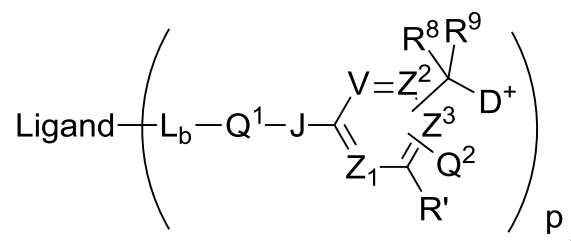


WHAT IS CLAIMED IS:

1. A Ligand Drug Conjugate (LDC) composition, wherein the LDC composition is represented by the structure of Formula 1:



(Formula 1)

wherein

“Ligand” is a Ligand Unit (L), wherein L is an antibody or fragment thereof, thereby defining an antibody drug conjugate (ADC), wherein the antibody is capable of selective binding to an antigen, wherein the antigen is an extracellularly accessible cell-surface protein or glycoprotein preferentially displayed by abnormal cells in comparison to normal cells;

L_b is a primary linker;

Q^1 is $\text{A}_a\text{-W}_w$, wherein A is an optional Stretcher unit so that subscript a is 0 when A is absent or 1 when A is present and is optionally comprised of two, three or four subunits;

Q^2 is $\text{W}'_w\text{-E}$ -, wherein Q^2 , when present, is bonded to V, Z^1 , Z^2 or Z^3 ;

W_w and W'_w are Cleavable units, wherein

W_w of Q^1 is capable of selective cleavage by an intracellular or regulatory protease in comparison to serum proteases, or by glutathione through disulfide exchange, or is more reactive to hydrolysis under more acidic conditions present in lysosomes in comparison to physiological pH of serum,

$\text{W}'\text{-E}$ of Q^2 provides a glycosidic bond cleavable by a glycosidase located intracellularly, and

subscript w is 0 or 1 so that W is absent when subscript w is 0 or W is present when subscript w is 1, and subscript w' is 0 or 1, wherein $\text{W}'\text{-E}$ is absent when subscript w' is 0 or $\text{W}'\text{-E}$ is present when subscript w' is 1, and wherein $w + w'$ is 1 so that one and only one of W, W' is present;

V, Z^1 , Z^2 and Z^3 are $=\text{N-}$ or $=\text{C}(\text{R}^{24})\text{-}$, wherein R^{24} is hydrogen or alkyl, alkenyl or alkynyl, optionally substituted, or halogen, $-\text{NO}_2$, $-\text{CN}$ or other electron withdrawing

group, an electron donating group, $-Q^2$, or $-C(R^8)(R^9)-D^+$, wherein at least one of V, Z^1 , Z^2 and Z^3 is $=C(R^{24})-$ when subscript w is 1, and at least two of V, Z^1 , Z^2 and Z^3 are $=C(R^{24})-$ when w' is 1,

provided that when subscript w is 1, Q^2 is absent and one and only one R^{24} is $-C(R^8)(R^9)-D^+$ so that $-C(R^8)(R^9)-D^+$ is bonded to one of V, Z^1 , Z^2 , Z^3 when that variable group is $=C(R^{24})-$ and the Q^1 -J- and $-C(R^8)(R^9)-D^+$ substituents are *ortho* or *para* to each other,

provided that when subscript w' is 1, one any only one R^{24} is $-C(R^8)(R^9)-D^+$ so that $-C(R^8)(R^9)-D^+$ is bonded to one of V, Z^1 , Z^2 , Z^3 when that variable group is $=C(R^{24})-$ and one and only one other R^{24} is Q^2 so that Q^2 is bonded to another one of V, Z^1 , Z^2 , Z^3 when that variable group is $=C(R^{24})-$, and the Q^2 and $-C(R^8)(R^9)-D^+$ substituents are *ortho* or *para* to each other;

R^8 and R^9 independently are hydrogen, alkyl, alkenyl or alkynyl, optionally substituted, or aryl or heteroaryl, optionally substituted;

R' is hydrogen or is halogen, $-NO_2$, $-CN$ or other electron withdrawing group, or is an electron donating group;

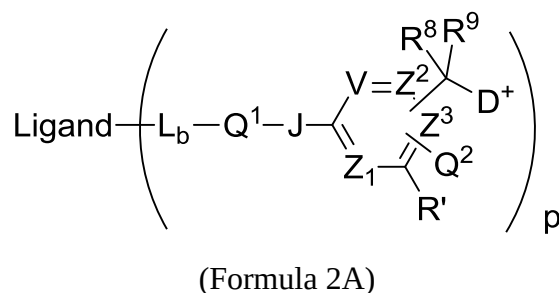
E and J independently are $-O-$, $-S-$ or $-N(R^{33})-$, wherein R^{33} is hydrogen or optionally substituted alkyl;

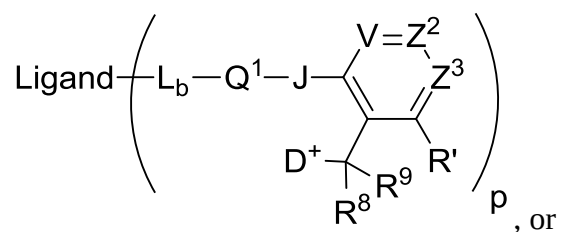
D^+ represents a structure of a quaternized tertiary amine-containing drug; and

subscript p is an average drug loading having a number ranging from 1 to 24; and

wherein said protease cleavage, disulfide exchange, acid hydrolysis or glycosidase cleavage results in release of tertiary amine-containing drug (D) from a Ligand Drug Conjugate compound of the composition.

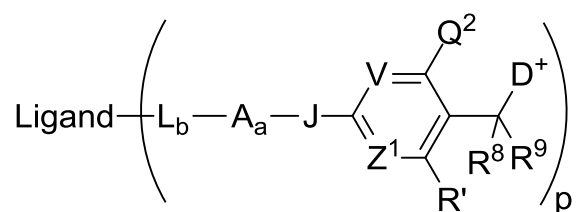
2. The LDC composition of claim 1 wherein the structure of the composition is represented by Formula 2A or Formula 2B:



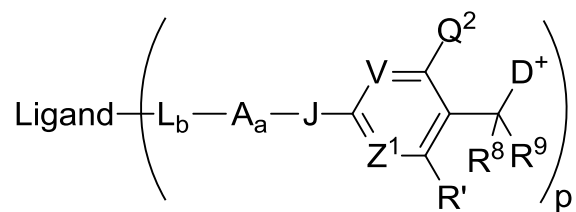


(Formula 2B)

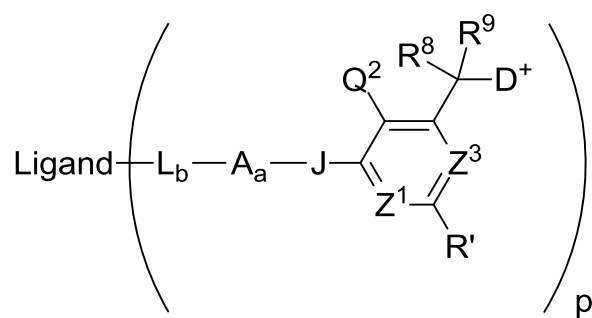
wherein the structure of the composition is represented by the structure of Formula 3A, Formula 3B, Formula 3C, Formula 3D, Formula 3E, or Formula 3F:



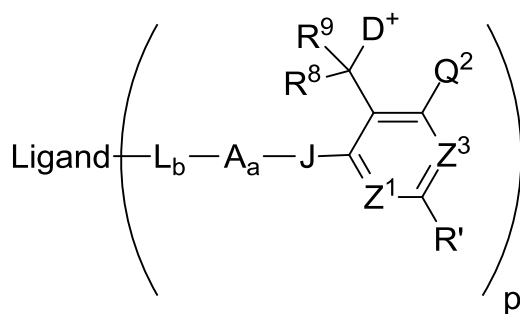
(Formula 3A)



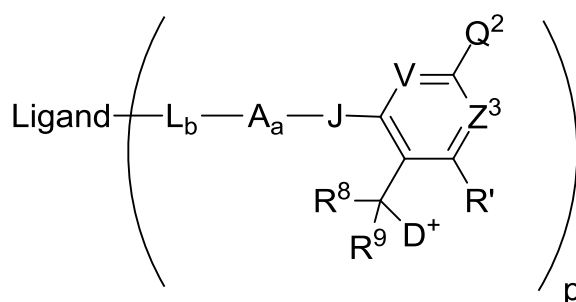
(Formula 3B)



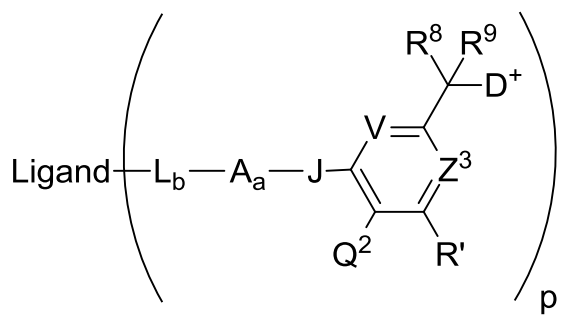
(Formula 3C)



(Formula 3D)



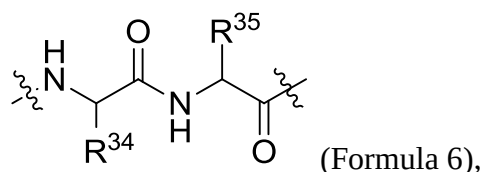
(Formula 3E)



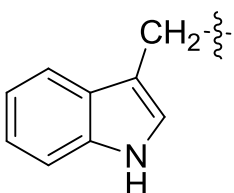
(Formula 3F)

3. The LDC composition of claim1 or 2, wherein W of Q¹ is comprised or consists of a peptide moiety having a peptide bond to J that is selectively cleavable by an intracellular or regulatory protease in comparison to serum proteases wherein action of the regulatory protease on W causes release of tertiary amine-containing drug (D) from a Ligand Drug Conjugate compound of the composition, and W' of Q² is a glycoside-bonded carbohydrate, wherein the glycoside bond W'-E of Q² provides for a cleavage site for a glycosidase located intracellularly, wherein action of the glycosidase on W'-E causes release of tertiary amine-containing drug (D) from a Ligand Drug Conjugate compound of the composition.

4. The LDC composition of claim 3, wherein the peptide moiety of W is comprised or consists of a dipeptide moiety having the structure of Formula 6:

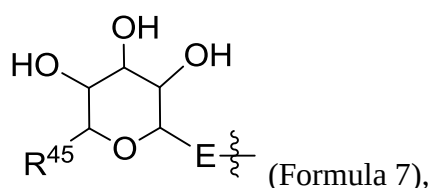


wherein R^{34} is benzyl, methyl, isopropyl, isobutyl, sec-butyl, $-\text{CH}(\text{OH})\text{CH}_3$ or has the

structure of  and R^{35} is methyl, $-(\text{CH}_2)_4-\text{NH}_2$, $-(\text{CH}_2)_3\text{NH}(\text{C}=\text{O})\text{NH}_2$, $-(\text{CH}_2)_3\text{NH}(\text{C}=\text{NH})\text{NH}_2$, or $-(\text{CH}_2)_2\text{CO}_2\text{H}$,

wherein the wavy bond to the dipeptide's C-terminus indicates covalent bonding to J of the arylene moiety of Formula 2A or 2B and the wavy bond to the dipeptide's N-terminus indicates covalent bonding to the remainder of W, if any such remainder is present, or to A, or a subunit thereof, when subscript a is 1 or to L_b when subscript a is 0, and wherein the dipeptide's bond to J is cleavable by an intracellular or regulatory protease, and

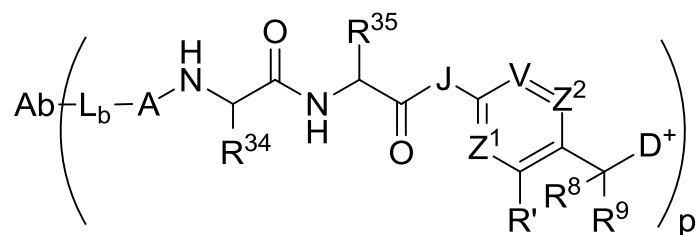
wherein W' in Q^2 is a carbohydrate moiety that is glycoside-bonded to E, wherein the glycosidic bond is cleavable by a glycosidase located intracellularly, and wherein W'-E has the structure of Formula 7:



wherein the wavy line represents E bonded to one of V, Z^1 , Z^2 , or Z^3 when that variable group is $=\text{C}(\text{R}^{24})$, wherein E is $-\text{O}-$, $-\text{S}-$, or $-\text{N}(\text{R}^{33})-$, wherein R^{33} is hydrogen or methyl; and

wherein R^{45} is $-\text{CH}_2\text{OH}$ or $-\text{CO}_2\text{H}$.

5. The LDC composition of claim 4, wherein the structure of the composition is represented by Formula 9:



(Formula 9)

wherein

Ab is the antibody Ligand Unit;

R' is hydrogen or an electron donating group;

R⁸ is hydrogen;

R⁹ is hydrogen, optionally substituted C₁-C₆ alkyl, or optionally substituted phenyl;

R³⁴ is methyl, isopropyl or -CH(OH)CH₃;

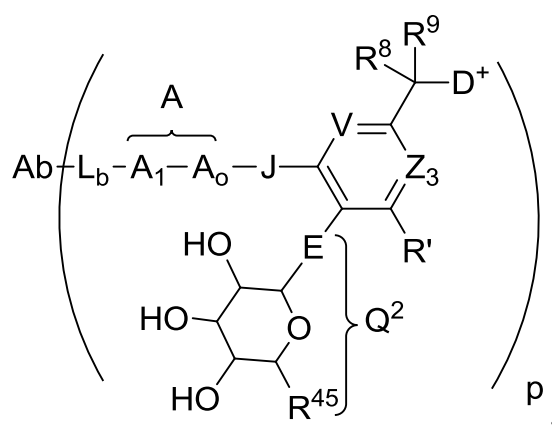
R³⁵ is methyl, -(CH₂)₃NH(C=O)NH₂ or -(CH₂)₂CO₂H;

J is -N(R³³)-, wherein R³³ is hydrogen or methyl; and

V and Z¹ independently are =CH- or =N-,

or

the structure of the composition is represented by the structure of Formula 11:



(Formula 11)

wherein

Ab is the antibody Ligand Unit;

A₁ and A₀ are independently selected subunits of A, wherein A₀ is an optional subunit of A so that A₁ becomes A when A₀ is absent and A is -A₁-A₀- when A₀ is present;

E is -O- or -NH-;

J is -N(R³³)-, wherein R³³ is hydrogen or methyl;

V and Z³ independently are =CH- or =N-;

R' is hydrogen or an electron withdrawing group;

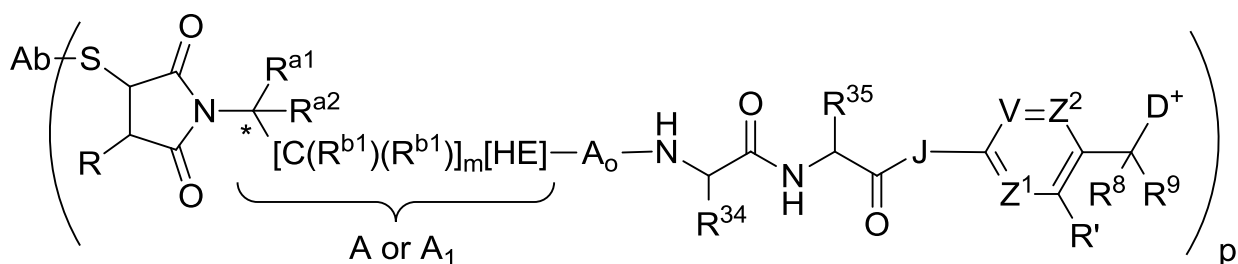
R⁸ is hydrogen;

R⁹ is hydrogen, optionally substituted C₁-C₆ alkyl or optionally substituted phenyl;

R⁴⁵ is -CO₂H; and

subscript p is a number ranging from 1 to 8.

