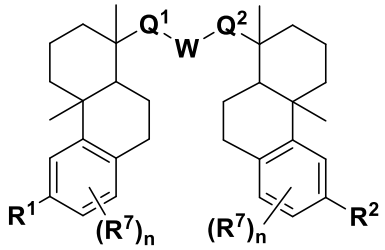
WHAT IS CLAIMED IS:

1. A compound of Formula I




(I)

or a pharmaceutically acceptable salt, solvate, or stereoisomeric form thereof, wherein

each of **Q**$^{1}$ and **Q**$^{2}$ is independently –$CH_2$–, –C(O)–, –C(H)(OH)–, –$C(OH)_2$–;

**W** is –N(H)– or –O–; or **W** is –$CH_2$– when **Q**$^{2}$ is –C(O)–;

**R**$^{1}$ is independently–OH, –$NH_2$, alkyl, or –OP(O)(O**R**$^{6}$)$_2$;

**R**$^{2}$ is independently –$CH_2NH_2$, **R**$^{3}$, **R**$^{4}$, **R**$^{5}$, or –O–**R**$^{5}$;

wherein at least one of **R**$^{1}$ or **R**$^{2}$ is –OH or –$NH_2$;

**R**$^{3}$ is –N(**R**$^{6}$)$_2$;

**R**$^{4}$ is –**X**–**Y**–**Z**;

**X** is selected from the group consisting of –O– and –N(H)–;

**Y** is selected from the group consisting of alkylene, substituted alkylene, heteroalkylene, and substituted heteroalkylene;

**Z** is selected from the group consisting of –OH and –$NH_2$;

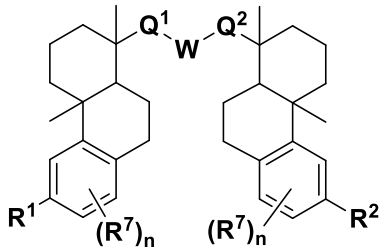
**R**$^{5}$ is alkyl, heterocycloalkyl, or substituted heterocycloalkyl, wherein each heterocycloalkyl or substituted heterocycloalkyl comprises one, two, or three heteroatoms selected from nitrogen and oxygen, and includes at least one –OH and –$CH_2$OH, or at least one primary or secondary nitrogen;

each **R**$^{6}$ is, independently in each instance, hydrogen, an amino acid residue, an *N*-alkyl amino acid residue, a peptide, or alkyl;

each **R**$^{7}$ is independently halo, $C_{1\text{-}6}$ alkyl, $C_{1\text{-}6}$ alkoxy, –CN, O-glucose, O-amino acid residue, or O-PEG$_{\mathbf{n}}$, wherein each **n** is an integer from zero to three; and

each **R**$^{11}$ and **R**$^{12}$ are independently hydrogen, alkyl, or aryl.

2. The compound of claim 1, according to Formula I



(I)

or a pharmaceutically acceptable salt, solvate, or stereoisomeric form thereof, wherein

each of **Q**$^{1}$ and **Q**$^{2}$ is independently –$CH_2$–, –C(O)–, –C(H)(OH)–, or –$C(OH)_2$–;

**W** is –N(H)– or –O–; or **W** is –$CH_2$– when **Q**$^{2}$ is –C(O)–;

**R**$^{1}$ is independently –OH, –$NH_2$, alkyl, or –OP(O)(O**R**$^{6}$)$_2$;

**R**$^{2}$ is independently –$CH_2NH_2$, **R**$^{3}$, **R**$^{4}$, **R**$^{5}$, or –O–**R**$^{5}$;

**R**$^{3}$ is –N(**R**$^{6}$)$_2$;

**R**$^{4}$ is –**X**–**Y**–**Z**;

**X** is selected from the group consisting of –O– and –N(H)–;

**Y** is selected from the group consisting of alkylene, substituted alkylene, heteroalkylene, and substituted heteroalkylene;

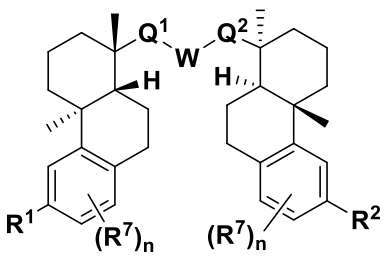
**Z** is selected from the group consisting of –OH and –$NH_2$;

**R**$^{5}$ is alkyl, heterocycloalkyl, or substituted heterocycloalkyl, wherein each heterocycloalkyl or substituted heterocycloalkyl comprises one, two, or three heteroatoms selected from nitrogen and oxygen, and includes at least one –OH and –$CH_2$OH, or at least one primary or secondary nitrogen;

each **R**$^{6}$ is, independently in each instance, hydrogen, an amino acid residue, an *N*-alkyl amino acid residue, a peptide, or alkyl; and

each **R**$^{7}$ is independently halo, $C_{1\text{-}6}$ alkyl, $C_{1\text{-}6}$ alkoxy, –CN, O-glucose, O-amino acid residue, or O-PEG$_{\mathbf{n}}$, wherein each **n** is an integer from zero to three.

3. The compound of claim 1, according to Formula Ia



(Ia)

or a pharmaceutically acceptable salt, solvate, or stereoisomeric form thereof.

4. The compound of claim 1, wherein $\mathbf{Q^1}$ is $–CH_2–$ and $\mathbf{Q^2}$ is –C(O)–.

5. The compound of claim 1, wherein $\mathbf{Q^1}$ is –C(H)(OH)– and $\mathbf{Q^2}$ is –C(O)–.

6. The compound of claim 1, wherein $\mathbf{Q^1}$ is –C(O)– and $\mathbf{Q^2}$ is –C(O)–.

7. The compound of claim 1, wherein $\mathbf{Q^1}$ is –C(O)– and $\mathbf{Q^2}$ is $\mathbf{–}CH_2–$.

8. The compound of claim 1, wherein $\mathbf{Q^1}$ is –C(O)– and $\mathbf{Q^2}$ is –C(H)(OH)–.

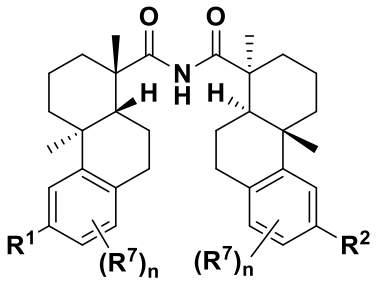
9. The compound of claim 1, wherein **W** is $\mathbf{–}CH_2\mathbf{–}$ when $Q^2$ is -C(O)-.

10. The compound of claim 1, wherein **W** is **–**O**–**.

11. The compound of claim 1, wherein **W** is **–**NH**–**.

12. The compound of claim 1, wherein $\mathbf{R^1}$ is –OH and $\mathbf{R^2}$ is $\mathbf{R^3}$, $\mathbf{R^4}$, $\mathbf{R^5}$, or –O–$\mathbf{R^5}$.

13. The compound of claim 1, according to Formula Ib




(Ib)

or a pharmaceutically acceptable salt, solvate, or stereoisomeric form thereof.

14. The compound of claim 1, wherein $\mathbf{R^1}$ is –OH.

15. The compound of claim 1, wherein $\mathbf{R^2}$ is $–O–(CH_2)_n–\mathbf{Z}$ and **n** is an integer from one to four.

16. The compound of claim 1, wherein $\mathbf{R^2}$ is –N(H)C(O)–$(CH_2)_n$–$NH_2$ and **n** is an integer from one to four.

17. The compound of claim 1, wherein $\mathbf{R^2}$ is –N(H)C(O)–(C**RR**)$_n$–$NH_2$ wherein each **R** is hydrogen, –OH or –$CH_2OH$; and **n** is an integer from one to four.

