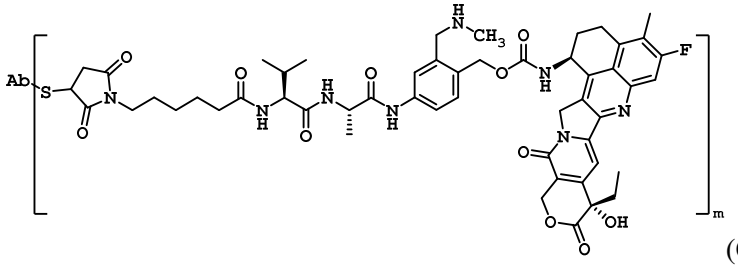


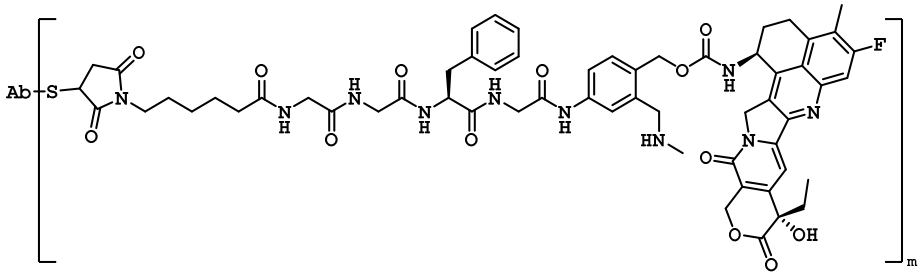
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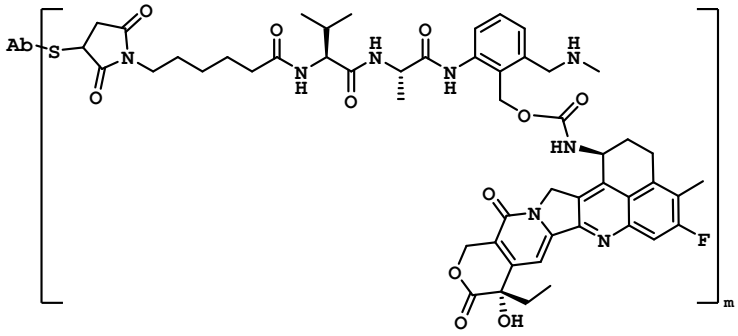