6. The LDC composition of claim 5, wherein the structure of the composition is represented by Formula 10:



(Formula 10)

wherein

S is a sulfur atom of the antibody Ligand Unit;

the asterisk (*) designates chirality or absence thereof at the indicated carbon;

A₀ is an optional subunit of A, wherein -[C(R^{b1})(R^{b1})]_m-[HE]- is A when A₀ is absent and is A₁ when A₀ is present so A becomes -A₁-A₀-;

R is -H;

R^{a1} is -H or a basic unit (BU), wherein BU has the structure of -CH₂-N(R²²)(R²³), wherein R²² and R²³ independently are hydrogen, methyl or ethyl or both together with the nitrogen atom to which they are attached define a 5- or 6-membered heterocycloalkyl;

R^{a2} is hydrogen;

subscript m is an integer ranging from 0 to 5 when HE is present or from 1 to 5 when HE is absent;

each R^{b1} independently is hydrogen or optionally substituted C_1 - C_6 alkyl;

HE is absent or is $-C(=O)-$;

R^{34} is methyl, isopropyl or $-\text{CH}(\text{OH})\text{CH}_3$;

R^{35} is $-(\text{CH}_2)_3\text{NH}(\text{C}=\text{O})\text{NH}_2$, or $-(\text{CH}_2)_2\text{CO}_2\text{H}$;

J is $-\text{NH}-$;

V, Z^1 and Z^2 are $=\text{CH}_2-$;

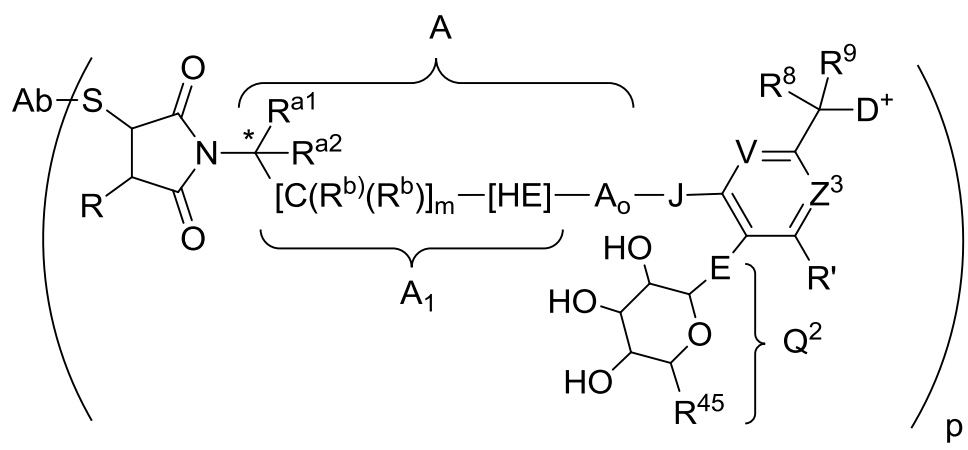
R' is hydrogen or an electron donating group;

R^8 is hydrogen; and

R^9 is hydrogen or methyl,

or

wherein the structure of the composition is represented by Formula 12:



(Formula 12)

wherein

S is a sulfur atom of the antibody Ligand Unit;

the asterisk (*) designates chirality or absence thereof at the indicated carbon atom;

A_1 and A_o are independently selected subunits of A, wherein A_o is an optional subunit of A, wherein $-\text{C}(\text{R}^{b1})(\text{R}^{b1})_m-\text{[HE]}-$ is A when A_o is absent and is A_1 when A_o is present so that A becomes A_1-A_o ; wherein A_o when present corresponds in structure to an amine-containing acid bonded to J through the C-terminal carbonyl of the amine-containing acid;

R is hydrogen;

R' is hydrogen or an electron withdrawing group;

R^{a1} is hydrogen or a basic unit (BU) wherein BU has the structure of $-\text{CH}_2-\text{N}(\text{R}^{22})(\text{R}^{23})$, or an acid addition salt thereof, wherein R^{22} and R^{23} independently are

hydrogen, methyl or ethyl or both together with the nitrogen atom to which they are attached define a 5- or 6-membered heterocycloalkyl;

R^{a2} is hydrogen;

subscript m is an integer ranging from 0 to 5 when HE is present or 1 to 5 when HE is absent;

each R^{b1} independently is hydrogen or optionally substituted C_1 - C_6 alkyl;

HE is absent or is $-C(=O)-$;

R^{45} is $-CO_2H$;

E is $-O-$;

J is $-NH-$;

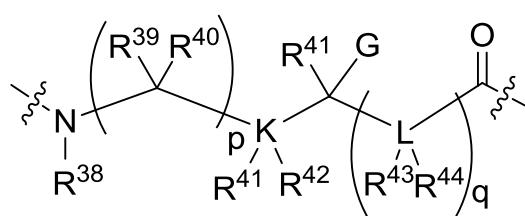
V and Z^3 are $=CH_2-$;

R^8 is hydrogen;

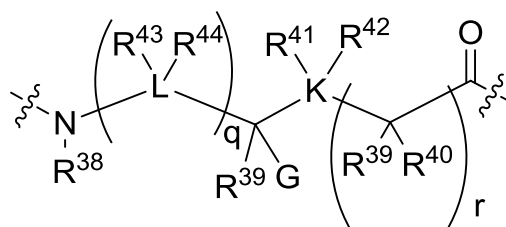
R^9 is hydrogen or methyl; and

subscript p is a number ranging from 1 to 8.

7. The LDC composition of claim 6, wherein A_O , when present, has the structure of Formula 13 or Formula 14:



(Formula 13)



(Formula 14)

wherein the wavy line to the carbonyl moiety of either structure represents the point of attachment of A_O to W and wherein the wavy line to the amino moiety of either structure represents the point of attachment of A_O to A_1 ,

wherein K and L independently are C, N, O or S, provided that when K or L is O or S, R^{41} and R^{42} to K or R^{43} and R^{44} to L are absent, and when K or L is N, one of R^{41} , R^{42} to K or one of R^{43} , R^{44} to L is absent, and provided that no two adjacent L are independently selected as N, O, or S;

wherein subscript q is an integer ranging from 0 to 12, and subscript r is an integer ranging from 1 to 12;

wherein G is hydrogen, optionally substituted C₁-C₆ alkyl, -OH, -OR^G, -CO₂H, or -CO₂R^G, wherein R^G is C₁-C₆ alkyl, aryl or heteroaryl, optionally substituted, or R^{PR},

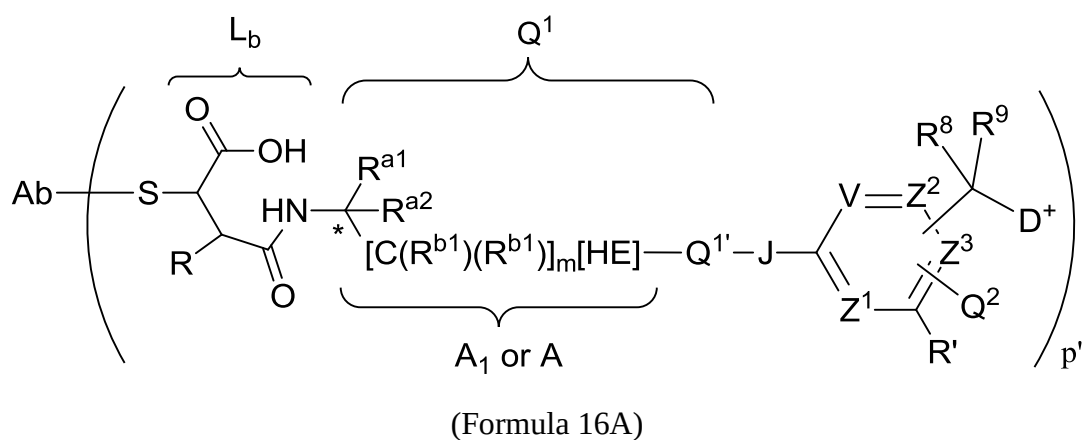
wherein R^{PR} is a suitable protecting group, -NH₂, or -N(R^G)(R^{PG}), wherein R^G independently selected is as previously defined or both R^G together with the nitrogen atom to which they are attached define a 5- or 6-membered heterocycloalkyl or both R^{PR} together form a suitable protecting group;

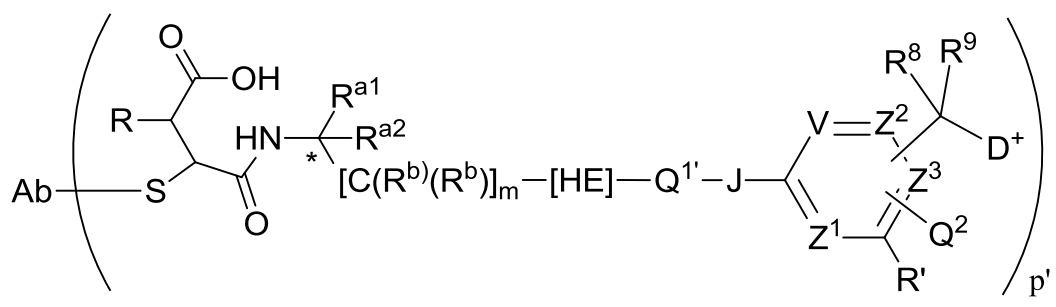
wherein R³⁸ is hydrogen or optionally substituted C₁-C₆ alkyl; R³⁹-R⁴⁴ independently are hydrogen, optionally substituted C₁-C₆ alkyl, optionally substituted, or optionally substituted heteroaryl, or both R³⁹, R⁴⁰ together with the carbon to which they are attached define a C₃-C₆ cycloalkyl, or R⁴¹, R⁴² together with K to which they are attached when K is C, or R⁴³, R⁴⁴ together with L to which they are attached when L is C, define a C₃-C₆ cycloalkyl, or R⁴⁰ and R⁴¹, or R⁴⁰ and R⁴³, or R⁴¹ and R⁴³ together with the carbon or heteroatom to which they are attached and atoms intervening between those carbon and/or heteroatoms define a 5- or 6-membered cycloalkyl or heterocycloalkyl, or

wherein A_O has a structure corresponding to alpha-amino, beta-amino or another amine-containing acid; and

wherein the indicated starred (*) carbon is predominantly in the same absolute configuration as the alpha carbon of an L-amino acid when that indicated carbon has chirality.

8. The LDC composition of claim 3, wherein each Ligand Drug Conjugate compound of the composition is independently represented by the structure of Formula 16A or Formula 16B:





(Formula 16B)

wherein Ab is the antibody Ligand Unit;

S is a sulfur atom of the antibody Ligand Unit;

the asterisk (*) designates chirality or absence thereof at the indicated carbon atom carbon;

$Q^{1'}$ is A_0-W_w , wherein A_0 is an optional subunit of A so that $-Q^{1'}$ is $-W_w$ when A_0 is absent, or is $-A_0-W_w$ when A_0 is present,

wherein $-[C(R^b)(R^b)]_m-[HE]-$ becomes A when A_0 is absent or is A_1 when A_0 is present, and

wherein subscript w is 1 when Q^2 is absent or subscript w is 0 so that W is absent and Q^2 is present;

R is hydrogen;

R^{a1} is $-H$ or BU wherein BU has the structure of $-CH_2-N(R^{22})(R^{23})$, or an acid addition salt thereof, wherein R^{22} and R^{23} independently are hydrogen or methyl or both together with the nitrogen atom to which they are attached define a 5- or 6-membered heterocycloalkyl;

R^{a2} is hydrogen;

subscript m is an integer ranging from 0 to 5 when HE is present or from 1 to 5 when HE is absent;

each R^{b1} independently is hydrogen or optionally substituted C_1-C_6 alkyl;

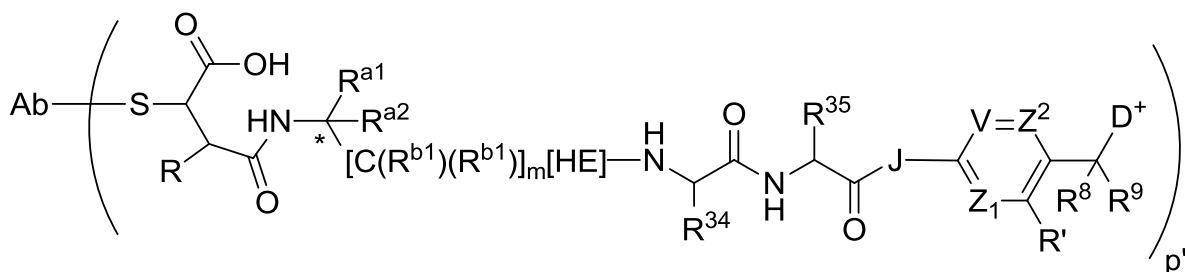
HE is absent or is $-C(=O)-$;

J is $-O-$ or $-NH-$;

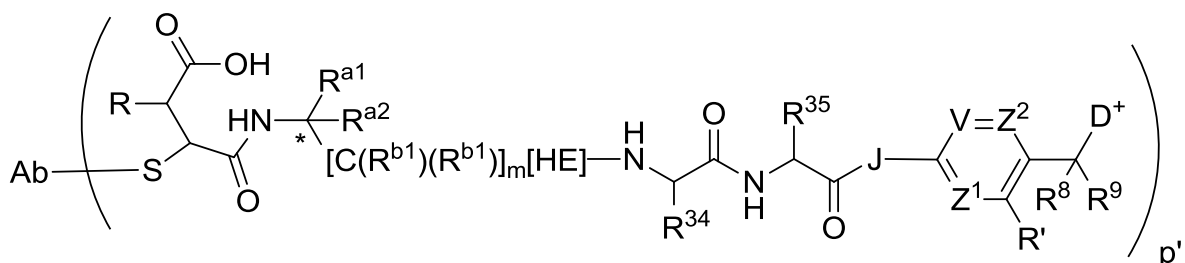
Q^2 when present is $W'-E$, wherein E is $-O-$ or $-NH-$; and

subscript p' is an integer ranging from 1 to 8.