18. The compound of claim 1, wherein $\mathbf{R^2}$ is *N*-piperazinyl.

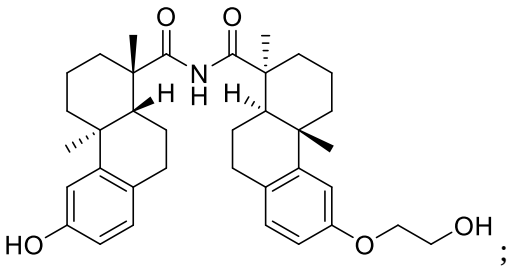
19. The compound of claim 1, wherein $\mathbf{R^2}$ is –N($\mathbf{R^6}$)$_2$.

20. The compound of claim 1, wherein $\mathbf{R^2}$ is *N*-serinyl.

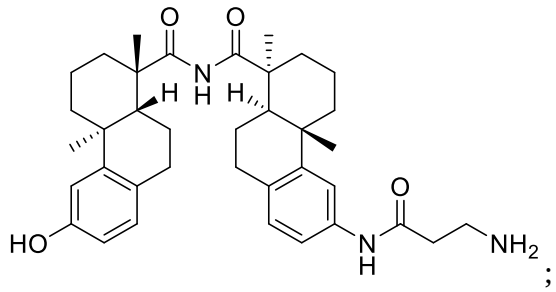
21. The compound of claim 1, wherein $\mathbf{R^2}$ is *O*-glycosyl.

22. The compound of claim 1, wherein $\mathbf{R^1}$ is –OP(O)(O$\mathbf{R^6}$)(OH) and $\mathbf{R^2}$ is –$NH_2$.

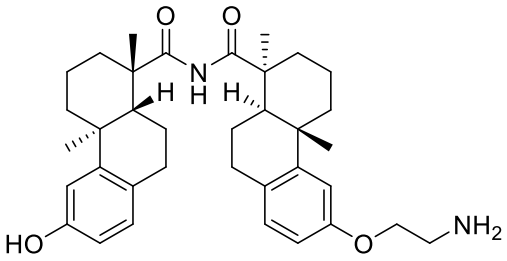
23. The compound of claim 1, selected from the group consisting of



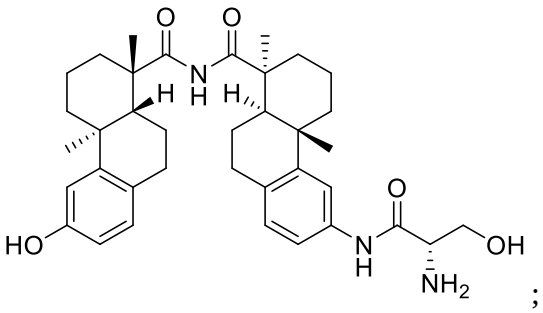
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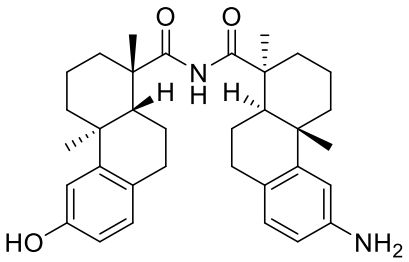
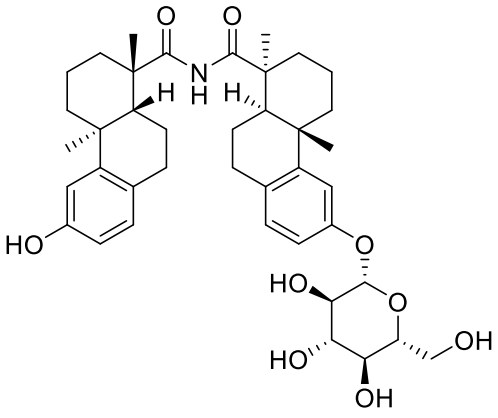
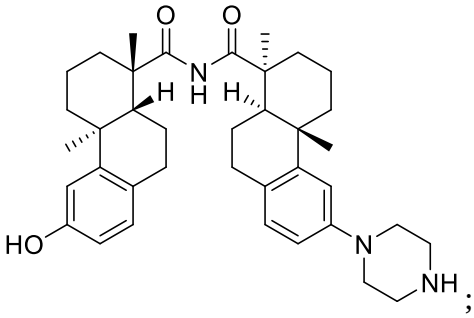
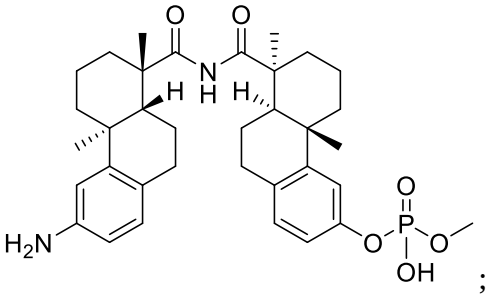
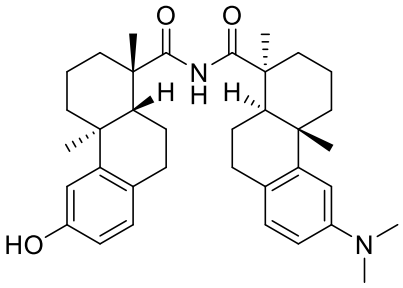
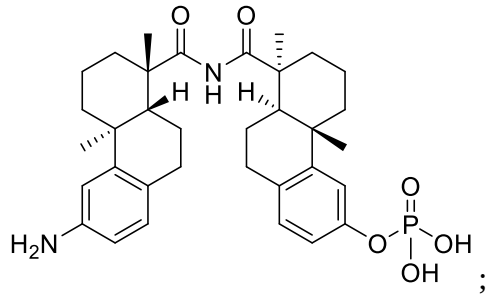
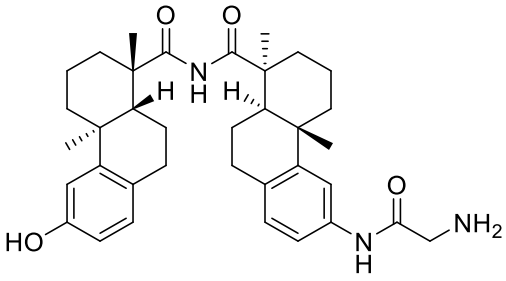
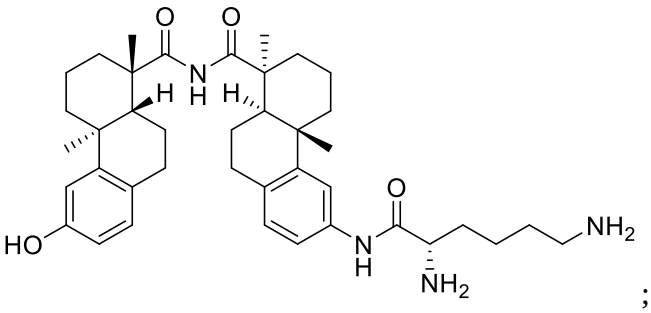
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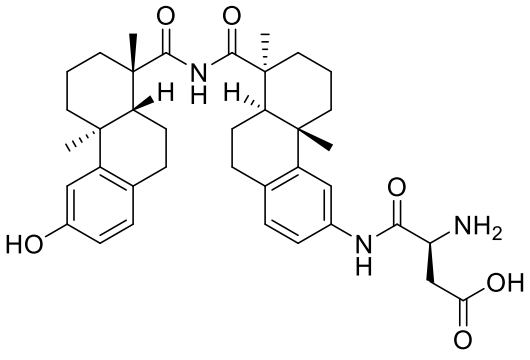
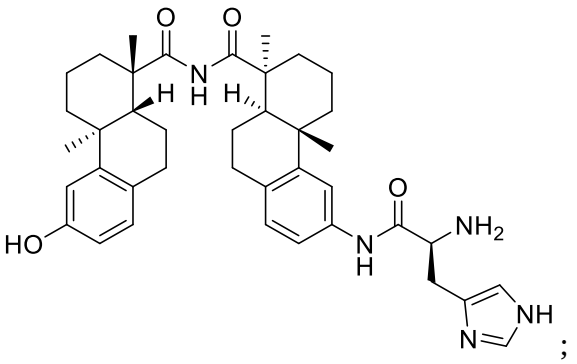
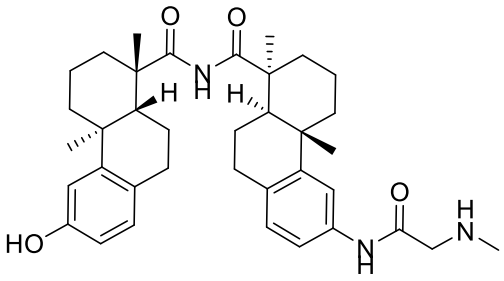
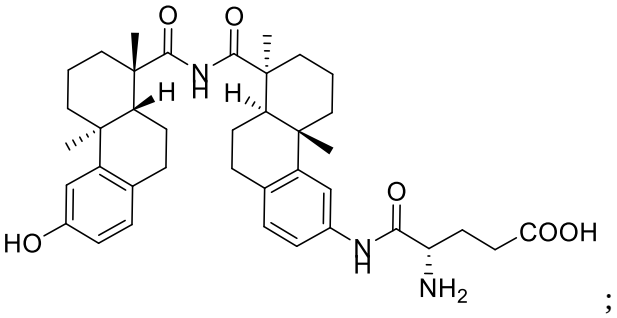
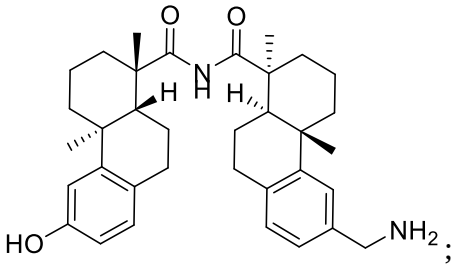
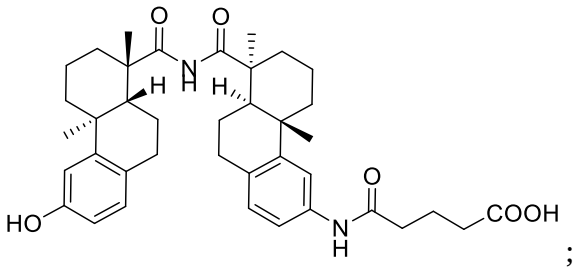
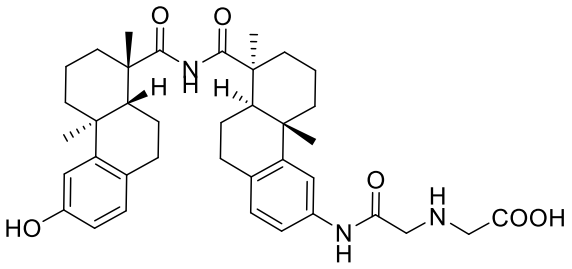
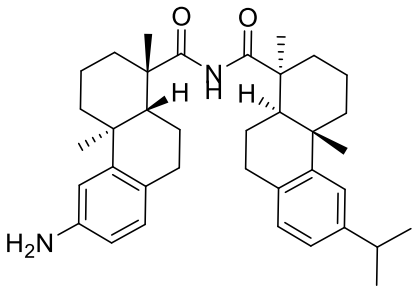