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(C-22),

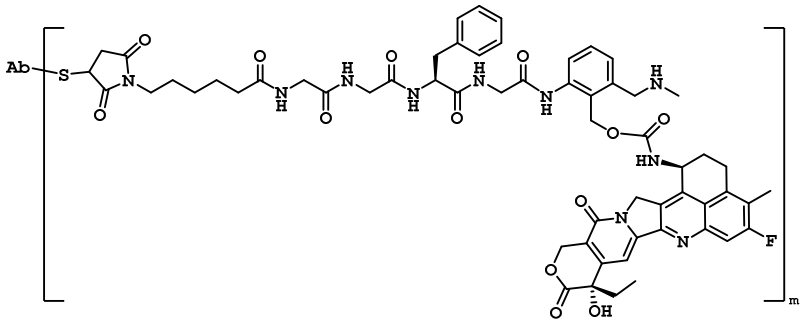

(C-23),


(C-24),

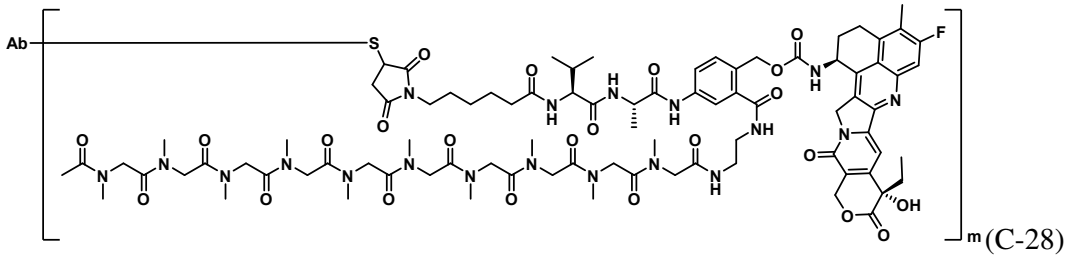

(C-25),



(C-26),

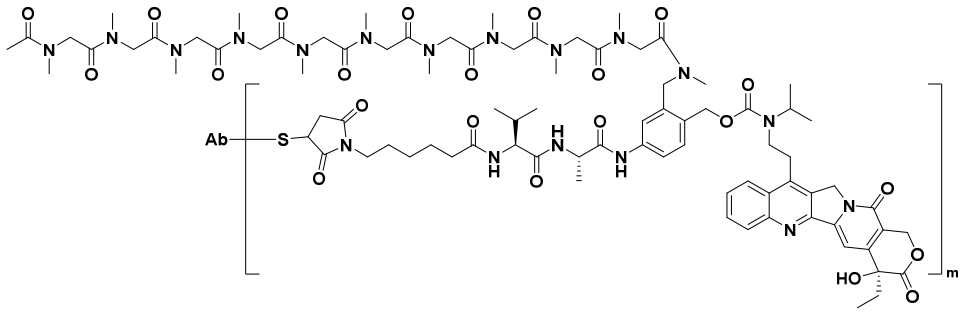


(C-27),



(C-28)

and



(C-29), Ab is a ligand, and m is a number from 1 to 8.

~~88.~~21. A pharmaceutical composition comprising the compound of any one of claims 1-~~87~~20, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or

a pharmaceutically acceptable salt, prodrug or solvate thereof, and optionally a pharmaceutically acceptable carrier.

~~89.~~Use of the compound of any one of claims 1-~~87~~20, or a tautomer, mesomer, racemate, enantiomer, and diastereomer thereof, or a mixture thereof, or a pharmaceutically acceptable salt, prodrug or solvate thereof, and/or the pharmaceutical composition according to claim ~~88~~ 21 in the preparation of a drug for treating and/or preventing a tumor.

~~90. The use according to claim 89, wherein the tumor is selected from tumors associated with the expression of targets of the following group: HER2, HER3, TROP2, B7-H3, GPC20, CDH6, EGFR, EGFRvIII, AXL, Nectin-4, Tissue factor, TIM-1, PSMA, EpCAM, MUC1, STEAP1, GPNMB, FGF2, FOLR1, c-MET, GFR, AGS-16, Guanylyl cyclase C, Mesothelin, SLC44A4, PSMA, EphA2, AGS-5, GPC-3, c-KIT, ROR1, PD-L1, CD27L, 5T4, Mucin 16, NaPi2b, STEAP, SLITRK6, ETBR, BCMA, CEACAM5, SC-16, SLC39A6, Delta-like protein3, Claudin 18.2, CD19, CD20, CD22, CD30, CD33, CD37, CD45, CD56, CD66e, CD70, CD73, CD74, CD79b, CD138, CD147, CD166, CD223, MUC16, MSLN, ENPP3, SLTRK6, FGFR, LIV-1, Lewis Y, av-integrin, ASCT2, C4.4a, CA-IX, CD324, CD352, CD44v6, CD48a, CLL-1, Cripto, CS1, DPEP3, Ephrin-A2, Ephrin-A4, ETBR, FGFR2, FGFR3, FLT3, GD3, Globo H, GPC3, LAMP-1, LRRC15, Ly6E, MFI2, NOTCH3, p-cadherin, PRLR and RNF43.~~

~~91. The use according to claim 90, wherein the tumor associated with the expression of the target comprises a tumor with high expression of the target and/or a tumor positive for the target.~~

~~92. The use according to any one of claims 89-91, wherein the tumor comprises a solid tumor and/or a hematological tumor.~~

~~93.~~22. ~~The use according to any one of claims 89-92, wherein the tumor is selected from the group consisting of breast cancer, ovarian cancer, non-Hodgkin lymphoma, Hodgkin lymphoma, acute lymphocytic leukemia, anaplastic large cell lymphoma, multiple myeloma, prostate cancer, non-small cell lung cancer, small cell lung cancer, malignant melanoma, squamous cell carcinoma, glioblastoma, renal cell carcinoma, gastrointestinal tumors, pancreatic cancer, prostate cancer, colorectal cancer, gastric cancer, neuroglioma and mesothelioma.~~