9. The LDC composition of claim 8, wherein each Ligand Drug Conjugate compound of the composition is independently represented by the structure of Formula 17A or Formula 17B:



(Formula 17A)



(Formula 17B)

wherein

J is -NH-;

R is hydrogen;

R^{a1} is -H or BU, wherein BU has the structure of -CH₂-N(R²²)(R²³), or an acid addition salt thereof, wherein R²² and R²³ independently are hydrogen or methyl or both together with the nitrogen atom to which they are attached define a 5- or 6-membered heterocycloalkyl;

R^{a2} is hydrogen;

subscript m is an integer ranging from 0 to 5 when HE is present or from 1 to 5 when HE is absent;

each R^{b1} independently is hydrogen or optionally substituted C₁-C₆ alkyl;

HE is absent or is -C(=O)-;

J is -O- or -NH-;

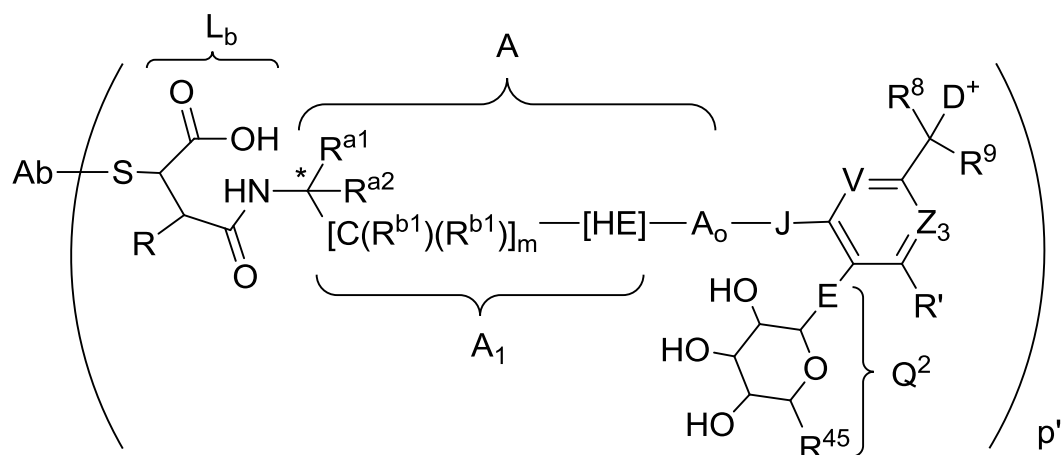
one of V, Z¹ is =C(R²⁴)-, wherein R²⁴ is hydrogen, -Cl or -NO₂, and the other V, Z¹ and Z² are =CH₂-;

R⁸ is hydrogen;

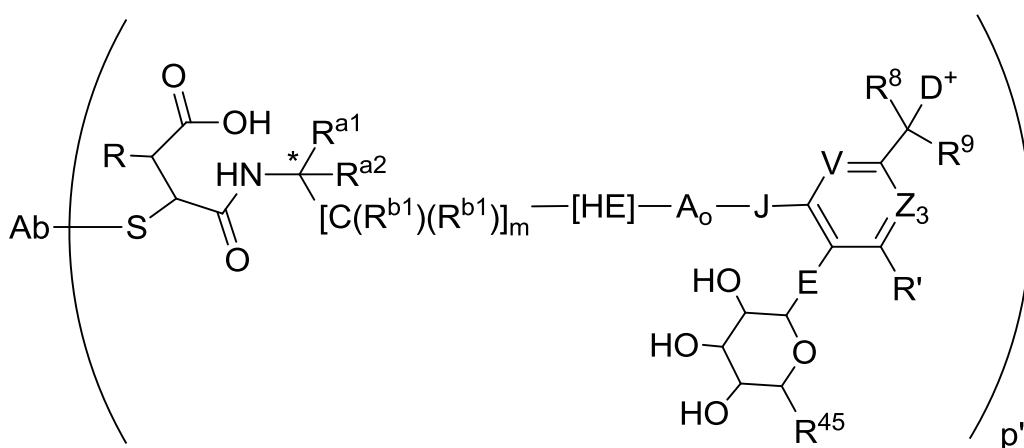
R^9 is hydrogen or methyl; and
 subscript p' is an integer ranging from 1 to 8,

or

each Ligand Drug Conjugate compound of the composition independently has the structure of Formula 19A or Formula 19B:



(Formula 19A)



(Formula 19B)

wherein

A_0 is an optional subunit of A , wherein the $-[C(R^{b1})(R^{b1})]_m-[HE]-$ moiety is A when A_0 is absent or the moiety is A_1 when A_0 is present so that A becomes $-A_1-A_0-$;

R is $-H$;

R^{a1} is $-H$ or a Basic Unit (BU), wherein BU has the structure of $-CH_2-N(R^{22})(R^{23})$, or an acid addition salt thereof, wherein R^{22} independently are hydrogen or methyl or R^{22}

both together with the nitrogen atom to which they are attached define a 5- or 6-membered heterocycloalkyl;

R^{a2} is hydrogen;

subscript m is an integer ranging from 0 to 5 when HE is present or 1 to 5 when HE is absent;

each R^{b1} independently is hydrogen or optionally substituted C_1 - C_6 alkyl;

HE is absent or is $-C(=O)-$;

R^{45} is $-CO_2H$;

E is $-O-$;

J is $-NH-$;

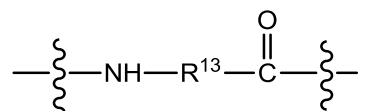
V and Z^3 are each $=CH_2-$;

R^8 is hydrogen; and

R^9 is hydrogen or methyl; and

subscript p' is an integer ranging from 1 to 8.

10. The LDC composition of claim 9, wherein A_O , when present, has the structure of:



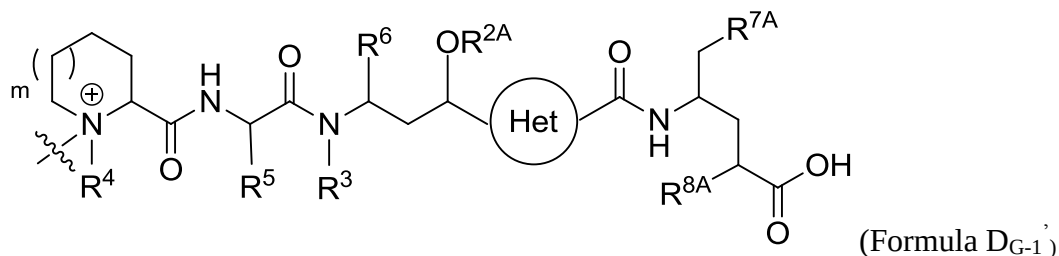
wherein R^{13} is $-C_1$ - C_{10} alkylene-, $-C_3$ - C_8 carbocyclo-, -arylene-, $-C_1$ - C_{30} heteroalkylene-, $-C_3$ - C_8 heterocyclo-, $-C_1$ - C_{10} alkylene-arylene-, -arylene- C_1 - C_{10} alkylene-, $-C_1$ - C_{10} alkylene- $(C_3$ - C_8 carbocyclo)-, $-(C_3$ - C_8 carbocyclo)- C_1 - C_{10} alkylene-, $-C_1$ - C_{10} alkylene- $(C_3$ - C_8 heterocyclo)-, $-(C_3$ - C_8 heterocyclo)- C_1 - C_{10} alkylene-, $-(CH_2CH_2O)_{1-10}(-CH_2)_{1-3}$ -, or $-(CH_2CH_2NH)_{1-10}(-CH_2)_{1-3}$ -,

or wherein A_O has a structure corresponding to alpha-amino or beta-amino acid; and

wherein the indicated starred (*) carbon of Formula 19A or Formula 19B is predominantly in the same absolute configuration as the alpha carbon of an L-amino acid when that indicated carbon has chirality.

11. The LDC composition of claim 1, wherein $-D^+$ is a quaternized tertiary amine-containing tubulin disrupting agent.

12. The LDC composition of claim 11, wherein the quaternized tertiary amine-containing tubulin disrupting $-D^+$ is a quaternized tubulysin Drug Unit having the structure of Formula D_{G-1}' :



wherein

the circle represents a 5-membered nitrogen-containing heteroaryl and wherein the indicated required substituents to that heteroaryl are in a 1,3-relationship with each other with optional substitutions at the remaining positions;

subscript m is 0 or 1;

R^{2A} is hydrogen or optionally substituted alkyl or R^{2A} along with the oxygen atom to which it is attached defines an O-linked substituent other than -OH;

R^3 is hydrogen or optionally substituted alkyl;

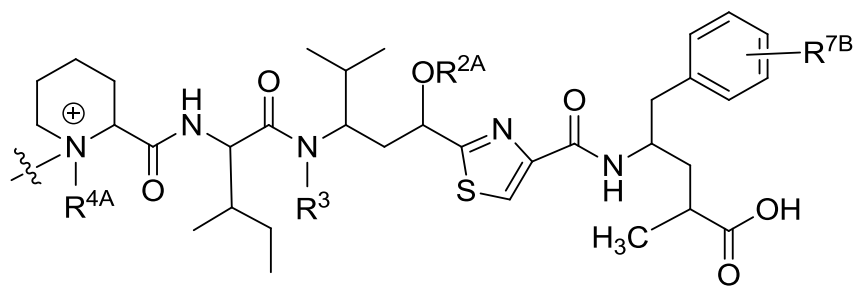
R^4 , R^5 and R^6 are optionally substituted alkyl, independently selected;

R^{7A} is optionally substituted aryl or optionally substituted heteroaryl; and

R^{8A} is hydrogen or optionally substituted alkyl,

wherein the wavy line indicates covalent bonding of D^+ to the remainder of the composition or compound structure.

13. The LDC composition of claim 11 wherein the quaternized tertiary amine-containing tubulin disrupting agent- D^+ is a quaternized tubulysin Drug Unit having the structure of:



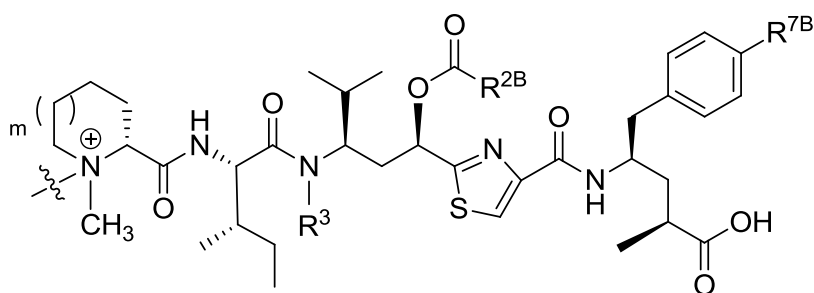
wherein

R^{4A} is methyl;

R^3 is H, methyl, ethyl, propyl, $-\text{CH}_2\text{OC(O)}R^{3A}$, $-\text{CH}_2\text{CH}(R^{3B})\text{C(O)}R^{3A}$ or $-\text{CH}(R^{3B})\text{C(O)}\text{NHR}^{3A}$, wherein R^{3A} is $\text{C}_1\text{-C}_6$ alkyl and R^{3B} is H or $\text{C}_1\text{-C}_6$ alkyl, independently selected from R^{3A} ;

$-\text{OR}^{2A}$ is an O-linked substituent selected from the group consisting of $-\text{OR}^{2B}$, $-\text{OC(O)}R^{2B}$ and $-\text{OC(O)}\text{N}(R^{2B})(R^{2C})$, wherein R^{2B} and R^{2C} are independently selected from the group consisting of H, $\text{C}_1\text{-C}_6$ alkyl and $\text{C}_2\text{-C}_6$ alkenyl; and the R^{7B} substituent is absent or is $-\text{OH}$.

14. The LDC composition of claim 13 wherein the quaternized tubulysin Drug Unit – D^+ has the structure of:



wherein subscript m is 1;

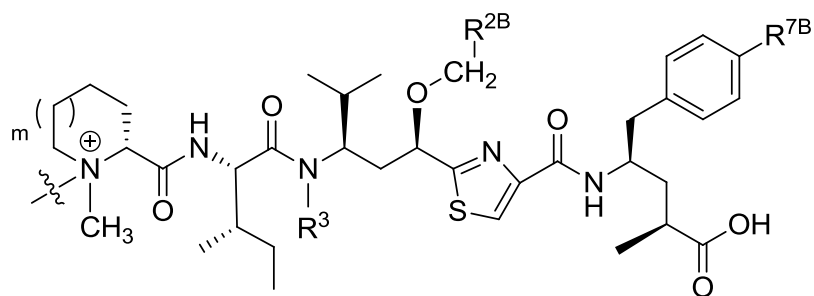
$-\text{OC(O)}R^{2B}$ is $-\text{OC(O)}\text{CH}_3$, $-\text{OC(O)}\text{CH}_2\text{CH}_3$, $-\text{OC(O)}\text{CH}(\text{CH}_3)_2$, $-\text{OC(O)}\text{C}(\text{CH}_3)_3$, or $-\text{OC(O)}\text{CH}=\text{CH}_2$;

R^3 is methyl, ethyl or propyl; and

the R^{7B} substituent is absent, so that R^{7B} is replaced by hydrogen, or is $-\text{OH}$,

or

$-\text{D}^+$ has the structure of:



wherein

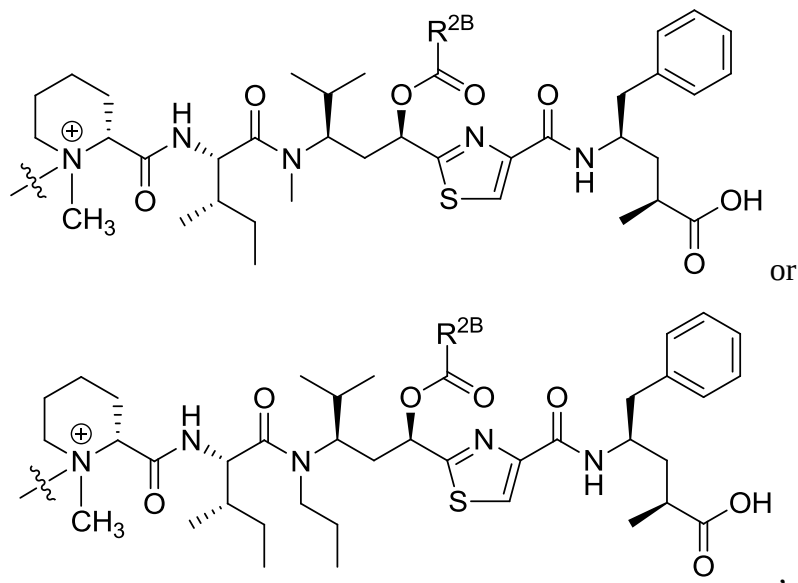
subscript m is 1;

$-\text{OCH}_2R^{2B}$ is $-\text{OCH}_3$, $-\text{OCH}_2\text{CH}_3$, $-\text{OCH}_2\text{CH}_2\text{CH}_3$ or $-\text{OCH}_2\text{OCH}_3$; and

R^3 is methyl, ethyl or propyl; and

the R^{7B} substituent is absent, so that R^{7B} is replaced by hydrogen, or is –OH.

15. The LDC composition of claim 14, wherein the quaternized tubulysin Drug Unit – D⁺ has the structure of:

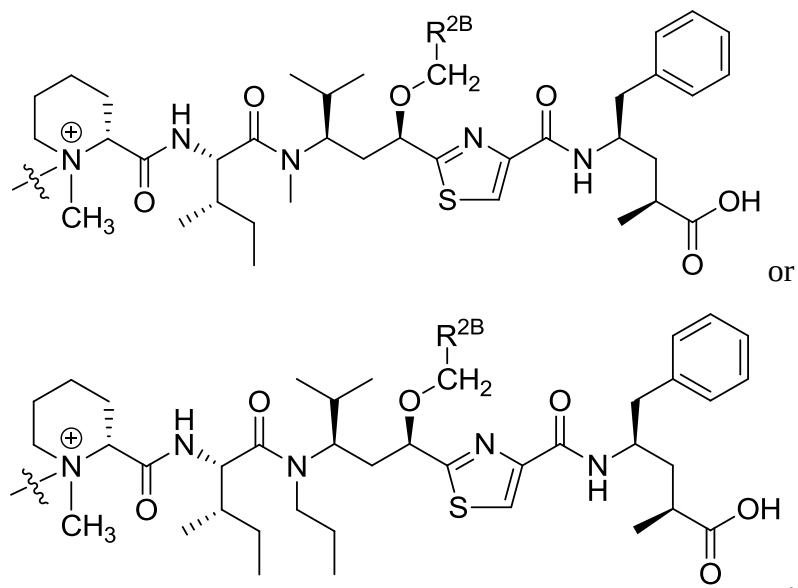


wherein

R^{2B} is –CH₃, –CH₂CH₃, –CH₂CH₂CH₃, –CH(CH₃)₂, –CH₂CH(CH₃)₂, –CH₂C(CH₃)₃,

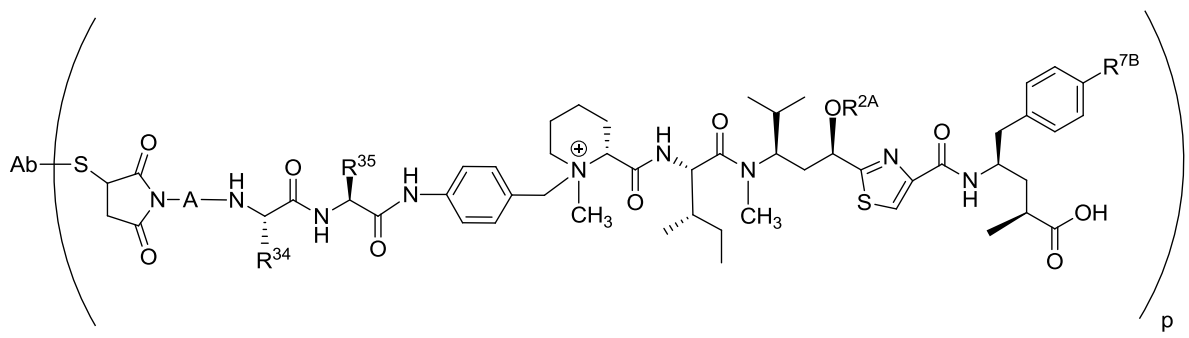
or

–D⁺ has the structure of:



wherein R^{2B} is hydrogen, methyl or –OCH₃ so that –OCH₂R^{2B} is a methyl, ethyl, or methoxymethyl ether O-linked substituent.