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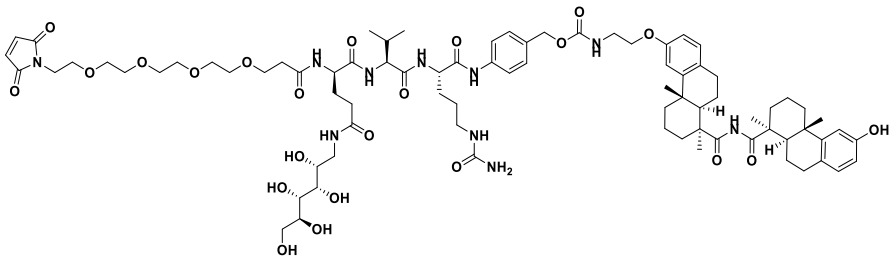

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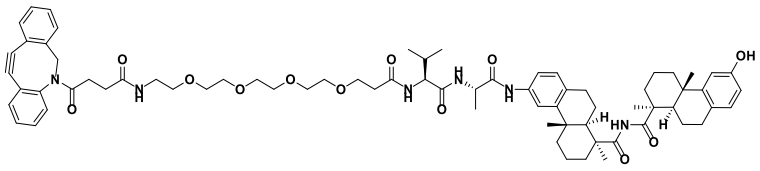
24. A linker-payload comprising the compound of claim 1, bonded to a linker.

25. The linker-payload of claim 24, wherein the linker is bonded to an oxygen or a primary or secondary nitrogen of the compound of the preceding claims.

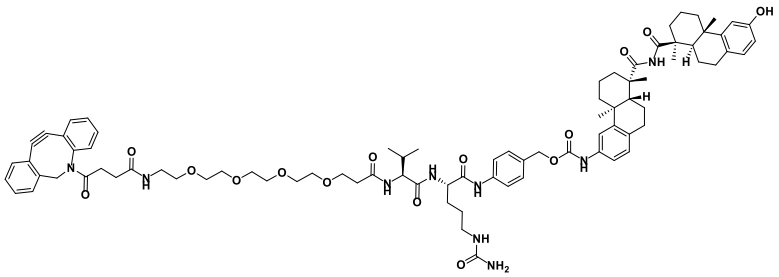
26. The linker-payload of claim 24, selected from the group consisting of



