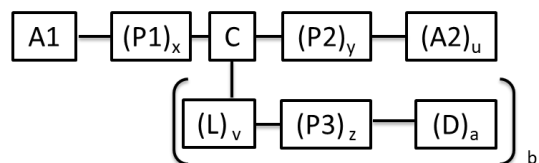


[0008a] In an aspect of the present disclosure, there is provided a targeting conjugate, wherein the targeting conjugate comprises the following structure:



wherein:

A1 is a first targeting moiety specifically recognizes a first target molecule;

A2 is a second targeting moiety specifically recognizes a second target molecule;

P1 is a first cleavage site;

P2 is a second cleavage site;

P3 is a third cleavage site;

C is a conjugation site;

L is a linker;

D is an effector molecule;

x = 1;

y = 0 or 1;

z = 0 or 1;

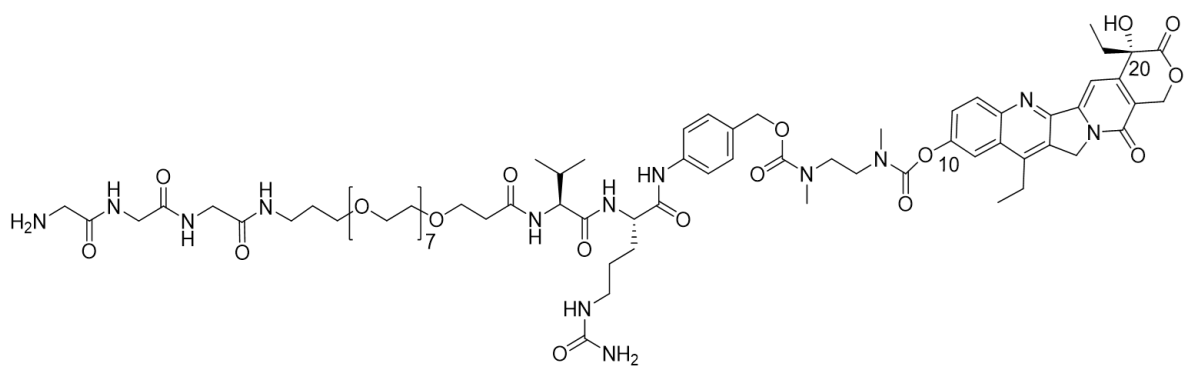
v = 0 or 1;

u = 1;

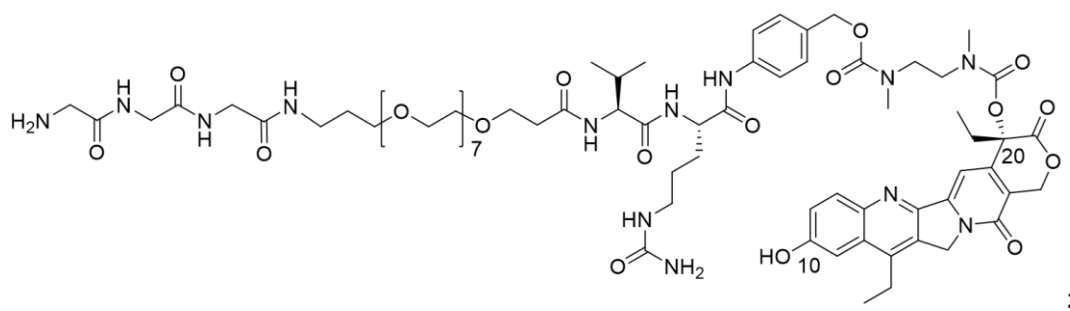
a=1-20; and

b=1-20.