16. The LDC composition of claim 1 wherein the composition is represented by the structure of:



wherein

Ab is the antibody Ligand Unit;

S is a sulfur atom of the antibody Ligand Unit;

R^{34} is isopropyl and R^{35} is $-\text{CH}_3$, isopropyl, $-\text{CH}_2\text{CH}_2\text{CH}_2\text{NH}(\text{C}=\text{O})\text{NH}_2$ or $-\text{CH}_2\text{CH}_2\text{CO}_2\text{H}$;

the R^{7B} substituent is absent, so that R^{7B} is replaced by hydrogen, or is $-\text{OH}$;

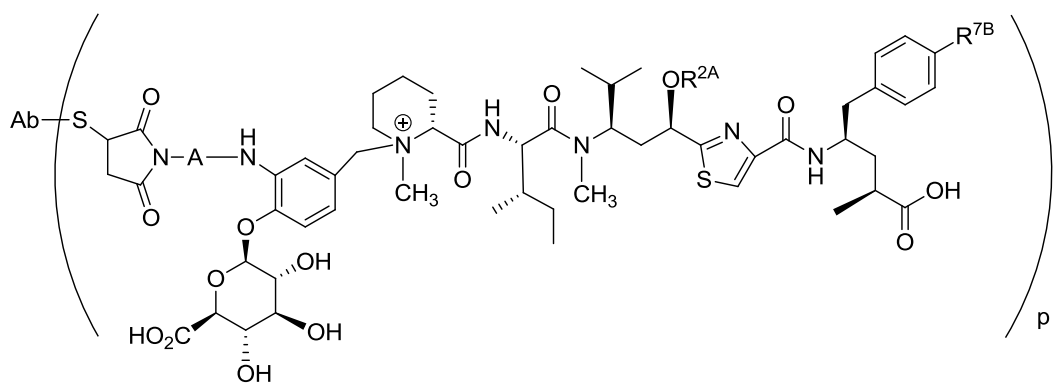
R^{2A} is lower alkyl, $-\text{C}(=\text{O})\text{R}^{2B}$ or $-\text{C}(=\text{O})\text{NHR}^{2B}$, wherein R^{2B} is lower alkyl;

subscript p is a number ranging from 1 to 8; and

A is $-\text{CH}_2(\text{CH}_2)_4(\text{C}=\text{O})-$ or $-\text{CH}_2(\text{CH}_2)_4(\text{C}=\text{O})\text{NHCH}_2\text{CH}_2(\text{C}=\text{O})-$,

or

wherein the composition is represented by the structure of:



wherein

Ab is the antibody Ligand Unit;

S is a sulfur atom of the antibody Ligand Unit;

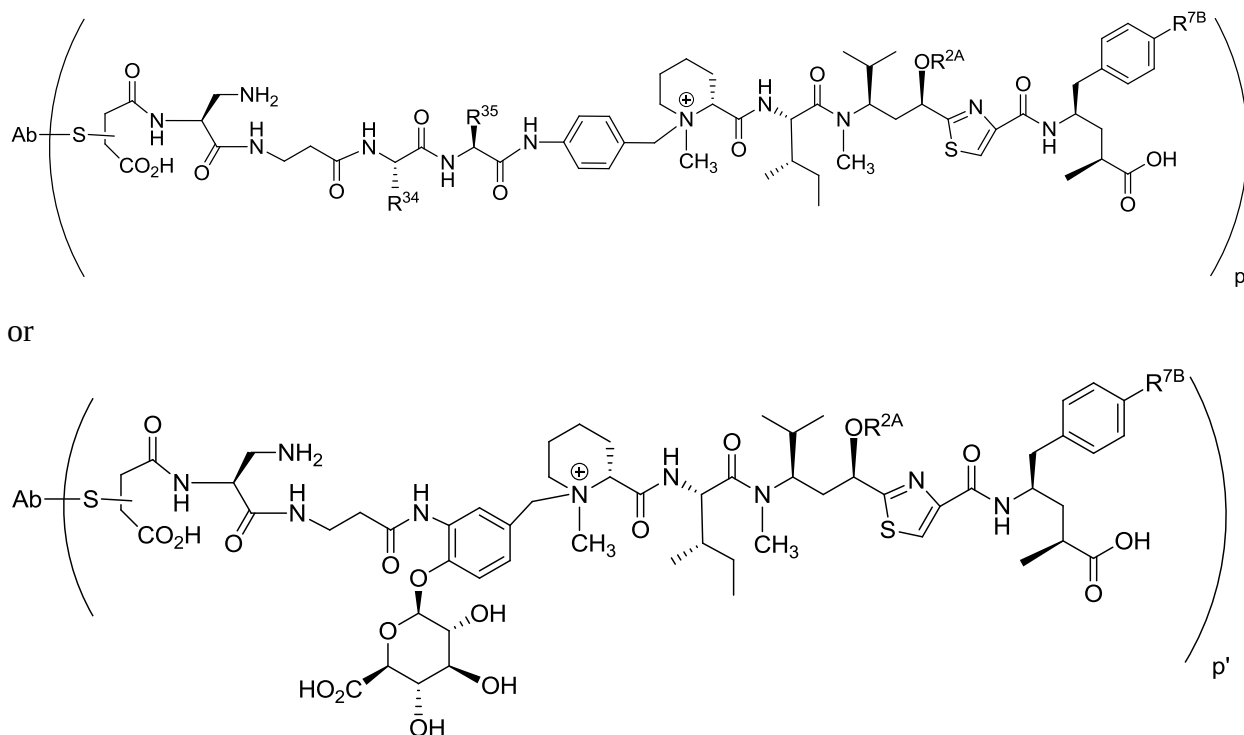
the R^{7B} substituent is absent, so that R^{7B} is replaced by hydrogen, or is $-\text{OH}$;

R^{2A} is $\text{C}_1\text{-C}_6$ alkyl, $-\text{CH}_2\text{OR}^{2B}$, $-\text{C}(=\text{O})\text{R}^{2B}$ or $-\text{C}(=\text{O})\text{NHR}^{2B}$, wherein R^{2B} is $\text{C}_1\text{-C}_6$ alkyl or $\text{C}_2\text{-C}_6$ alkenyl;

subscript p is a number ranging from 1 to 8; and

A is $-\text{CH}_2(\text{CH}_2)_4(\text{C}=\text{O})-$ or $-\text{CH}_2(\text{CH}_2)_4(\text{C}=\text{O})\text{NHCH}_2\text{CH}_2(\text{C}=\text{O})-$.

17. The LDC composition of claim 1, wherein each Ligand Drug Conjugate compound of the composition is independently represented by the structure of:



wherein

Ab is the antibody Ligand Unit;

S is a sulfur atom of the antibody Ligand Unit;

the Ab-S- moiety is bonded to the carbon α or β to the carboxylic acid;

subscript p' is an integer ranging from 1 to 8;

the R^{7B} substituent is absent, so that R^{7B} is replaced by hydrogen, or is $-\text{OH}$;

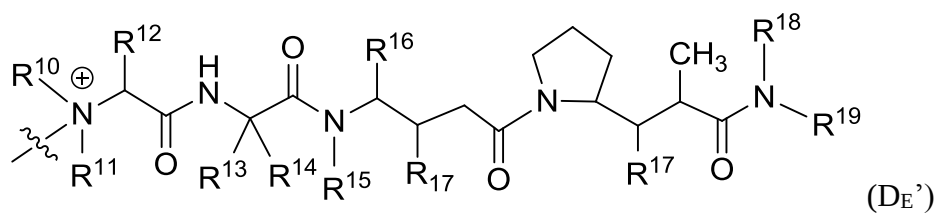
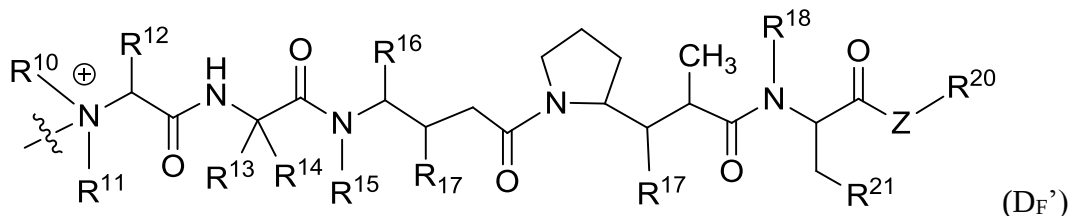
R^{34} is isopropyl and R^{35} is $-\text{CH}_3$, isopropyl, $-\text{CH}_2\text{CH}_2\text{CH}_2\text{NH}(\text{C}=\text{O})\text{NH}_2$ or $-\text{CH}_2\text{CH}_2\text{CO}_2\text{H}$; and

R^{2A} is $-\text{C}(\text{O})\text{CH}_3$, methyl, ethyl or propyl.

18. The LDC composition of claim 11, wherein the quaternized tertiary amine-containing tubulin disrupting agent- D^+ is a

quaternized dolastatin 10 or quaternized dolastatin 15, or

quaternized auristatin having the structure of D_E' or D_F' :



wherein

R^{10} and R^{11} are independently C_1 - C_8 alkyl;

R^{12} is hydrogen, C_1 - C_8 alkyl, C_3 - C_8 cycloalkyl, aryl, $-X^1$ -aryl, $-X^1$ -(C_3 - C_8 cycloalkyl), C_3 - C_8 heterocycle or $-X^1$ -(C_3 - C_8 heterocycle);

R^{13} is hydrogen, C_1 - C_8 alkyl, C_3 - C_8 cycloalkyl, aryl, $-X^1$ -aryl, $-X^1$ -(C_3 - C_8 cycloalkyl), C_3 - C_8 heterocycle or $-X^1$ -(C_3 - C_8 heterocycle);

R^{14} is hydrogen or methyl, or

R^{13} and R^{14} taken together with the carbon atom to which they are attached define a C_3 - C_8 cycloalkyl;

R^{15} is hydrogen or C_1 - C_8 alkyl;

R^{16} is hydrogen, C_1 - C_8 alkyl, C_3 - C_8 cycloalkyl, aryl, $-X^1$ -aryl, $-X^1$ -(C_3 - C_8 cycloalkyl), C_3 - C_8 heterocycle or $-X^1$ -(C_3 - C_8 heterocycle);

R^{17} independently are hydrogen, -OH, C_1 - C_8 alkyl, C_3 - C_8 cycloalkyl or O-(C_1 - C_8 alkyl);

R^{18} independently are hydrogen or C_1 - C_8 alkyl;

R^{19} is $-C(R^{19A})_2-C(R^{19A})_2$ -aryl, $-C(R^{19A})_2-C(R^{19A})_2$ -(C_3 - C_8 heterocycle) or $-C(R^{19A})_2-C(R^{19A})_2$ -(C_3 - C_8 cycloalkyl); wherein R^{19A} is hydrogen, C_1 - C_8 alkyl or -OH;

R^{20} is hydrogen, C_1 - C_{20} alkyl, aryl, C_3 - C_8 heterocycle, $-(R^{47}O)_m-R^{48}$, or $-(R^{47}O)_m-CH(R^{49})_2$;

R^{21} is aryl or C_3 - C_8 heterocycle;

subscript m is an integer ranging from 1-1000;

R^{47} is C_2 - C_8 alkyl;

R^{48} is hydrogen or C_1 - C_8 alkyl;

R^{49} independently are -COOH, $-(CH_2)_n-N(R^{50})_2$, $-(CH_2)_n-SO_3H$, or $-(CH_2)_n-SO_3-C_1-C_8$ alkyl;

R⁵⁰ independently are C₁-C₈ alkyl or -(CH₂)_n-COOH;

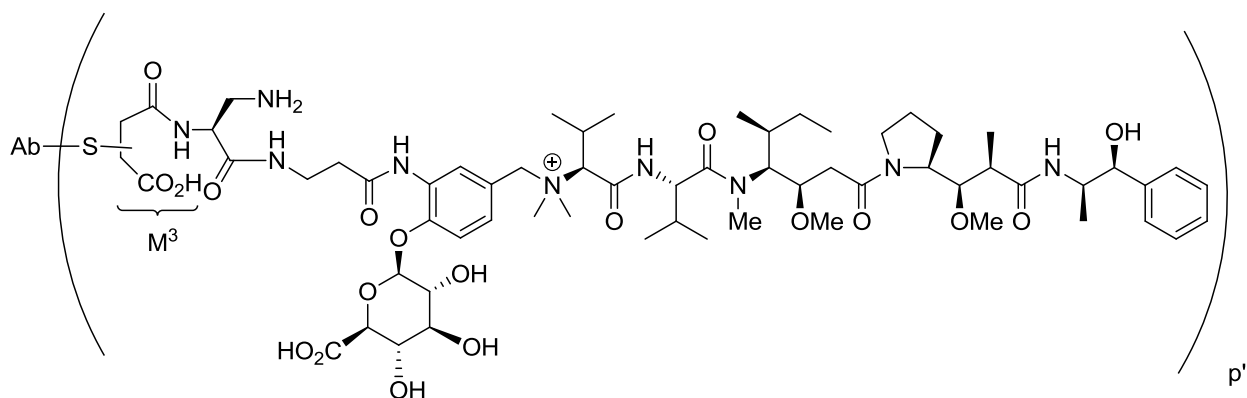
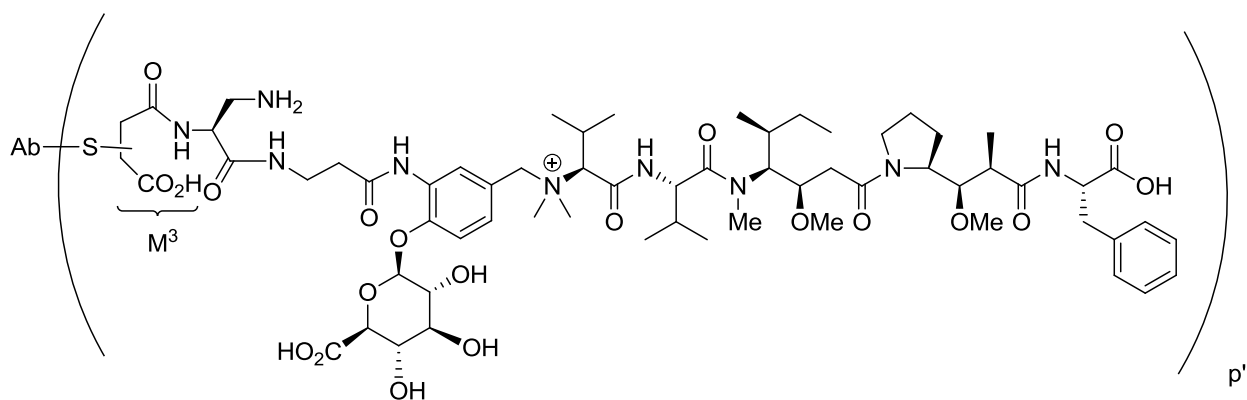
Z is O, S, NH, or NR⁴⁶, wherein R⁴⁶ is C₁-C₈ alkyl;

X¹ is C₁-C₁₀ alkylene;

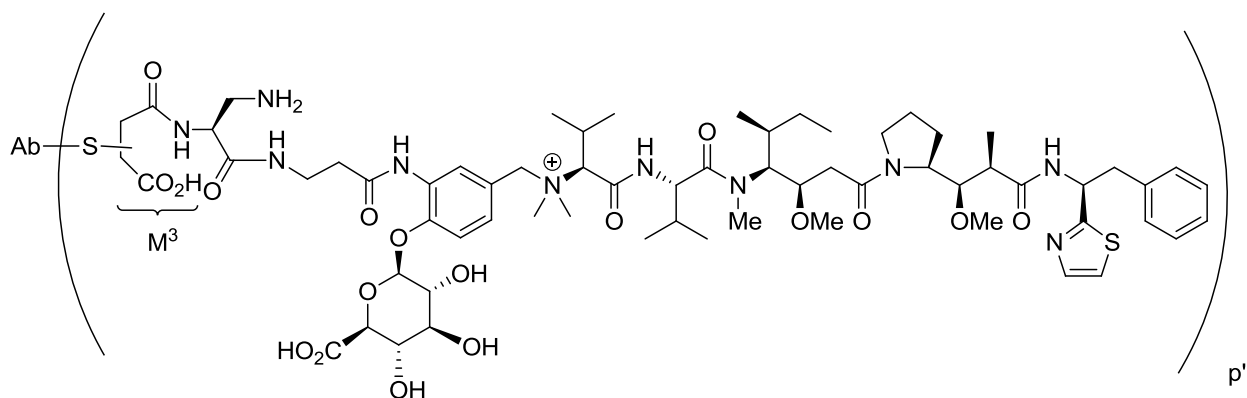
subscript n is an integer ranging from 0 to 6; and

the wavy line indicates covalent bonding of D⁺ to the remainder of the composition structure.