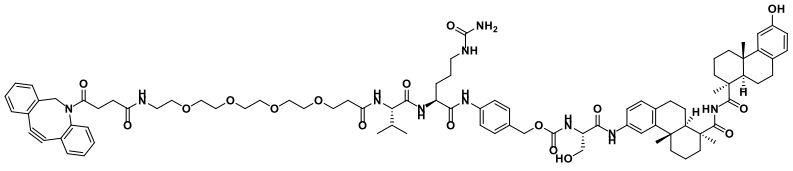
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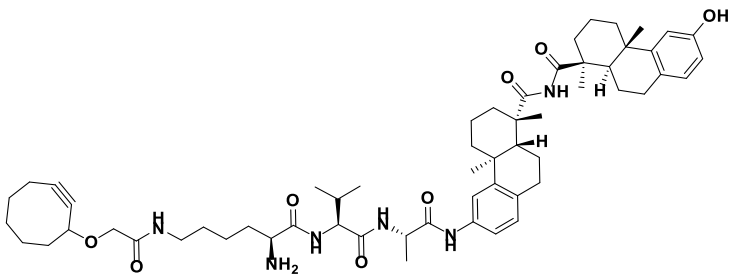
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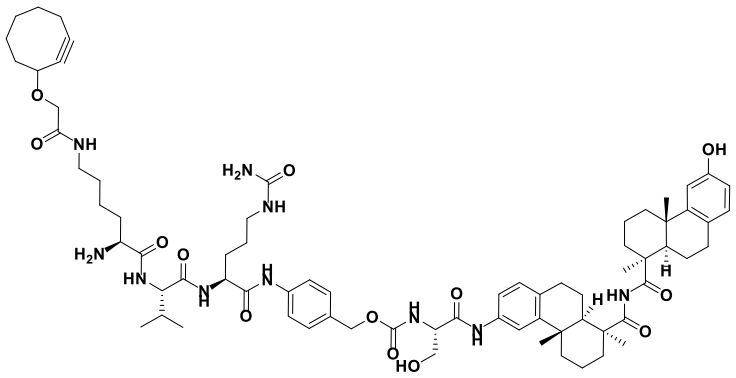
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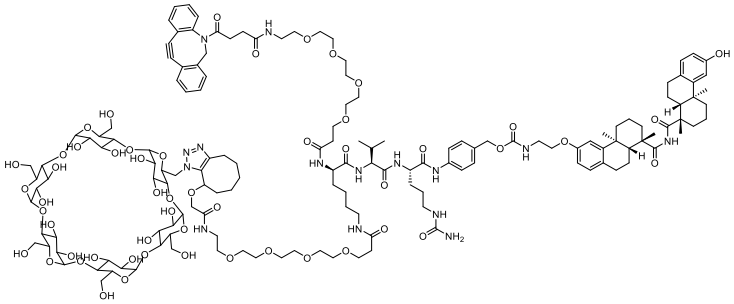
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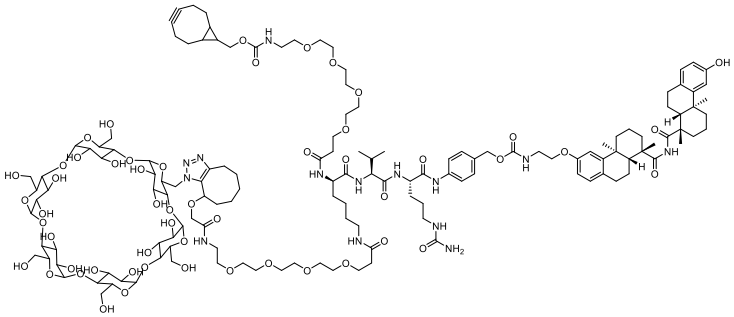
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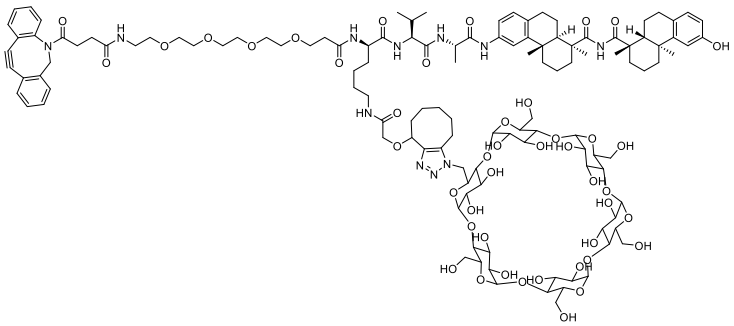
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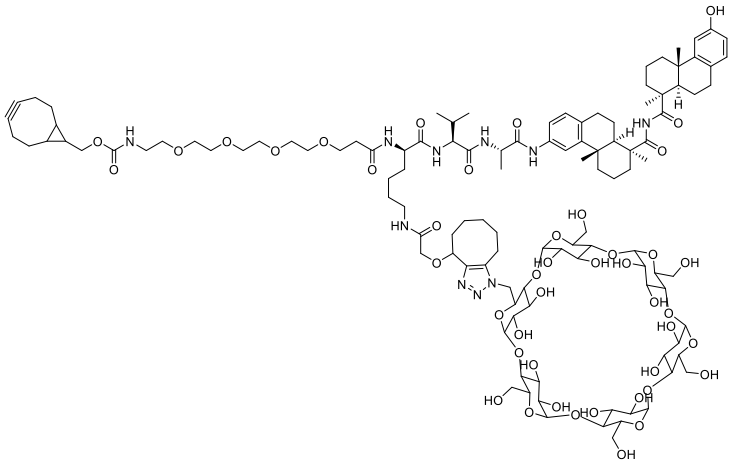
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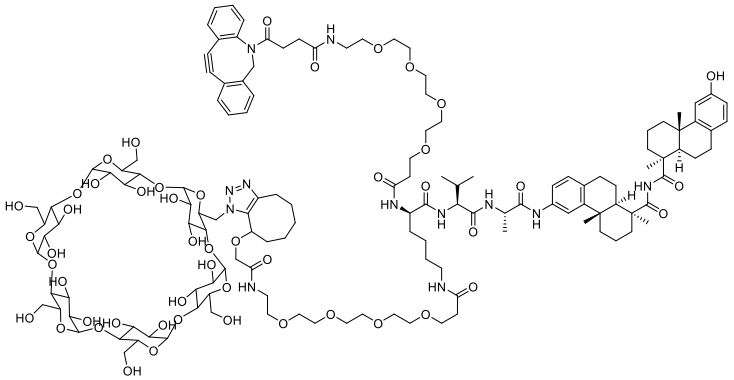
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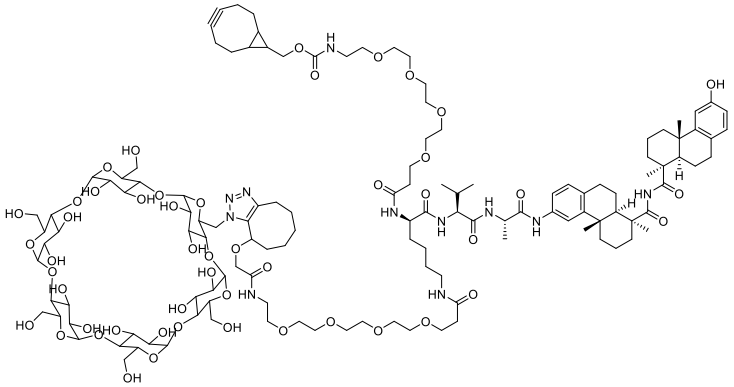
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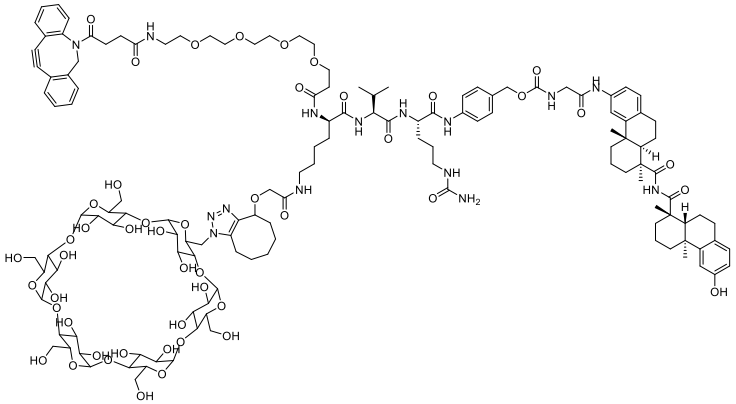
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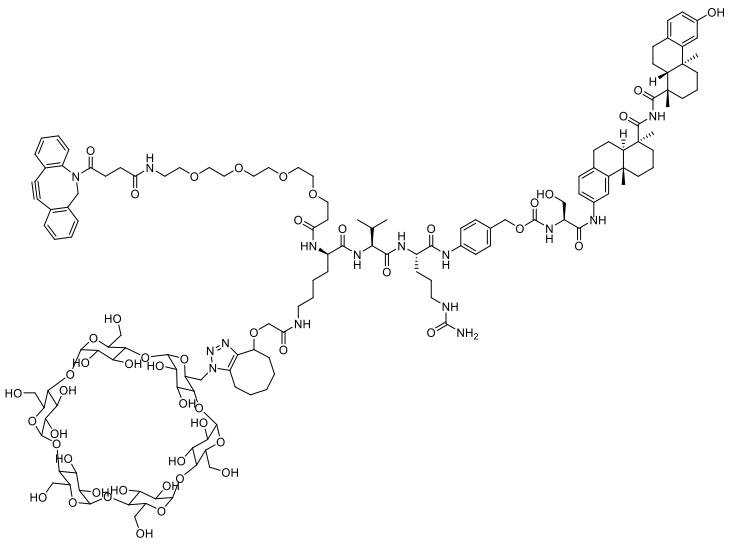
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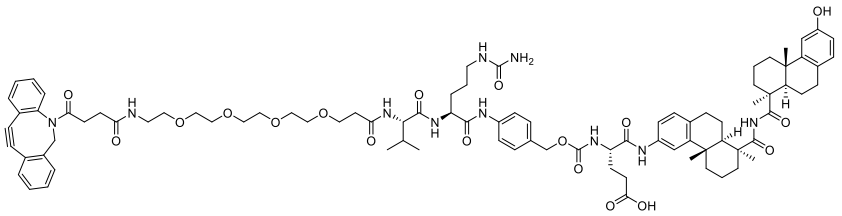
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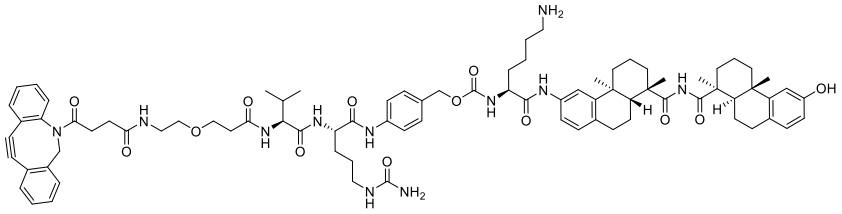
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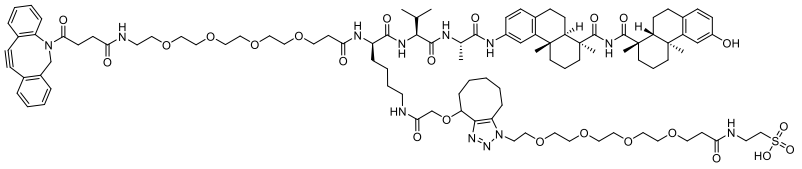
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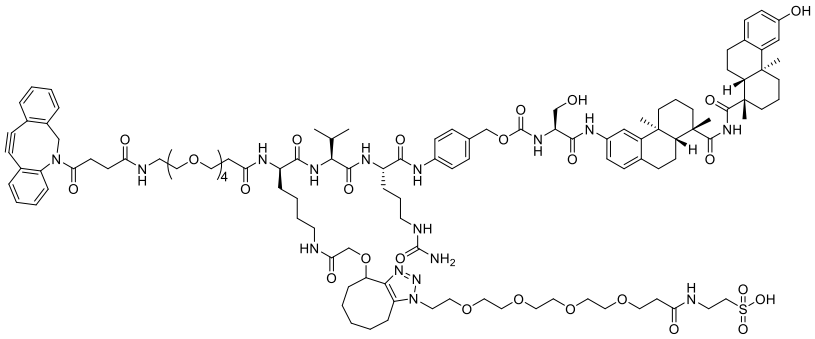
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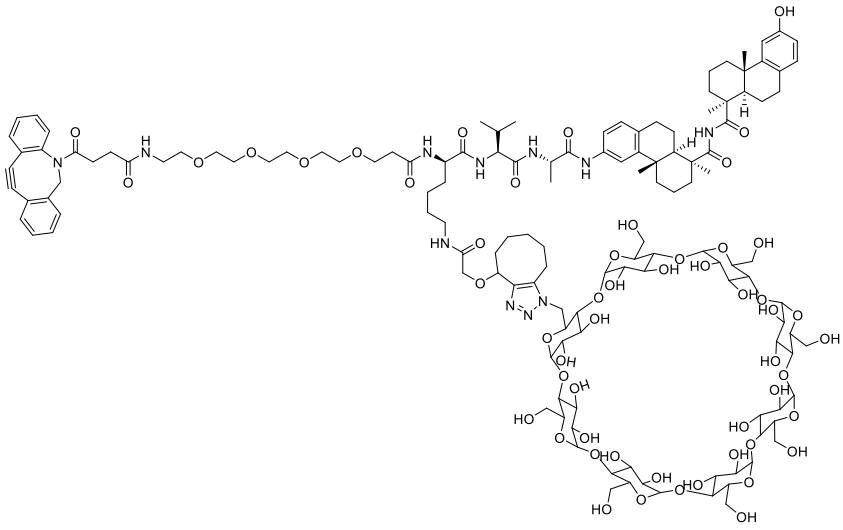
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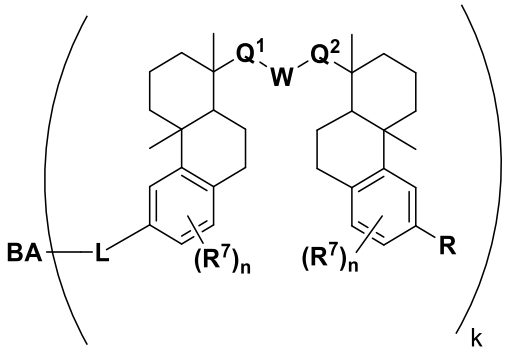
, and