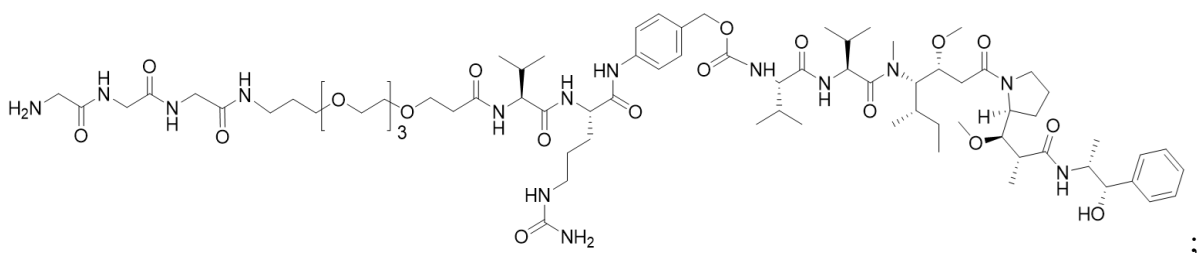
[0008b] In another aspect of the present disclosure, there is provided a targeting conjugate comprising a targeting moiety conjugated to a therapeutic agent, wherein the targeting conjugate comprises a structure selected from the group consisting of compounds of Formulae (1)-(7)



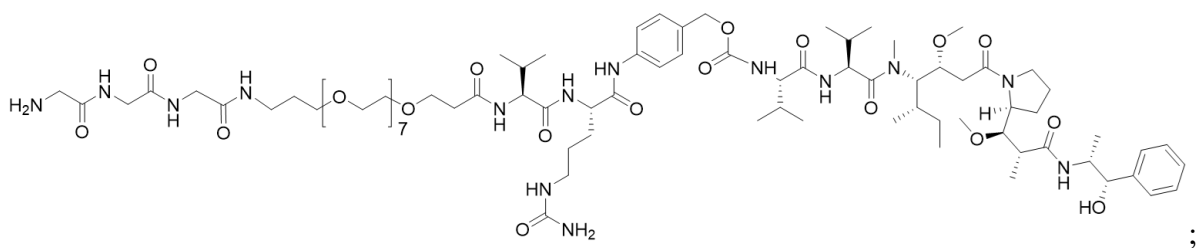
Formula (1)



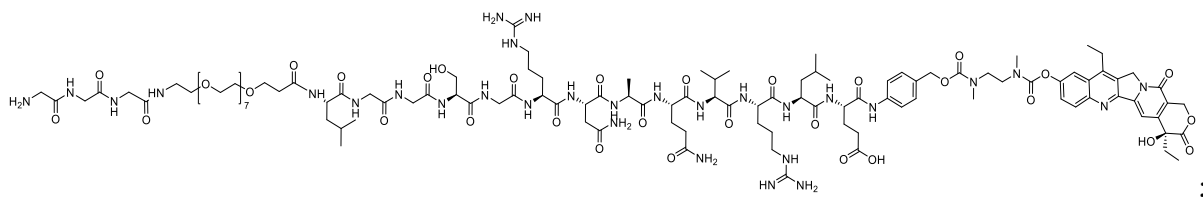
Formula (2)



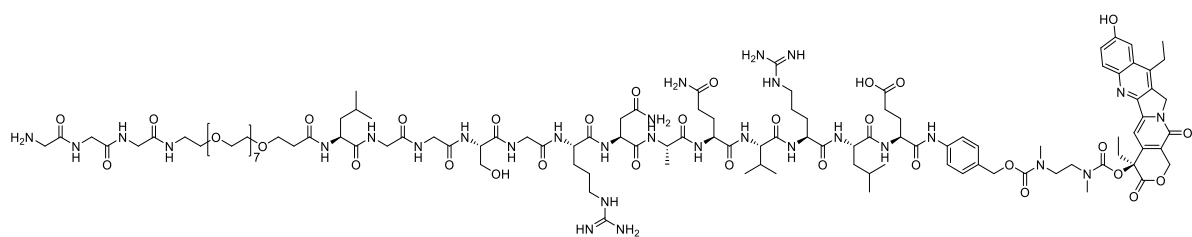
Formula (3)



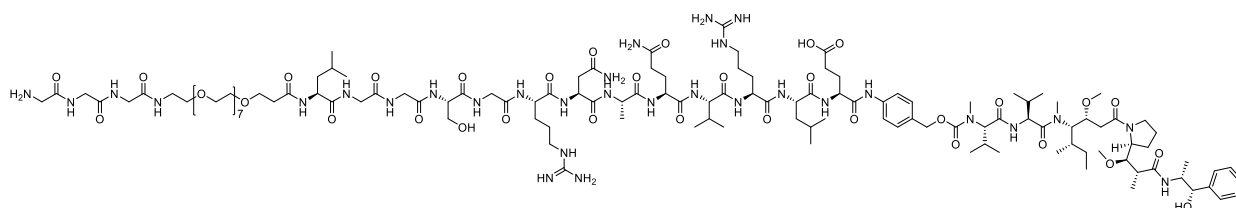
Formula (4)



Formula (5)



Formula (6)



Formula (7).