19. The LDC composition of claim 18 wherein each Ligand Drug Conjugate compound of the composition is independently represented by the structure of:



OR



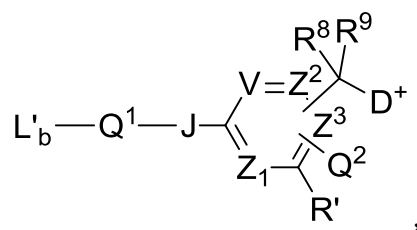
wherein Ab is the antibody Ligand Unit;

S is a sulfur atom of the antibody Ligand Unit;

the Ab-S- moiety is bonded to the carbon α or β to the M^3 carboxylic acid; and

subscript p' is an integer ranging from 1 to 8.

20. A Drug-Linker compound, wherein the Drug Linker compound has the structure of Formula I:



(Formula I)

wherein

L'_b is a ligand covalent binding moiety precursor;

Q^1 is A_a-W_w , wherein A is an optional Stretcher unit so that subscript a is 0 when A is absent or 1 when A is present and is optionally comprised of two, three or four subunits;

Q^2 is W'_w-E- , wherein Q^2 , when present, is bonded to V, Z^1 , Z^2 or Z^3 ;

W_w and W'_w are Cleavable units, wherein

W_w of Q^1 is capable of selective cleavage by an intracellular or regulatory protease in comparison to serum proteases, or by glutathione through disulfide exchange, or is more reactive to hydrolysis under more acidic conditions present in lysosomes in comparison to physiological pH of serum,

$W'-E$ of Q^2 provides a glycosidic bond cleavable by a glycosidase located intracellularly, and

subscript w is 0 or 1 so that W is absent when subscript w is 0 or W is present when subscript w is 1, and subscript subscript w' is 0 or 1, wherein $W'-E$ is absent when subscript w' is 0 or $W'-E$ is present when subscript w' is 1, and wherein $w + w'$ is 1 so that one and only one of W, W' is present;

V, Z^1 , Z^2 and Z^3 are $=N-$ or $=C(R^{24})-$, wherein R^{24} is hydrogen or alkyl, alkenyl or alkynyl, optionally substituted, or halogen, $-NO_2$, $-CN$ or other electron withdrawing group, an electron donating group, $-Q^2$, or $-C(R^8)(R^9)-D^+$, wherein at least one of V, Z^1 , Z^2

and Z^3 is $=C(R^{24})-$ when subscript w is 1, and at least two of V, Z^1 , Z^2 and Z^3 are $=C(R^{24})-$ when subscript w' is 1,

provided that when subscript w is 1, Q^2 is absent and one and only one R^{24} is $-C(R^8)(R^9)-D^+$ so that $-C(R^8)(R^9)-D^+$ is bonded to one of V, Z^1 , Z^2 , Z^3 when that variable group is $=C(R^{24})-$ and the Q^1-J- and $-C(R^8)(R^9)-D^+$ substituents are *ortho* or *para* to each other,

provided that when subscript w' is 1, one only one R^{24} is $-C(R^8)(R^9)-D^+$ so that $-C(R^8)(R^9)-D^+$ is bonded to one of V, Z^1 , Z^2 , Z^3 when that variable group is $=C(R^{24})-$ and one and only one other R^{24} is Q^2 so that Q^2 is bonded to another one of V, Z^1 , Z^2 , Z^3 when that variable group is $=C(R^{24})-$, and the Q^2 and $-C(R^8)(R^9)-D^+$ substituents are *ortho* or *para* to each other;

R^8 and R^9 independently are hydrogen, alkyl, alkenyl or alkynyl, optionally substituted, or aryl or heteroaryl, optionally substituted;

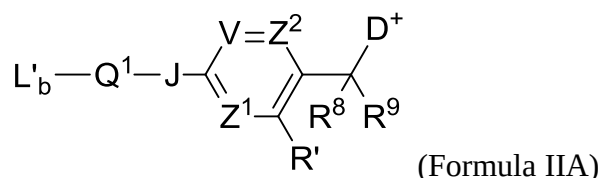
R' is hydrogen or is halogen, $-NO_2$, $-CN$ or other electron withdrawing group, or is an electron donating group;

E and J independently are $-O-$, $-S-$ or $-N(R^{33})-$, wherein R^{33} is hydrogen or optionally substituted alkyl;

D^+ represents a structure of a quaternized tertiary amine-containing drug; and

wherein said protease cleavage, disulfide exchange, acid hydrolysis or glycosidase cleavage results in expulsion of free tertiary amine-containing drug (D) from the Drug-Linker Compound, or a Ligand Drug Conjugate compound or N-acetyl-cysteine Conjugate derived therefrom.

21. The Drug Linker compound of claim 20, wherein the Drug Linker compound has the structure of Formula IIA or Formula IIB:

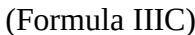




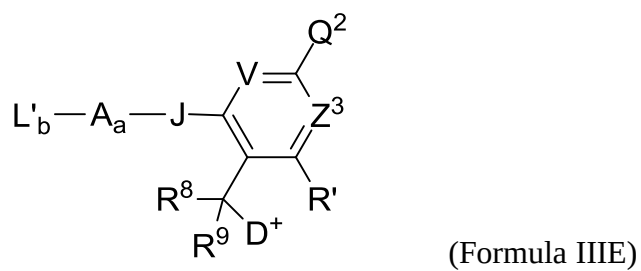
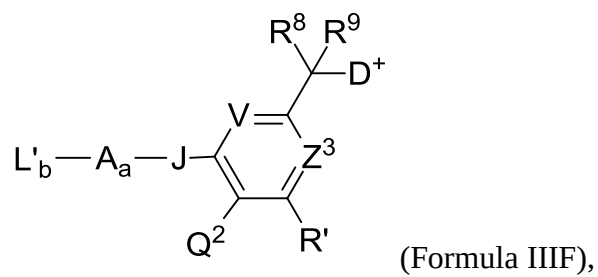
III B:



wherein the Drug Linker compound has the structure of Formula IIIC or Formula IIID:

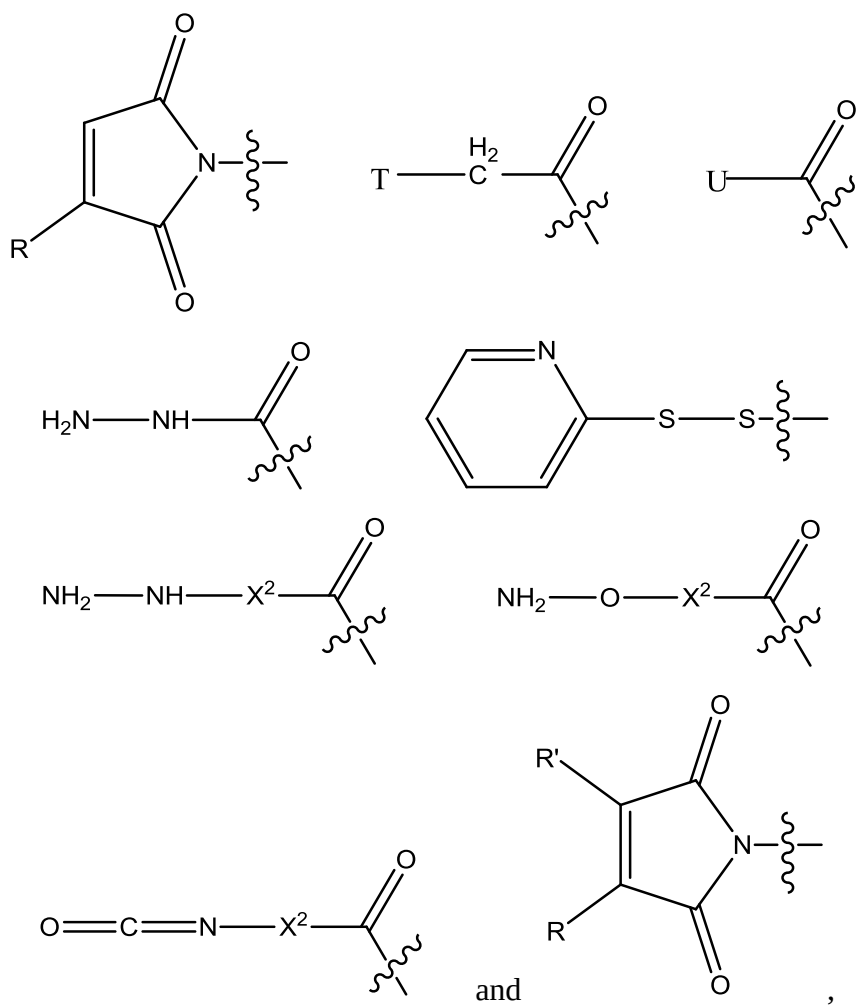


wherein the Drug Linker compound has the structure of Formula IIIE or Formula IIIF:



and/or

wherein L'_b - has a structure selected from the group consisting of:



wherein

the wavy line indicates covalent attachment to A if subscript a is 1 or to J when subscript a is 0;

R is hydrogen or C₁-C₆ optionally substituted alkyl;

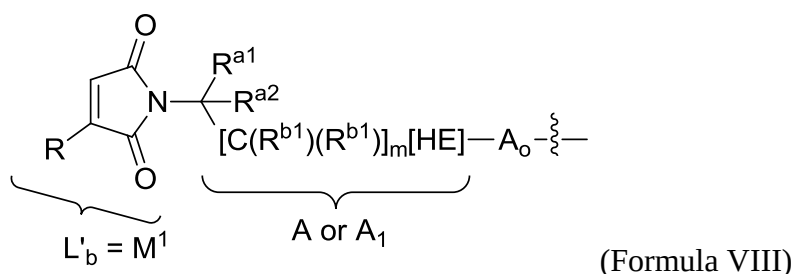
R' is hydrogen or halogen or R and R' are independently selected halogen;

T is -Cl, -Br, -I, -O-mesyl or -O-tosyl or other sulfonate leaving group;

U is -F, -Cl, -Br, -I, -O-N-succinimide, -O-(4-nitrophenyl), -O-pentafluorophenyl, -O-tetrafluorophenyl or -O-C(=O)-OR⁵⁷; wherein R⁵⁷ is C₁-C₆ alkyl or aryl; and

X² is C₁-₁₀ alkylene, C₃-C₈-carbocycle, -O-(C₁-C₆ alkyl), -arylene-, C₁-C₁₀ alkylene-arylene, -arylene-C₁-C₁₀ alkylene, -C₁-C₁₀ alkylene-(C₃-C₆-carbocycle)-, -(C₃-C₈ carbocycle)-C₁-C₁₀ alkylene-, C₃-C₈-heterocycle, -C₁-C₁₀ alkylene-(C₃-C₈ heterocycle)-, -C₃-C₈-heterocycle)-C₁-C₁₀ alkylene, -(CH₂CH₂O)_u, or -CH₂CH₂O)_u-CH₂-, wherein subscript u is an integer ranging from 1 to 10.

22. The Drug-Linker compound of claim 20, wherein subscript a is 1 so that A in Q¹ is bonded to L'_b of Formula I and L_b'-A is of general formula M¹-A₁-A_O-, wherein M¹-A₁-A_O- has the structure of Formula VIII:



wherein

A_O is an optional subunit of A, wherein -[C(R^{b1})(R^{b1})]_m-[HE]- is A when A_O is absent and is A₁ when A_O is present so that A becomes -A₁-A_O-;

R and R^{a2} independently are hydrogen or methyl;

R^{a1} is hydrogen, methyl, ethyl or a Basic Unit (BU);

HE is an optional Hydrolysis Enhancer (HE) unit;

subscript m is an integer ranging from 0 to 6;

each R^{b1} independently is hydrogen, optionally substituted C₁-C₆ alkyl, optionally substituted aryl or optionally substituted heteroaryl, or two R^{b1} together with the carbon(s) to which they are attached define a C₃-C₆ cycloalkyl or one R^{b1} and HE together with the

carbon atom to which they are attached define a 5- or 6-membered cycloalkyl or a 5- or 6-membered heterocycloalkyl and the other R^{b1} is hydrogen, optionally substituted C₁-C₆ alkyl, optionally substituted aryl or optionally substituted heteroaryl;

BU has the structure of $-\text{[C(R}^1\text{)(R}^1\text{)]-}[C(R^2)(R^2)]_n\text{-N(R}^{22}\text{)(R}^{23}\text{)}$, or an acid addition salt thereof,

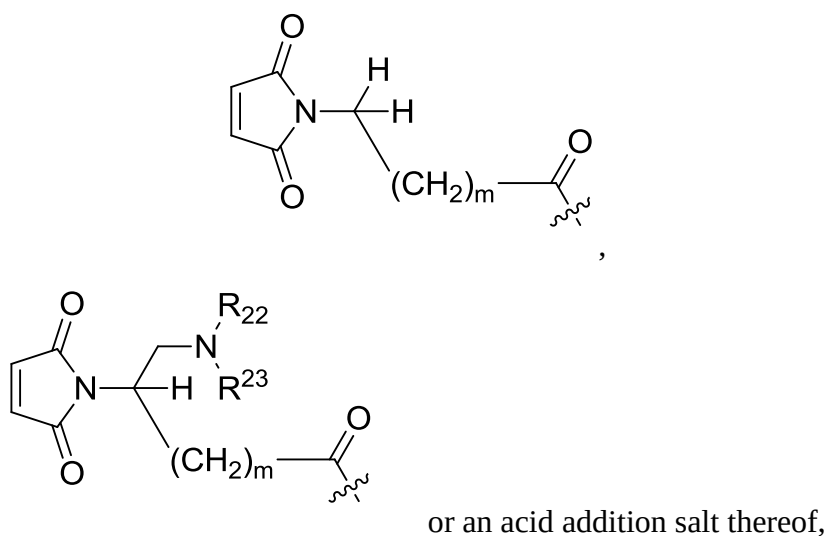
wherein subscript n is 0, 1, 2 or 3;

each R¹ independently is hydrogen or lower alkyl or two R¹ together with the carbon to which they are attached define a C₃-C₆ cycloalkyl, and each R² independently is hydrogen, optionally substituted C₁-C₆ alkyl, optionally substituted aryl or optionally substituted heteroaryl, or two R² together with the carbon(s) to which they are attached and any intervening carbons define a C₃-C₆ cycloalkyl, or one R¹ and one R² together with the carbons to which they are attached and any intervening carbons define a 5- or 6-membered cycloalkyl and the remaining R¹ and R² are as defined;

R²² and R²³ independently are hydrogen or optionally substituted C₁-C₆ alkyl or together with the nitrogen to which they are attached define a 5- or 6-membered heterocycloalkyl; and

the wavy line indicates covalent bonding of A (or A_O) to the remainder of the Formula VIII structure.