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27. An antibody-drug conjugate comprising the compound of any one of claims 1-23 or 47-50 or linker-payload of any one of claims 24-26 or 51-54 bonded to an antibody or an antigen binding fragment thereof.

28. A compound of Formula **A**




(**A**)

or a pharmaceutically acceptable salt, or stereoisomeric form thereof, wherein

**L** is a linker or X-Y-Z, wherein X is –NH– or –O–; **Y** is an enzymatically cleavable moiety, a self-immolative group, an acid-labile moiety, PEGn, a sugar moiety, or an enhancement group; and **Z** is a binding agent linker (**BL**) wherein **Z** is covalently bound to **BA**;

**BA** is a binding agent;

**k** is an integer from one to thirty;

each of $\mathbf{Q^1}$ and $\mathbf{Q^2}$ is independently $–CH_2–$, –C(O)–, –C(H)(OH)–, or $–C(OH)_2–$;

**W** is–N(H)– or –O–; or **W** is $–CH_2–$ when $\mathbf{Q^2}$ is –C(O)–;

**R** is independently –OH, $C_{1\text{-}6}$alkyl, or –OP(O)(O$\mathbf{R^6}$)(OH);

each $\mathbf{R^6}$ is, independently in each instance, hydrogen, an amino acid residue, a peptide, or alkyl; and

each $\mathbf{R^7}$ is independently halo, $C_{1\text{-}6}$ alkyl, $C_{1\text{-}6}$ alkoxy, –CN, O-glucose, O-amino acid residue, or O-$PEG_{\mathbf{n}}$, wherein each **n** is an integer from zero to three.

29. A pharmaceutical composition comprising the compound of any one of claims 1-23, 28, 47-50 or 55-58, or the antibody-drug conjugate of claim 27, and a pharmaceutically acceptable excipient, carrier, or diluent.

30. Use of a composition comprising a compound of any one of claims 1-23, 28, 47-50 or 55-58, or the antibody-drug conjugate of claim 27 in the manufacture of a medicament for the treatment of dyslipidemia, a metabolic disease, inflammation, or a neurodegenerative disease in a subject.