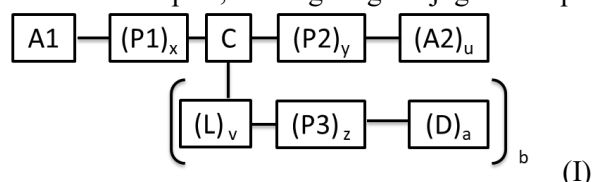
[0008c] In a further aspect of the present disclosure, there is provided a composition comprising a plurality of targeting conjugates disclosed herein.

[0008d] In another aspect of the present disclosure, there is provided a composition disclosed herein, wherein the composition is for use in treating a disease in an individual, and the first target molecule and/or the second target molecule are associated with the disease.

[0008e] In a further aspect of the present disclosure, there is provided a composition disclosed herein, wherein the composition is for use in diagnosing a disease in an individual, wherein the first target molecule and/or the second target molecule are associated with the disease, wherein the effector molecule is a detectable label, and wherein detection of the detectable label is indicative of the presence of the disease.

[0008f] In another aspect of the present disclosure, there is provided a method of making a targeting conjugate disclosed herein, wherein the method comprises conjugating the effector molecule to the targeting moiety.

[0009] In some examples, there is provided a targeting conjugate comprising a targeting moiety and an effector molecule, wherein the effector molecule is conjugated to the targeting moiety via a conjugation site, wherein the effector molecule can be released from the targeting conjugate via cleavage. In some examples, the targeting conjugate comprises the structure of Formula I:



wherein: A1 is a first targeting moiety; A2 is a second targeting moiety; P1 is a first cleavage site; P2 is a second cleavage site; P3 is a third cleavage site; C is the conjugation site; L is a linker; D is the effector molecule; x = 0 or 1; y = 0 or 1; z = 0 or 1; u = 0 or 1; v = 0 or 1; a = 1-20; and b = 1-20. In some examples, z = 0. In some examples, z = 1. In some examples, y = 0. In some examples, y = 1. In some examples,

$x = 0$. In some examples, $x = 1$. In some examples, $u = 0$. In some examples, $u = 1$. In some examples, a is 1 or more. In some examples, b is 1 or more.

[0010] In some examples according to any one of the targeting conjugates described above, the targeting conjugate comprises a targeting peptide. In some examples, the targeting conjugate comprises an antibody or antigen-binding fragment thereof. In some examples, the antibody or antigen-binding fragment thereof is selected from the group consisting of: a human antibody, a humanized antibody, a chimeric antibody, a monospecific antibody, a multispecific antibody, a diabody, a nanobody, an scFv, an scFab, a Fab fragment, a Fab' fragment, a F(ab')₂ fragment, and a dsFv. In some examples, the targeting moiety comprises an antibody-peptide fusion protein. In some examples, the antibody-peptide fusion protein comprises an Fc region. In some examples, the peptide is fused to the C-terminus of the Fc region.

[0011] In some examples according to any one of the targeting conjugates described above, the targeting conjugate comprises a targeting moiety that specifically binds to a target molecule (*e.g.*, cell surface molecule) at a target site. In some examples, the target site is a site of a disease. In some examples, the disease is tumor. In some examples, the target molecule is selected from the group consisting of: PD1, PD-L1, Trop2, CTLA-4, LAG-3, TIM-3, 4-1BB, CD40, OX40, CD47, SIRP α , HER2, HER3, EGFR, VEGF, VEGFR2, CD19, CD20, CD22, CD30, CD33, CD38, CD79, integrin $\alpha v \beta 3$, $\alpha v \beta 6$, MUC1, PMSA, uPAR, and angiopep-2.