23. The Drug-Linker compound of claim 22, wherein M¹-A¹-A_O- of Formula VIII has the structure of



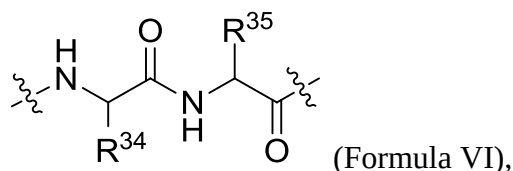
wherein

subscript m is 0 or 4; and

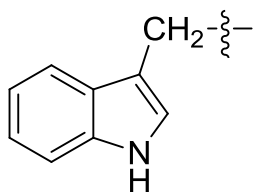
R^{22} and R^{23} are each hydrogen or one of R^{22} , R^{23} is hydrogen and the other is $-C(O)Ot-Bu$.

24. The Drug-Linker compound of claim 21, wherein W of Q^1 is comprised or consists of a peptide moiety having a peptide bond to J that is selectively cleavable by an intracellular or regulatory protease in comparison to serum proteases wherein action of the regulatory protease on W causes release of free tertiary amine-containing drug (D) from the Drug-Linker Compound or a Ligand Drug Conjugate compound or N-acetyl-cysteine Conjugate derived therefrom, or wherein W' of Q^2 is a glycoside-bonded carbohydrate, wherein the glycoside bond W'-E of Q^2 provides for a cleavage site for a glycosidase located intracellularly wherein action of the glycosidase on W'-E causes release of tertiary amine-containing drug (D) from the Drug-Linker Compound or a Ligand Drug Conjugate compound or N-acetyl-cysteine Conjugate derived therefrom.

25. The Drug-Linker compound of claim 24, wherein the peptide moiety of W is comprised or consists of a dipeptide moiety having the structure of Formula VI:



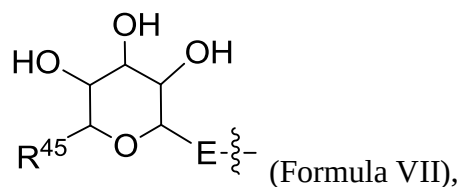
wherein R^{34} is benzyl, methyl, isopropyl, isobutyl, sec-butyl, $-CH(OH)CH_3$ or has the



structure of and R^{35} is methyl, $-(CH_2)_4-NH_2$, $-(CH_2)_3NH(C=O)NH_2$, $-(CH_2)_3NH(C=NH)NH_2$, or $-(CH_2)_2CO_2H$,

wherein the wavy line to the dipeptide's C-terminus indicates covalent bonding to J of the arylene moiety of Formula IIA or IIB and the wavy line to the dipeptide's N-terminus indicates covalent bonding to the remainder of W, if any such remainder is present, or to A, or a subunit thereof, when subscript a is 1 or to L_b when subscript a is 0, and wherein the dipeptide's bond to J is cleavable by an intracellular or regulatory protease, and

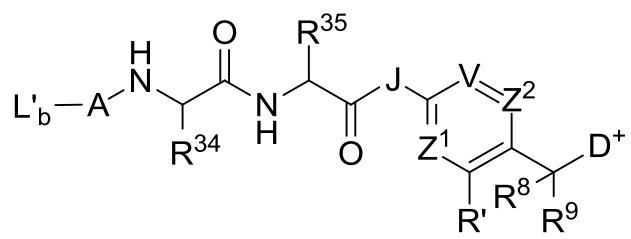
wherein W' in Q² is a carbohydrate moiety that is glycoside-bonded to E, wherein the glycosidic bond is cleavable by an intracellular glycosidase, and wherein W'-E has the structure of Formula VII:



wherein the wavy line represents E bonded to one of V, Z¹, Z², or Z³ when that variable group is =C(R²⁴), so that R²⁴ represents a covalent bond to E, wherein E is -O-, -S-, or -N(R³³)-, wherein R³³ is hydrogen or methyl; and

wherein R⁴⁵ is -CH₂OH or -CO₂H.

26. The Drug-Linker compound of claim 25, wherein the Drug Linker compound has the structure of Formula IX:



(Formula IX)

wherein

R' is hydrogen or an electron donating group;

R⁸ is hydrogen;

R⁹ is hydrogen, optionally substituted C₁-C₆ alkyl, or optionally substituted phenyl;

R³⁴ is methyl, isopropyl or -CH(OH)CH₃;

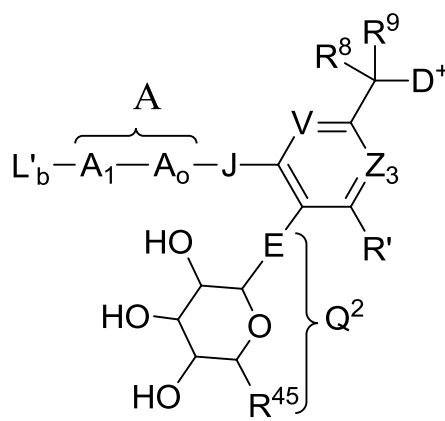
R³⁵ is methyl, -(CH₂)₃NH(C=O)NH₂ or -(CH₂)₂CO₂H;

J is -N(R³³)-, wherein R³³ is hydrogen or methyl; and

V and Z¹ independently are =CH- or =N-,

or

the Drug Linker compound has the structure of Formula XI:



(Formula XI)

wherein

A_1 and A_0 are independently selected subunits of A , wherein A_0 is an optional subunit of A so that A_1 becomes A when A_0 is absent and A is $-A_1-A_0-$ when A_0 is present;

E is $-O-$ or $-NH-$;

J is $-N(R^{33})-$, wherein R^{33} is hydrogen or methyl;

V and Z^3 independently are $=CH-$ or $=N-$;

R' is hydrogen or an electron withdrawing group;

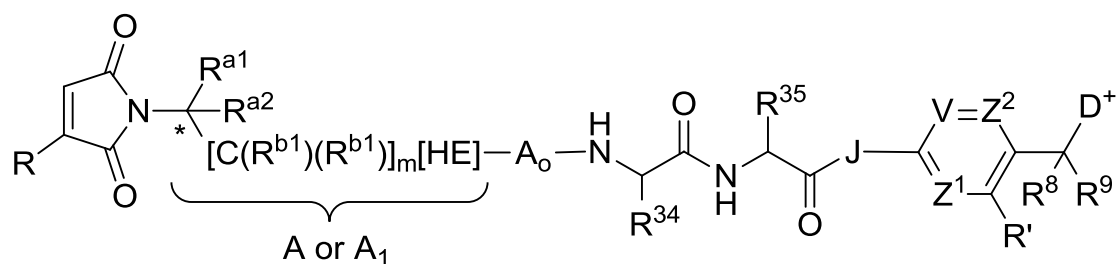
R^8 is hydrogen;

R^9 is hydrogen, optionally substituted C_1-C_6 alkyl or optionally substituted phenyl;

and

R^{45} is $-CO_2H$ or $-CH_2OH$.

27. The Drug-Linker compound of claim 26, wherein the Drug Linker compound has the structure of Formula X:



(Formula X)

wherein

the asterisk (*) designates chirality or absence thereof at the indicated carbon atom;

A_O is an optional subunit of A, wherein $-[C(R^{b1})(R^{b1})]_m-[HE]-$ is A when A_O is absent and is A_1 when A_O is present so that A becomes A_1-A_O ;

R is $-H$;

R^{a1} is $-H$ or a Basic Unit (BU), wherein BU has the structure of $-CH_2-N(R^{22})(R^{23})$, or an acid addition salt thereof, wherein R^{22} and R^{23} independently are hydrogen, methyl or ethyl or both together with the nitrogen atom to which they are attached define a 5- or 6-membered heterocycloalkyl;

R^{a2} is hydrogen;

subscript m is an integer ranging from 0 to 4;

each R^{b1} independently is hydrogen or optionally substituted C_1-C_6 alkyl;

HE is absent or is $-C(=O)-$;

R^{34} is methyl, isopropyl or $-CH(OH)CH_3$;

R^{35} is $-(CH_2)_3NH(C=O)NH_2$, or $-(CH_2)_2CO_2H$;

J is $-NH-$;

V, Z^1 and Z^2 are $=CH_2-$;

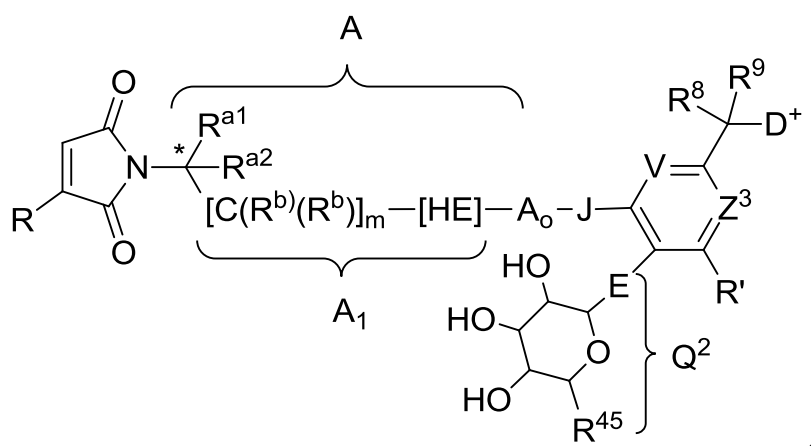
R' is hydrogen or an electron donating group;

R^8 is hydrogen; and

R^9 is hydrogen or methyl,

or

wherein the compound has the structure of Formula XII:



(Formula XII)

wherein

the asterisk (*) designates chirality or absence thereof at the indicated carbon atom;

R⁹ is hydrogen or methyl.

wherein the wavy line to the carbonyl moiety of either structure represents the point of attachment of A_O to W and wherein the wavy line to the amino moiety of either structure represents the point of attachment of A_O to A₁,

wherein K and L independently are C, N, O or S, provided that when K or L is O or S, R⁴¹ and R⁴² to K or R⁴³ and R⁴⁴ to L are absent, and when K or L is N, one of R⁴¹, R⁴² to K or one of R⁴³, R⁴⁴ to L is absent, and provided that no two adjacent L are independently selected as N, O, or S;

wherein subscript q is an integer ranging from 0 to 12, and subscript r is an integer ranging from 1 to 12;

wherein G is hydrogen, optionally substituted C₁-C₆ alkyl, -OH, -OR^G, -CO₂H, or -CO₂R^G, wherein R^G is C₁-C₆ alkyl, aryl or heteroaryl, optionally substituted, or R^{PR}, wherein R^{PR} is a suitable protecting group, -NH₂, or -N(R^G)(R^{PG}), wherein R^G independently selected is as previously defined or both R^G together with the nitrogen to which they are attached define a 5- or 6-membered heterocycloalkyl or both R^{PR} together form a suitable protecting group;

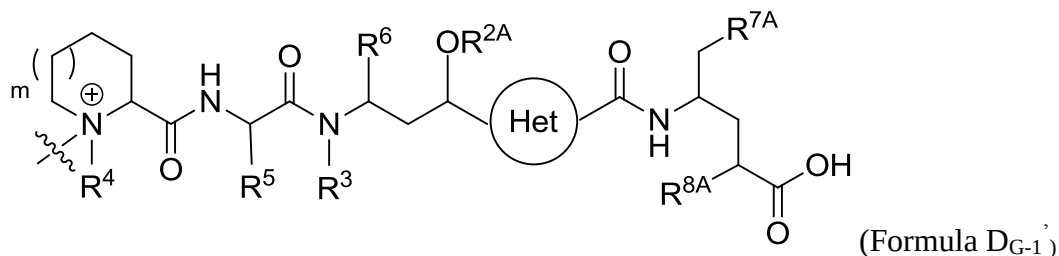
wherein R³⁸ is hydrogen or optionally substituted C₁-C₆ alkyl; R³⁹-R⁴⁴ independently are hydrogen, optionally substituted C₁-C₆ alkyl, or optionally substituted heteroaryl, or both R³⁹, R⁴⁰ together with the carbon to which they are attached define a C₃-C₆ cycloalkyl, or R⁴¹, R⁴² together with K to which they are attached when K is C, or R⁴³, R⁴⁴ together with L to which they are attached when L is C, define a C₃-C₆ cycloalkyl, or R⁴⁰ and R⁴¹, or R⁴⁰ and R⁴³, or R⁴¹ and R⁴³ together with the carbon or heteroatom to which they are attached and atoms intervening between those carbon and/or heteroatoms define a 5- or 6-membered cycloalkyl or heterocycloalkyl, or

wherein A_O has a structure corresponding to alpha-amino, beta-amino or another amine-containing acid; and

wherein the indicated starred (*) carbon is predominantly in the same absolute configuration as the alpha carbon of an L-amino acid when that indicated carbon has chirality.

29. The Drug-Linker compound of claim 20, wherein -D⁺ is a quaternized tertiary amine-containing tubulin disrupting agent.

30. The Drug-Linker compound of claim 29, wherein the quaternized tertiary amine containing tubulin disrupting agent $-D^+$ is a quaternized tubulysin Drug Unit having the structure of Formula D_{G-1},



wherein the circle represents a 5-membered nitrogen-heteroaryl and wherein the indicated required substituents to that heteroaryl are in a 1,3-relationship with each other with optional substitution at the remaining positions;

R^{2A} is hydrogen or optionally substituted alkyl or R^{2A} along with the oxygen atom to which it is attached defines an O-linked substituent other than -OH;

R^3 is hydrogen or optionally substituted alkyl;

R^4 , R^{4B} , R^5 and R^6 are optionally substituted alkyl, independently selected;

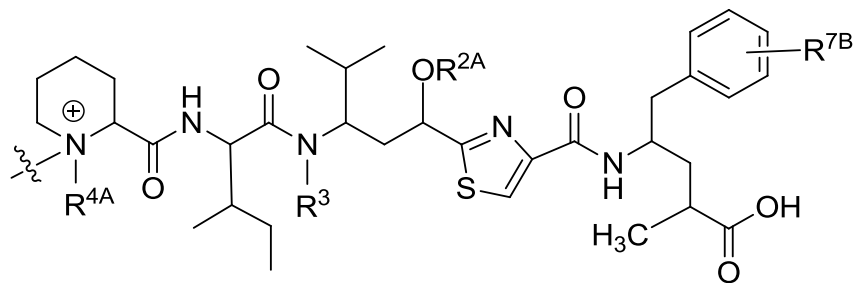
R^{7A} is optionally substituted aryl or optionally substituted heteroaryl;

R^{8A} is hydrogen or optionally substituted alkyl;

and subscript m is 0 or 1; and

wherein the wavy line indicates covalent bonding of D^+ to the remainder of the Drug-Linker compound structure.