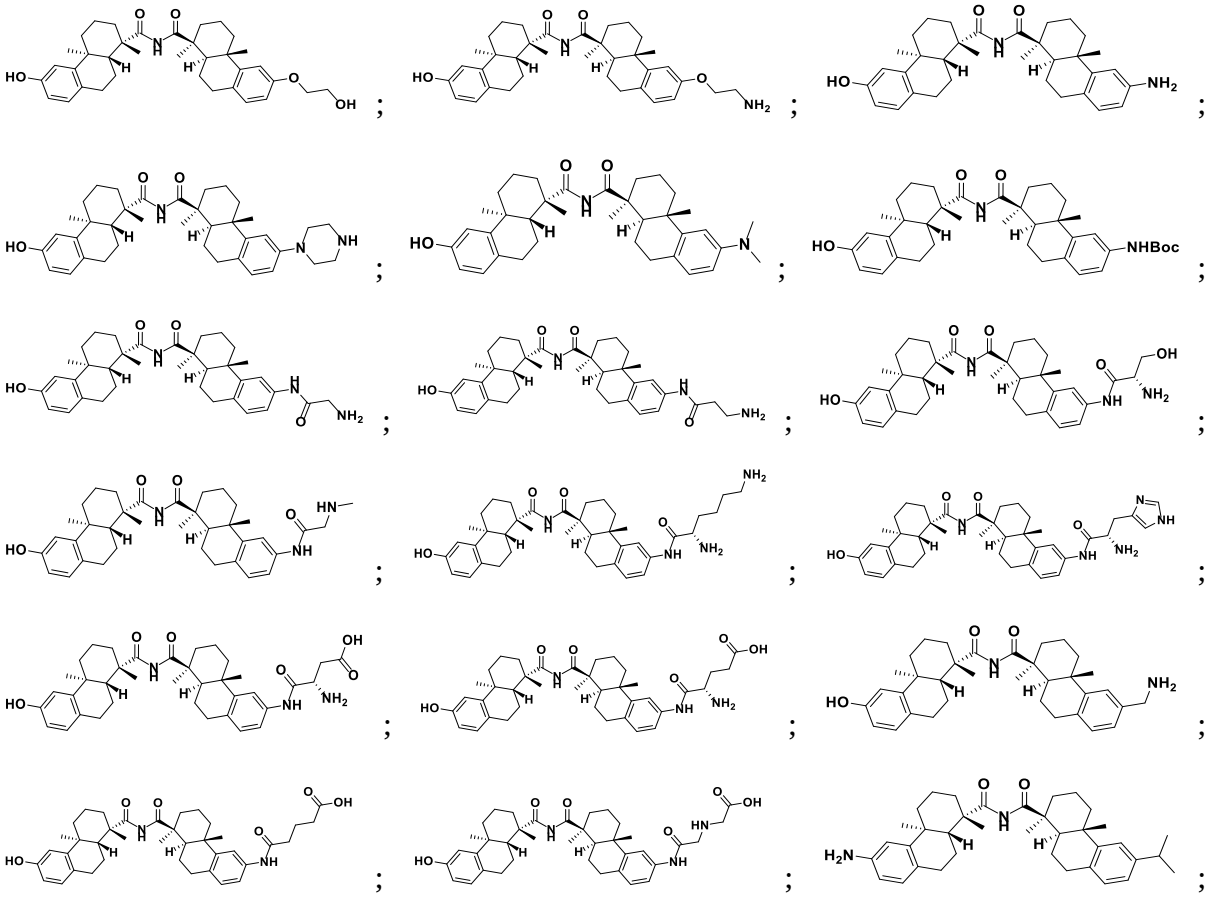
31. Use of a composition comprising a compound of any one of claims 1-23, 28, 47-50 or 55-58, or the antibody-drug conjugate of claim 27 in the manufacture of a medicament for the treatment of dyslipidemia in a subject.

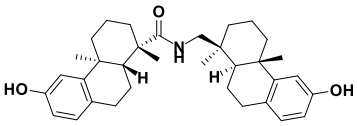
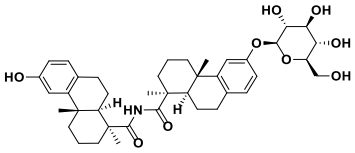
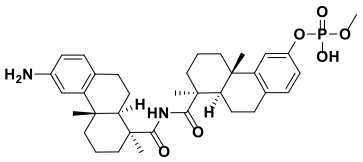
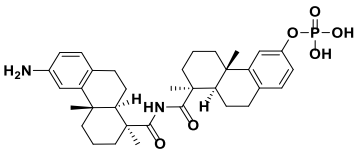
32. Use of a composition comprising a compound of any one of claims 1-23, 28, 47-50 or 55-58, or the antibody-drug conjugate of claim 27 in the manufacture of a medicament for the treatment of a metabolic disease in a subject.

33. Use of a composition comprising a compound of any one of claims 1-23, 28, 47-50 or 55-58, or the antibody-drug conjugate of claim 27 in the manufacture of a medicament for the treatment of inflammation in a subject.

34. Use of a composition comprising a compound of any one of claims 1-23, 28, 47-50 or 55-58, or the antibody-drug conjugate of claim 27 in the manufacture of a medicament for the treatment of a neurodegenerative disease in a subject.

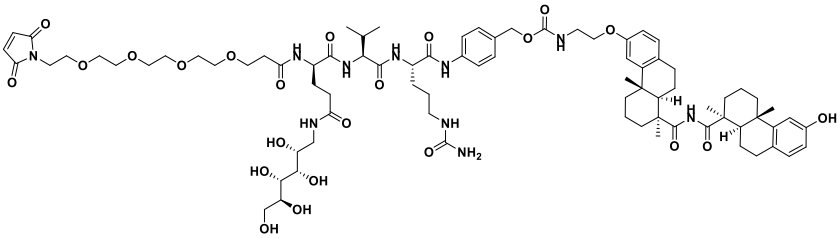
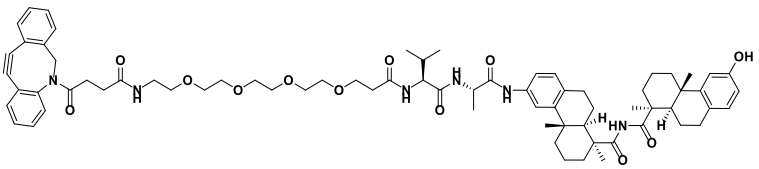
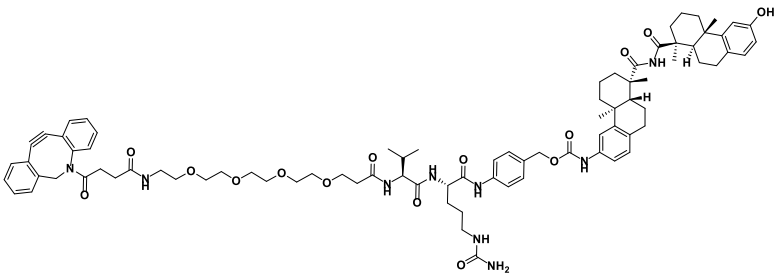
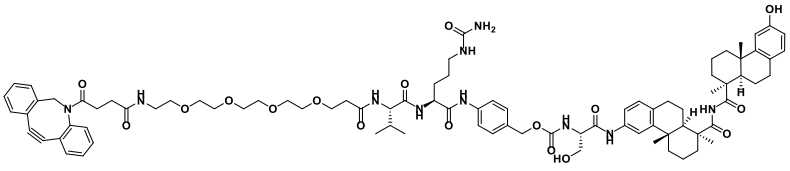
35. The compound of claim 28 comprising **BA** linked via a linker **L** to a compound selected from the group consisting of

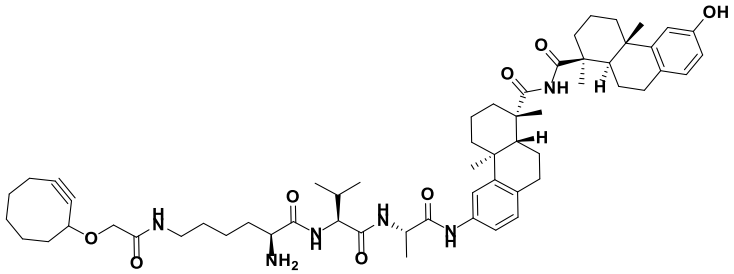



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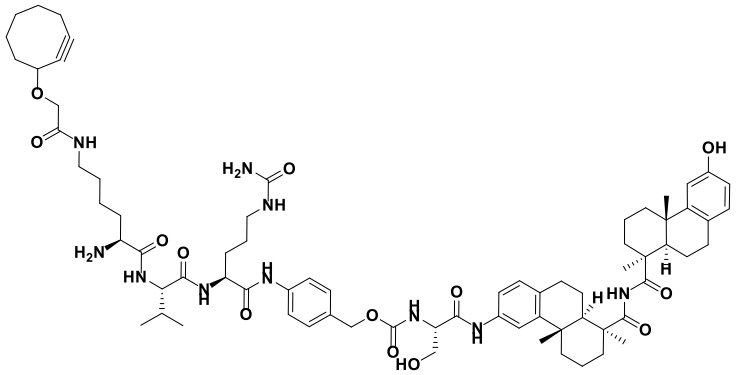
a regioisomeric 1,3-cycloaddition product at **BL**, stereoisomeric form, or pharmaceutically acceptable salt thereof, wherein **k** is an integer from one to four.