31. The Drug-Linker compound of claim 29, wherein the quaternized tertiary amine containing tubulin disrupting agent $-D^+$ is a quaternized tubulysin Drug Unit having the structure of:



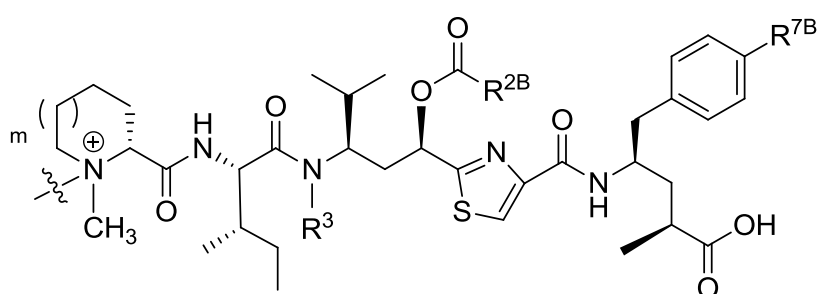
wherein R^{4A} is methyl;

R^3 is H, methyl, ethyl, propyl, $-\text{CH}_2\text{OC(O)}R^{3A}$, $-\text{CH}_2\text{CH}(R^{3B})\text{C(O)}R^{3A}$ or $-\text{CH}(R^{3B})\text{C(O)}\text{NHR}^{3A}$, wherein R^{3A} is C_1 - C_6 alkyl and R^{3B} is H or C_1 - C_6 alkyl, independently selected from R^{3A} ; and

$-\text{OR}^{2A}$ is an O-linked substituent selected from the group consisting of $-\text{OR}^{2B}$, $-\text{OC(O)}R^{2B}$ and $-\text{OC(O)}\text{N}(R^{2B})(R^{2C})$, wherein R^{2B} and R^{2C} are independently selected from the group consisting of H, C_1 - C_6 alkyl and C_2 - C_6 alkenyl; and

the R^{7B} substituent is absent, so that R^{7B} is replaced by hydrogen, or is $-\text{OH}$.

32. The Drug-Linker compound of claim 31, wherein the quaternized tubulysin Drug Unit $-\text{D}^+$ has the structure of:



wherein

subscript m is 1;

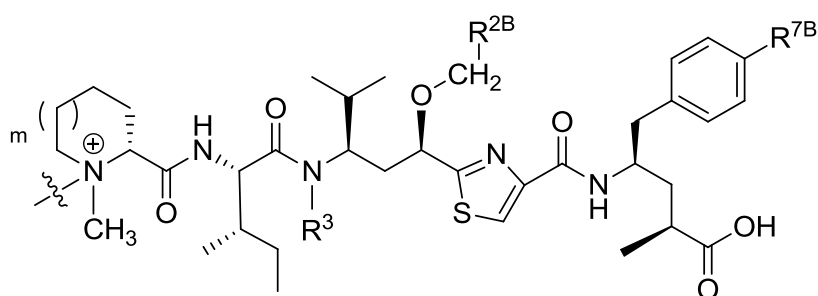
$-\text{OC(O)}R^{2B}$ is $-\text{OC(O)}\text{CH}_3$, $-\text{OC(O)}\text{CH}_2\text{CH}_3$, $-\text{OC(O)}\text{CH}(\text{CH}_3)_2$, $-\text{OC(O)}\text{C}(\text{CH}_3)_3$, or $-\text{OC(O)}\text{CH}=\text{CH}_2$;

R^3 is methyl, ethyl or propyl; and

the R^{7B} substituent is absent or is $-\text{OH}$,

or

wherein the quaternized tubulysin Drug Unit $-\text{D}^+$ has the structure of:



wherein

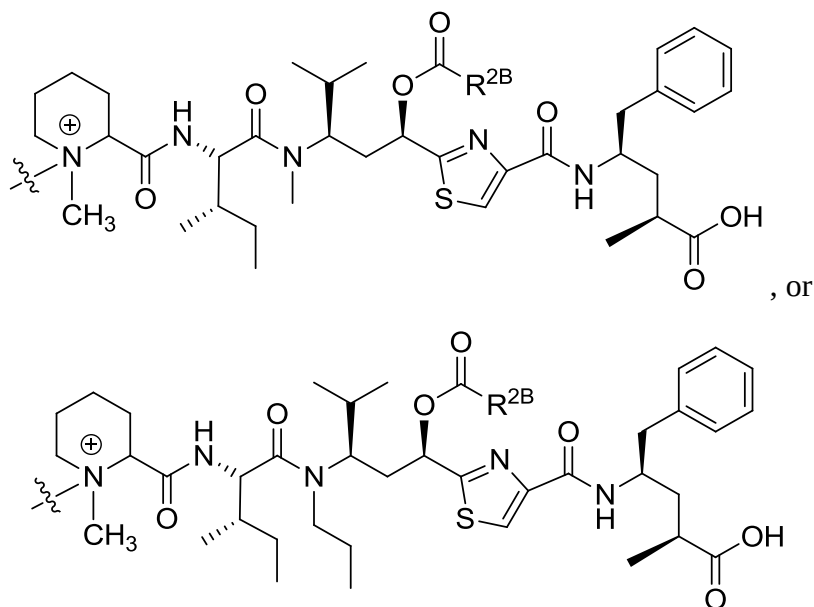
subscript m is 1;

$-\text{OCH}_2R^{2B}$ is $-\text{OCH}_3$, $-\text{OCH}_2\text{CH}_3$, $-\text{OCH}_2\text{CH}_2\text{CH}_3$ or $-\text{OCH}_2\text{OCH}_3$;

R^3 is methyl, ethyl or propyl; and

the R^{7B} substituent is absent, so that R^{7B} is replaced by hydrogen, or is $-OH$.

33. The Drug-Linker compound of claim 31, wherein the quaternized tubulysin Drug Unit $-D^+$ has the structure of:

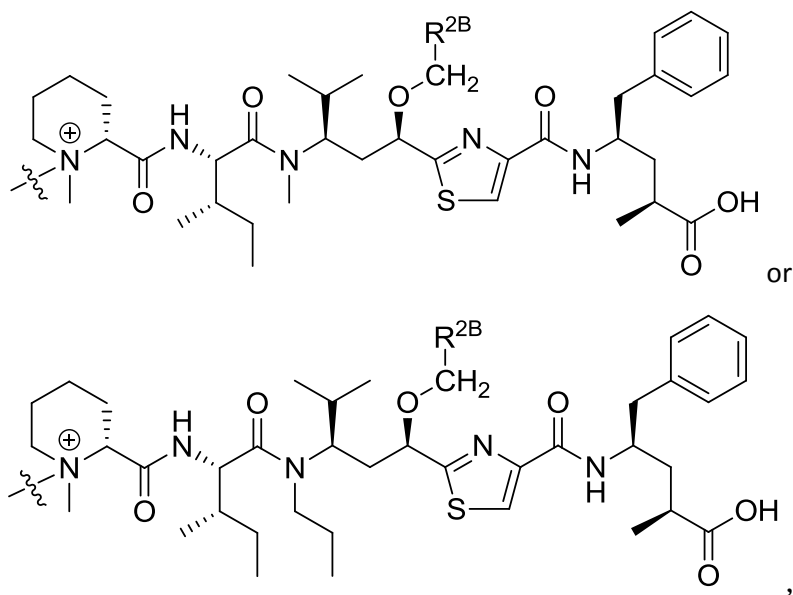


wherein

R^{2B} is $-CH_3$, $-CH_2CH_3$, $-CH_2CH_2CH_3$, $-CH(CH_3)_2$, $-CH_2CH(CH_3)_2$, $-CH_2C(CH_3)_3$,

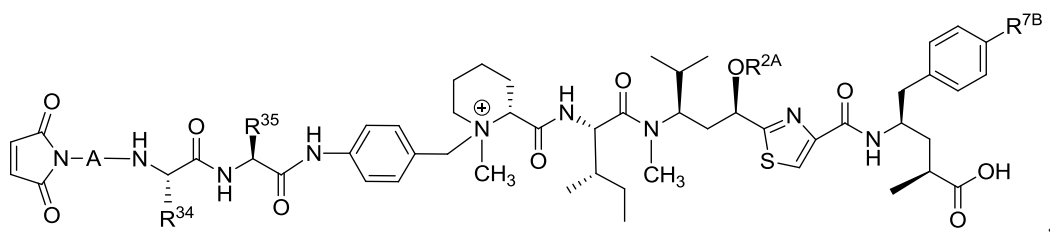
or

$-D^+$ has the structure of:



wherein R^{2B} is hydrogen, methyl or $-OCH_3$ so that $-OCH_2R^{2B}$ is a methyl, ethyl or methoxymethyl ether substituent.

34. The Drug-Linker compound of claim 20, wherein the Drug Linker compound has the structure of:



wherein

R^{34} is isopropyl and R^{35} is $-\text{CH}_3$, isopropyl, $-\text{CH}_2\text{CH}_2\text{CH}_2\text{NH}(\text{C}=\text{O})\text{NH}_2$ or $-\text{CH}_2\text{CH}_2\text{CO}_2\text{H}$;

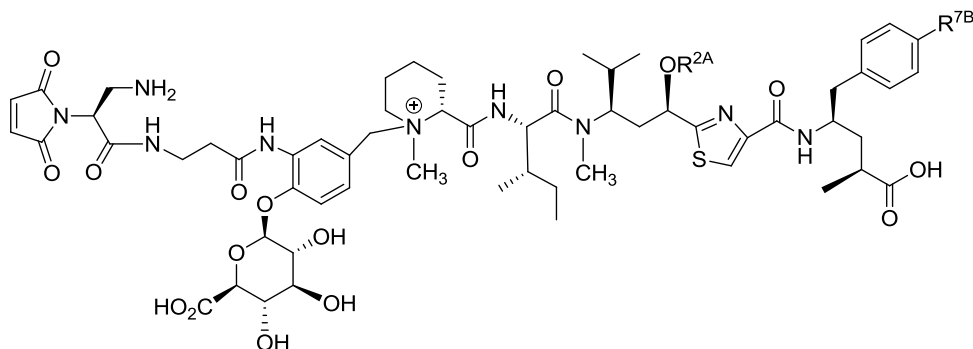
the R^{7B} substituent is absent, so that R^{7B} is replaced by hydrogen or is $-\text{OH}$; and

R^{2A} is lower alkyl, $-\text{C}(=\text{O})\text{R}^{2B}$ or $-\text{C}(=\text{O})\text{NHR}^{2B}$, wherein R^{2B} is lower alkyl; and

A is $-\text{CH}_2(\text{CH}_2)_4(\text{C}=\text{O})-$ or $-\text{CH}_2(\text{CH}_2)_4(\text{C}=\text{O})\text{NHCH}_2\text{CH}_2(\text{C}=\text{O})-$,

or

wherein the compound has the structure of:



wherein

the R^{7B} substituent is absent or is $-\text{OH}$; and

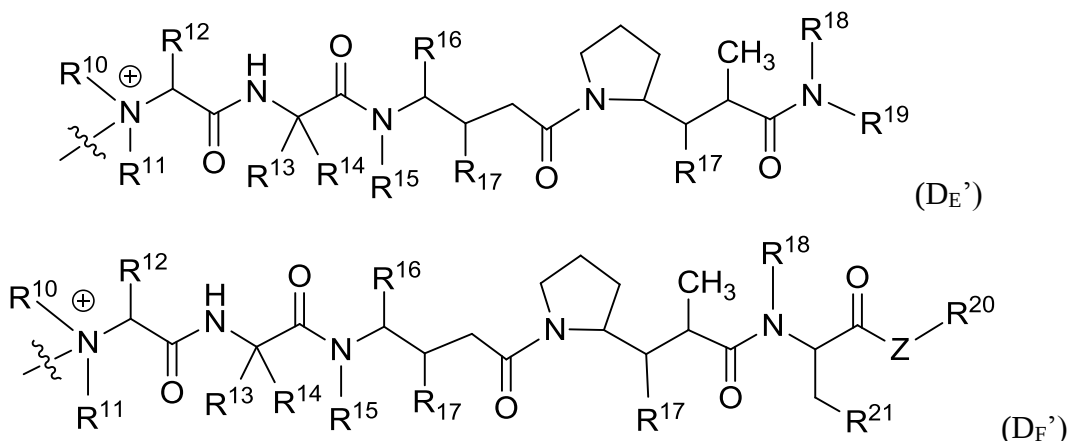
R^{2A} is C_1 - C_6 alkyl, C_2 - C_6 alkenyl, $-\text{CH}_2\text{OR}^{2B}$, $-\text{C}(=\text{O})\text{R}^{2B}$ or $-\text{C}(=\text{O})\text{NHR}^{2B}$, wherein R^{2B} is hydrogen, or C_1 - C_6 alkyl.

35. The Drug Linker compound of claim 34, wherein R^{2A} is $-\text{C}(\text{O})\text{CH}_3$, methyl, ethyl or propyl.

36. The Drug-Linker compound of claim 29, wherein the quaternized amine-containing tubulin disrupting agent $-\text{D}^+$ is a

quaternized dolastatin 10 or dolastatin 15, or

quaternized auristatin having the structure of D_E' or D_F':



wherein

R¹⁰ and R¹¹ are independently C₁-C₈ alkyl;

R¹² is hydrogen, C₁-C₈ alkyl, C₃-C₈ cycloalkyl, aryl, -X¹-aryl, -X¹-(C₃-C₈ cycloalkyl), C₃-C₈ heterocycle or -X¹-(C₃-C₈ heterocycle);

R¹³ is hydrogen, C₁-C₈ alkyl, C₃-C₈ cycloalkyl, aryl, -X¹-aryl, -X¹-(C₃-C₈ cycloalkyl), C₃-C₈ heterocycle or -X¹-(C₃-C₈ heterocycle);

R¹⁴ is hydrogen or methyl;

or R¹³ and R¹⁴ taken together with the carbon to which they are attached define a C₃-C₈ cycloalkyl;

R¹⁵ is hydrogen or C₁-C₈ alkyl;

R¹⁶ is hydrogen, C₁-C₈ alkyl, C₃-C₈ cycloalkyl, aryl, -X¹-aryl, -X¹-(C₃-C₈ cycloalkyl), C₃-C₈ heterocycle or -X¹-(C₃-C₈ heterocycle);

R¹⁷ independently are hydrogen, -OH, C₁-C₈ alkyl, C₃-C₈ cycloalkyl or O-(C₁-C₈ alkyl);

R¹⁸ is hydrogen or C₁-C₈ alkyl;

R¹⁹ is -C(R^{19A})₂-C(R^{19A})₂-aryl, -C(R^{19A})₂-C(R^{19A})₂-(C₃-C₈ heterocycle) or -C(R^{19A})₂-C(R^{19A})₂-(C₃-C₈ cycloalkyl); wherein R^{19A} is hydrogen, C₁-C₈ alkyl or -OH;

R²⁰ is hydrogen, C₁-C₂₀ alkyl, aryl, C₃-C₈ heterocycle, -(R⁴⁷O)_m-R⁴⁸, or -(R⁴⁷O)_m-CH(R⁴⁹)₂;

R²¹ is aryl or C₃-C₈ heterocycle;

subscript m is an integer ranging from 1-1000;

R⁴⁷ is C₂-C₈ alkyl;

R⁴⁸ is hydrogen or C₁-C₈ alkyl;

R^{49} independently are $-\text{COOH}$, $-(\text{CH}_2)_n-\text{N}(\text{R}^{50})_2$, $-(\text{CH}_2)_n-\text{SO}_3\text{H}$, or $-(\text{CH}_2)_n-\text{SO}_3-\text{C}_1-\text{C}_8$ alkyl;

R^{50} independently are C_1-C_8 alkyl or $-(\text{CH}_2)_n-\text{COOH}$;

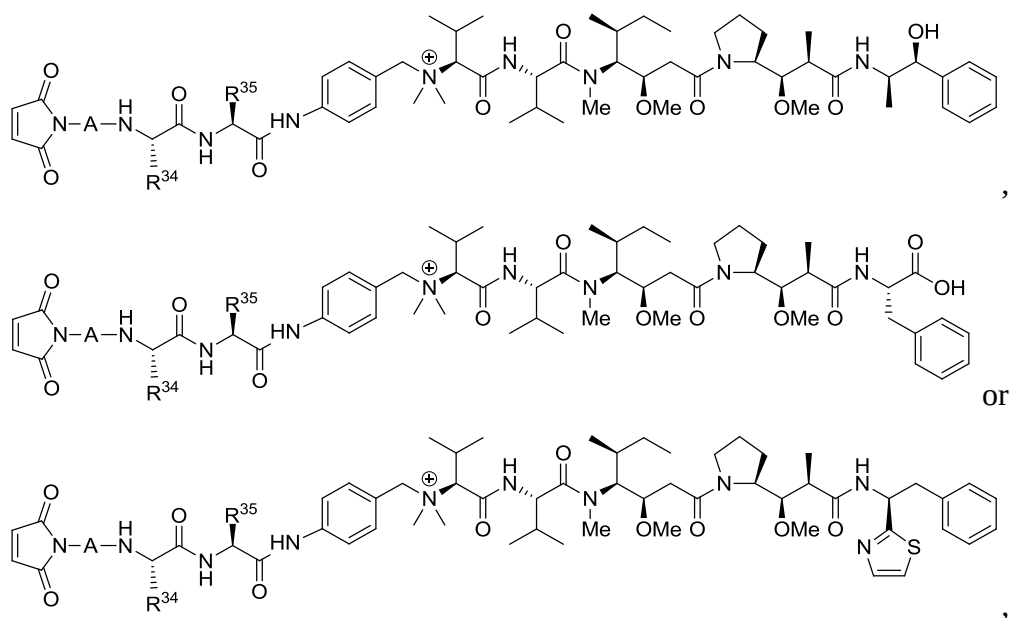
Z is O, S, NH, or NR^{46} , wherein R^{46} is C_1-C_8 alkyl;

X^1 is C_1-C_{10} alkylene; and

subscript n is an integer ranging from 0 to 6;

wherein the wavy line indicates covalent bonding of D^+ to the remainder of the Drug-Linker compound.