36. The compound of claim 28, comprising **BA** linked to a compound selected from the group consisting of

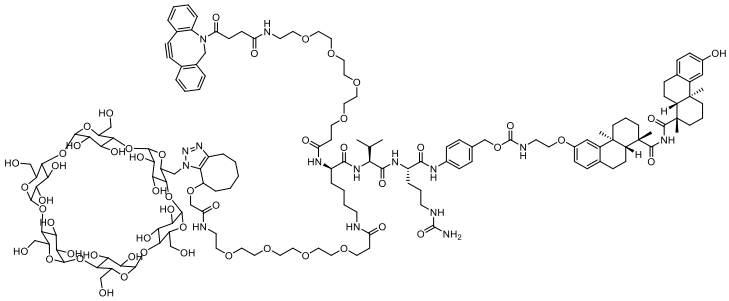

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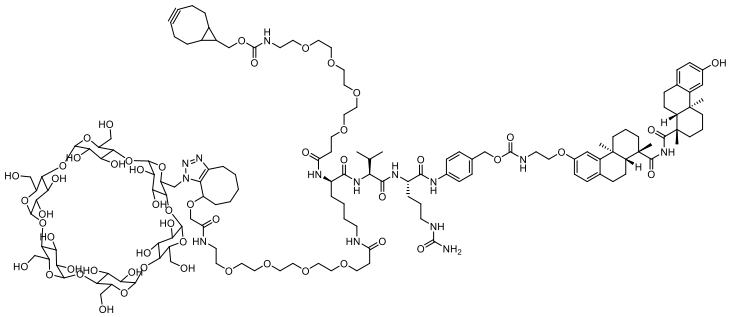
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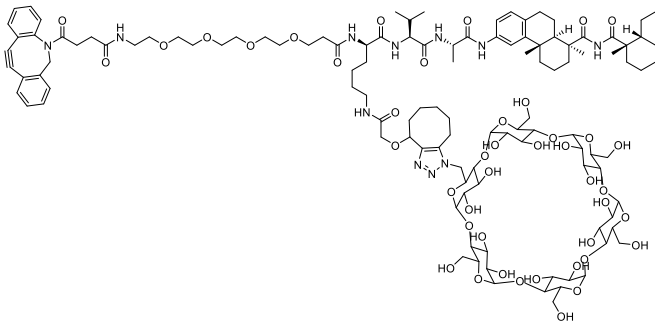
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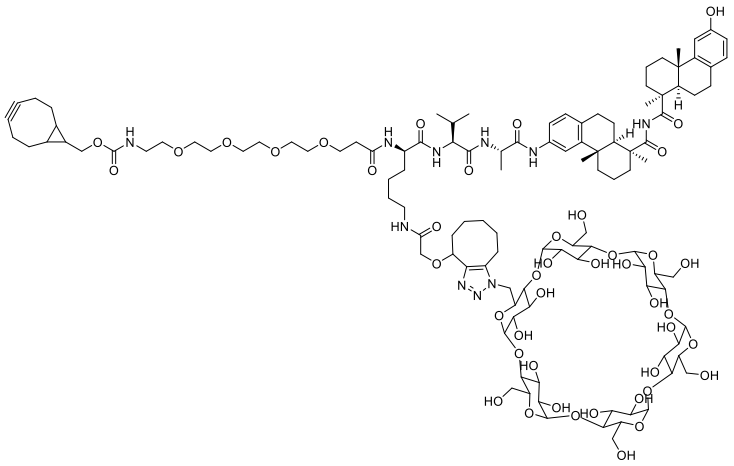
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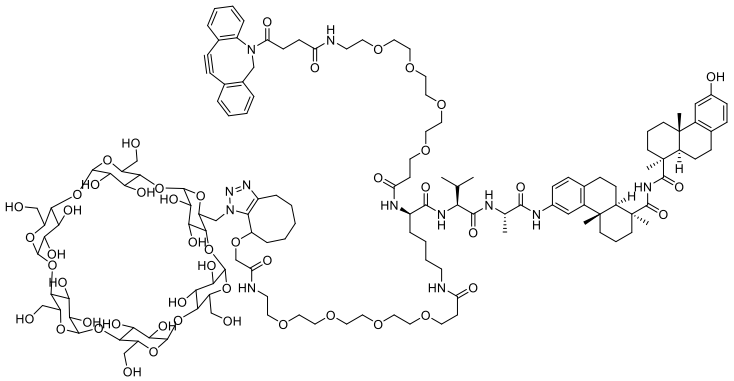
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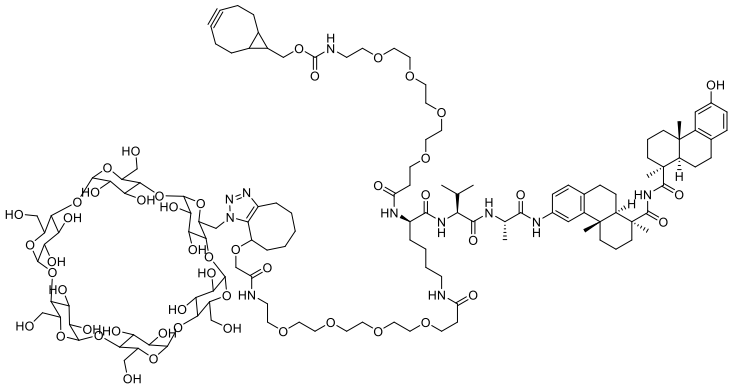
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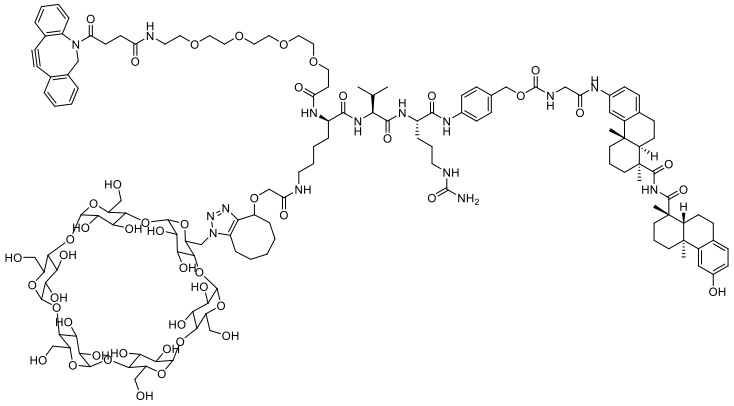