37. The Drug-Linker compound of claim 36, wherein the Drug Linker compound has the structure of:

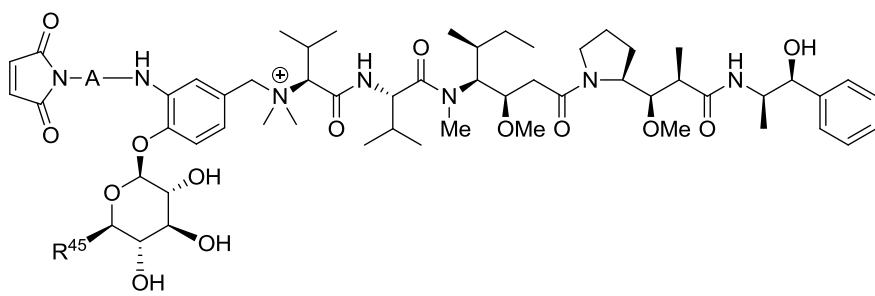


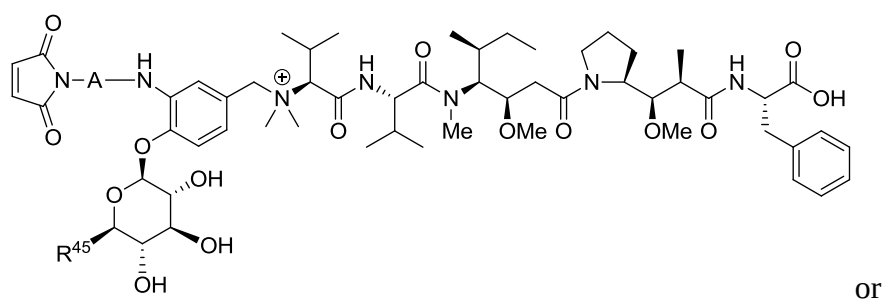
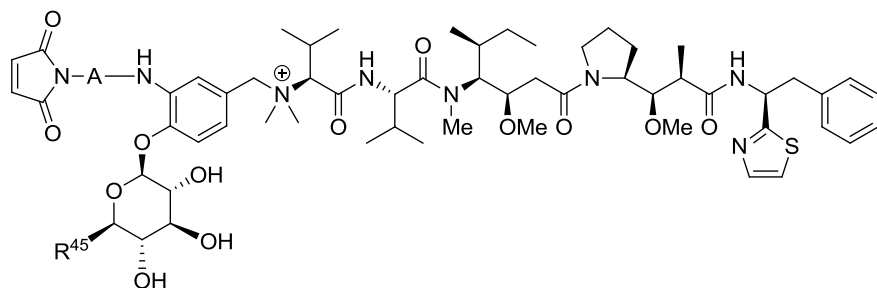
wherein

R^{34} is isopropyl and R^{35} is $-\text{CH}_3$, $-\text{CH}_2\text{CH}_2\text{COOH}$ or $-\text{CH}_2\text{CH}_2\text{CH}_2\text{NH}(\text{C}=\text{O})\text{NH}_2$,

or

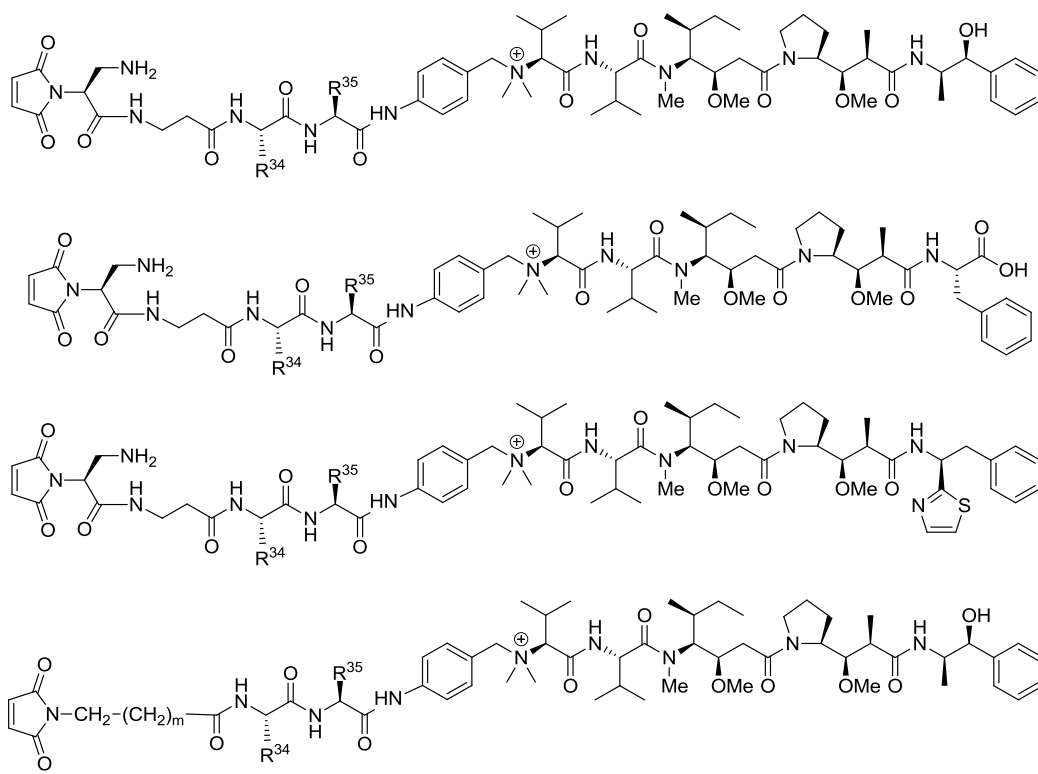
wherein the Drug Linker compound has the structure of:

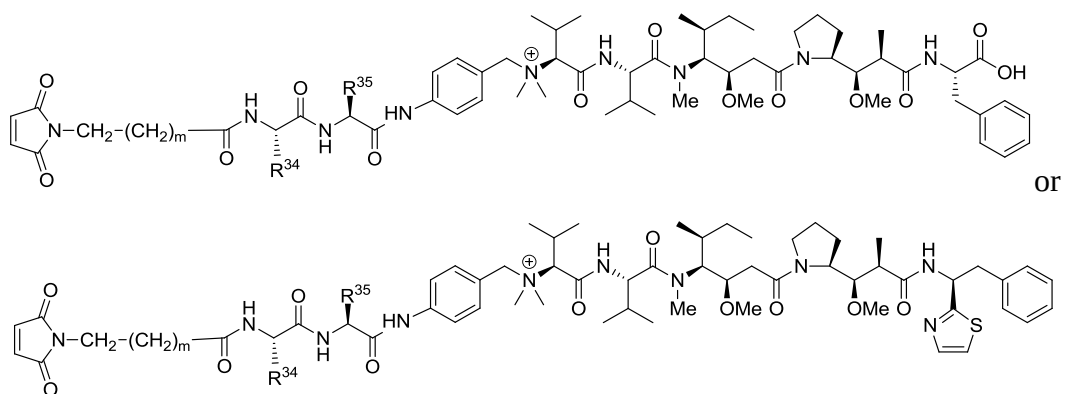




wherein R^{45} is $-\text{CO}_2\text{H}$ or CH_2OH .

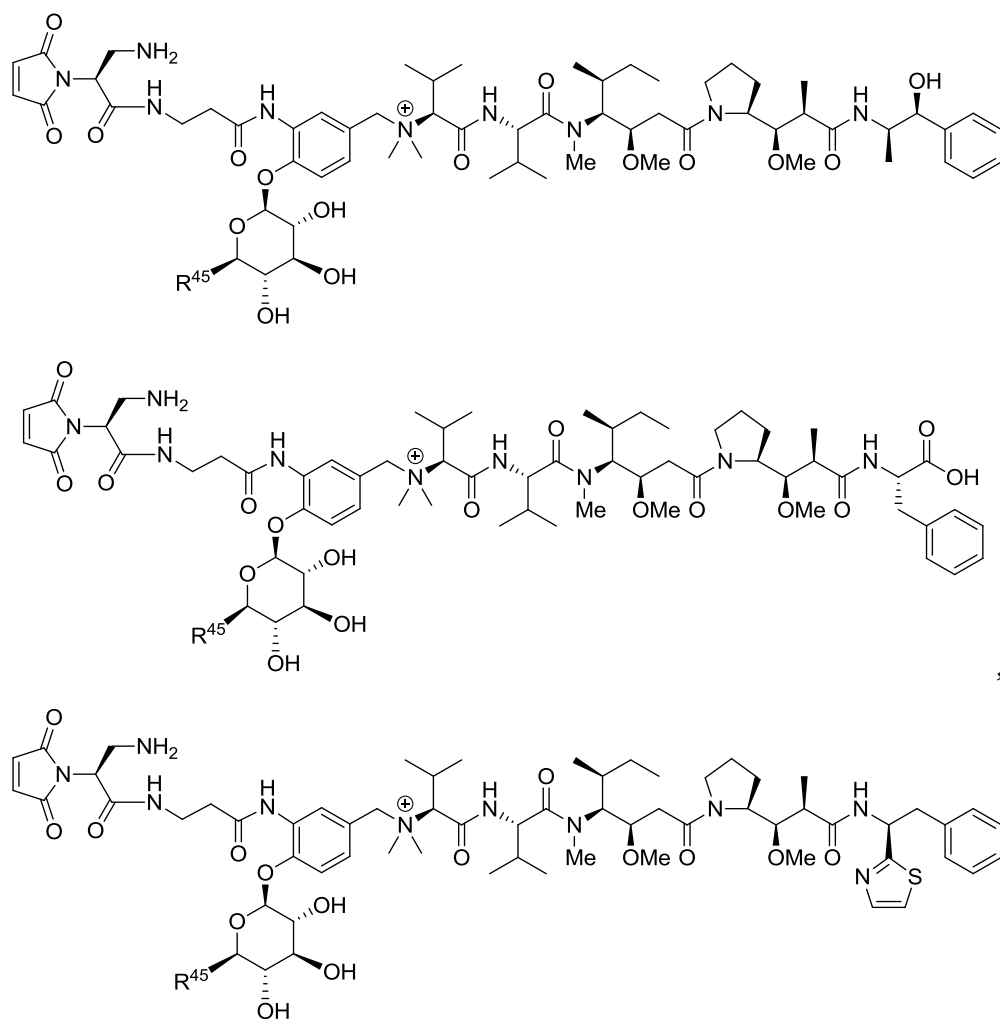
38. The Drug-Linker compound of claim 36, wherein the Drug Linker compound has the structure of:

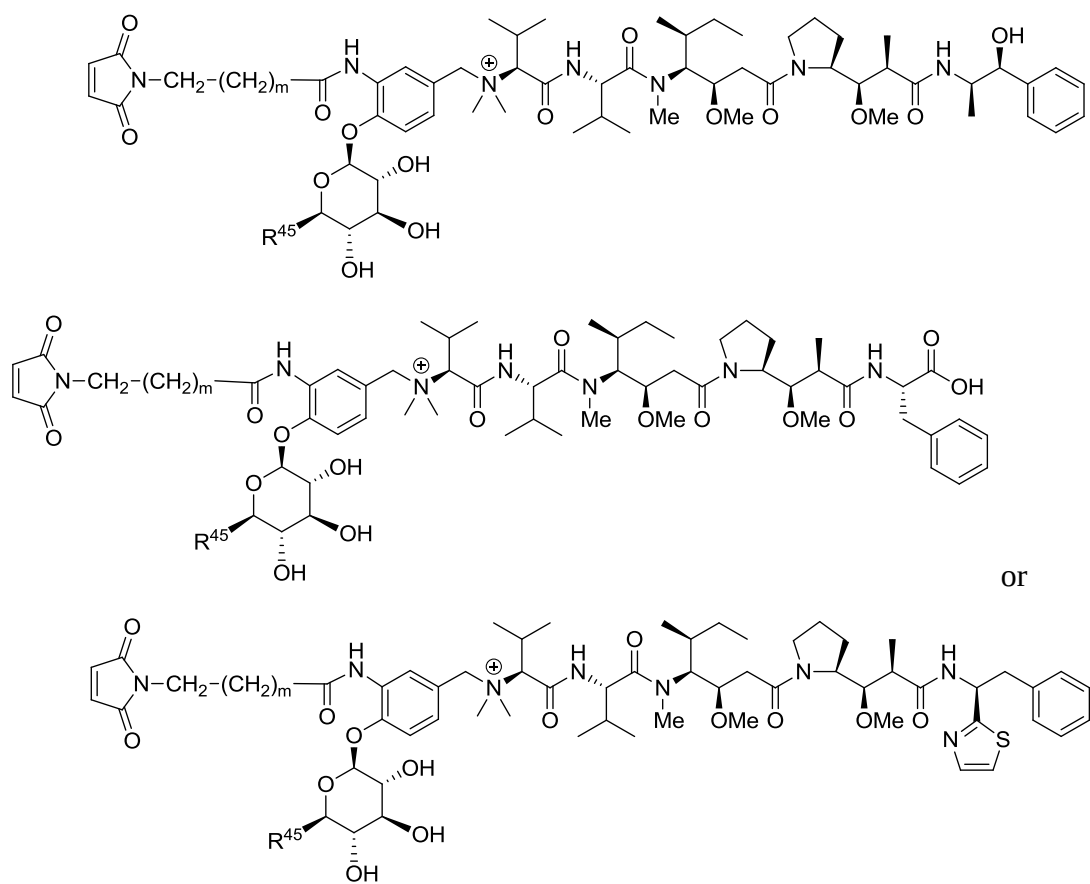




wherein the subscript m is 4.

39. The Drug-Linker compound of claim 36, wherein the Drug Linker compound has the structure of:





wherein R^{45} is $-CO_2H$ or $-CH_2OH$; and subscript m is 4.