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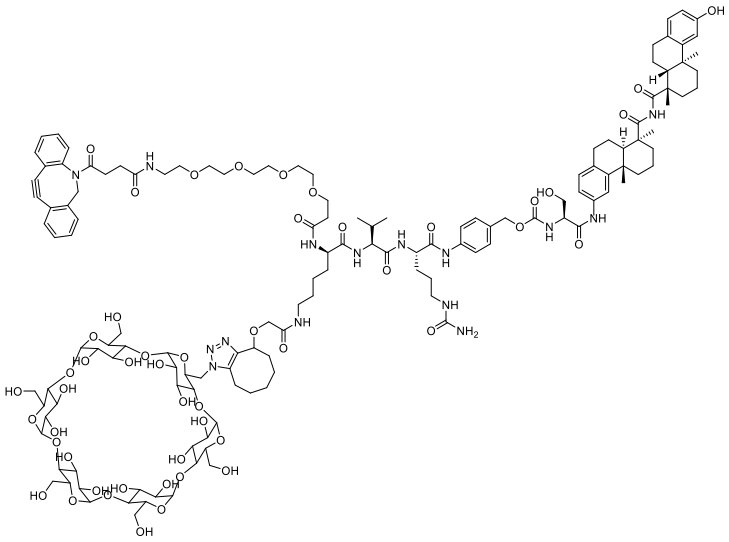
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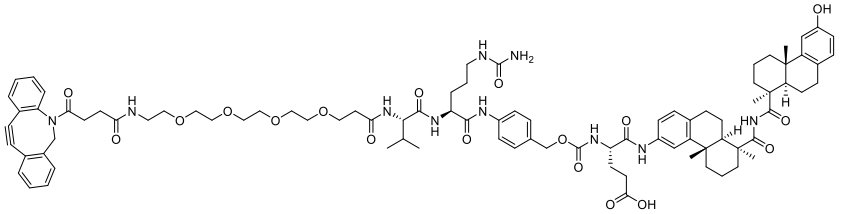
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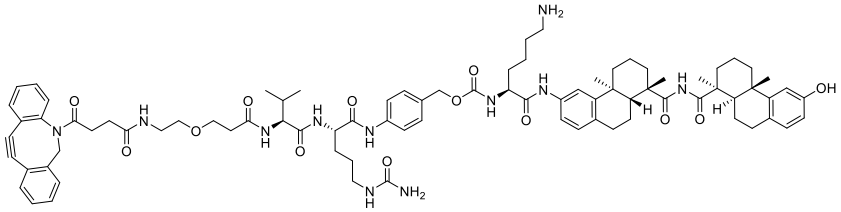
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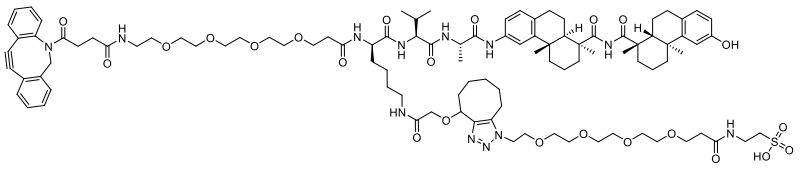
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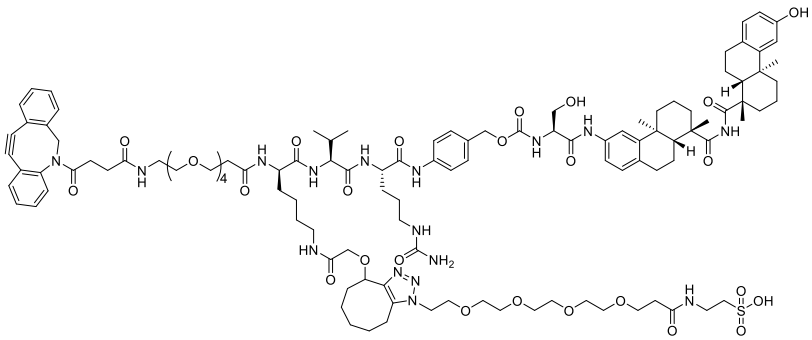
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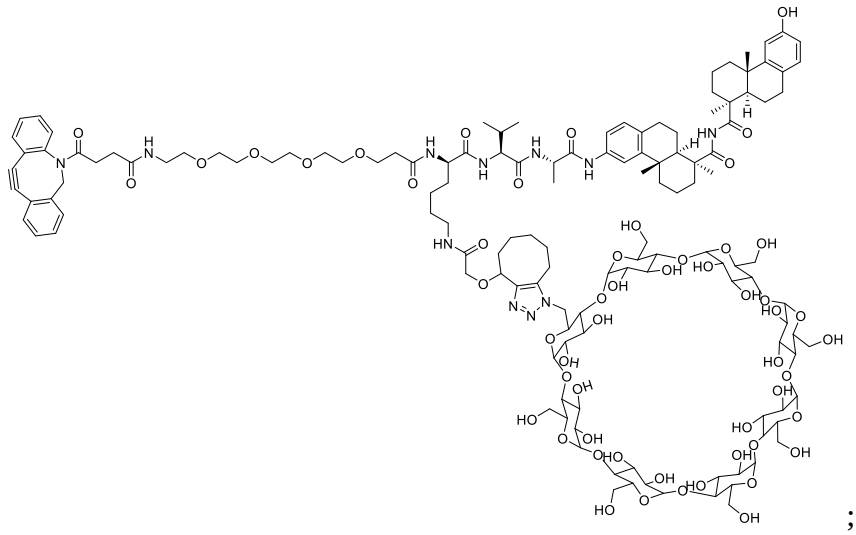
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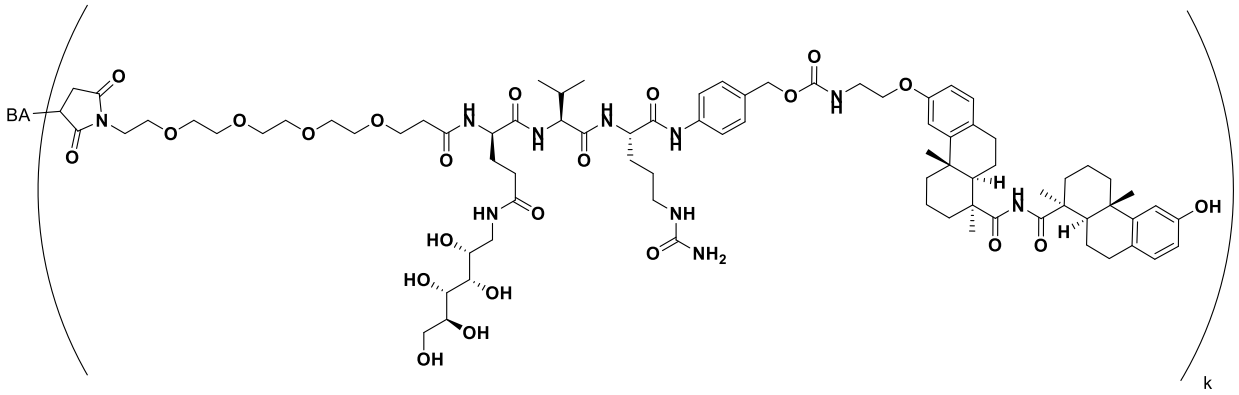
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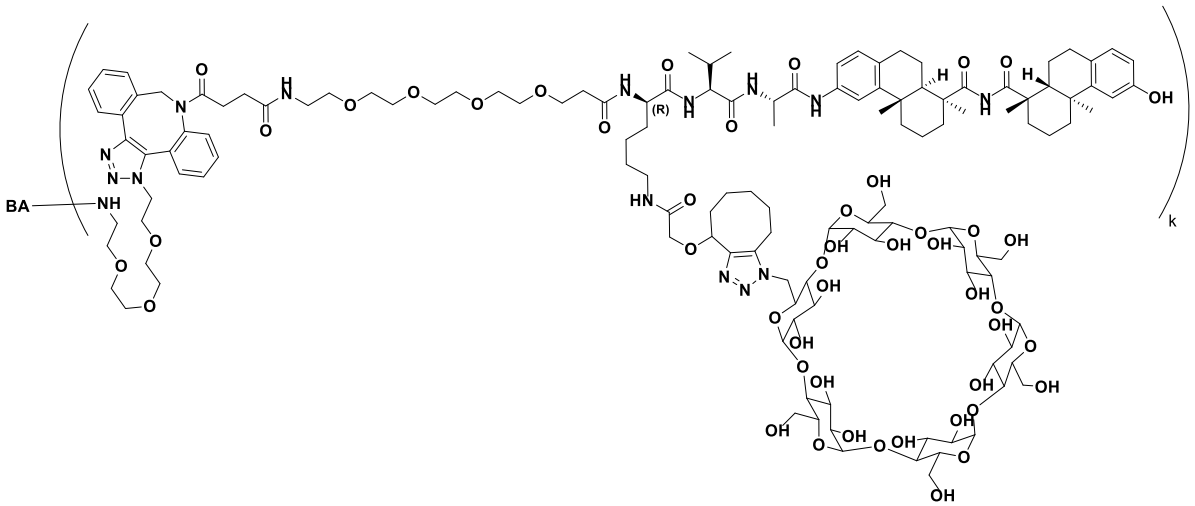
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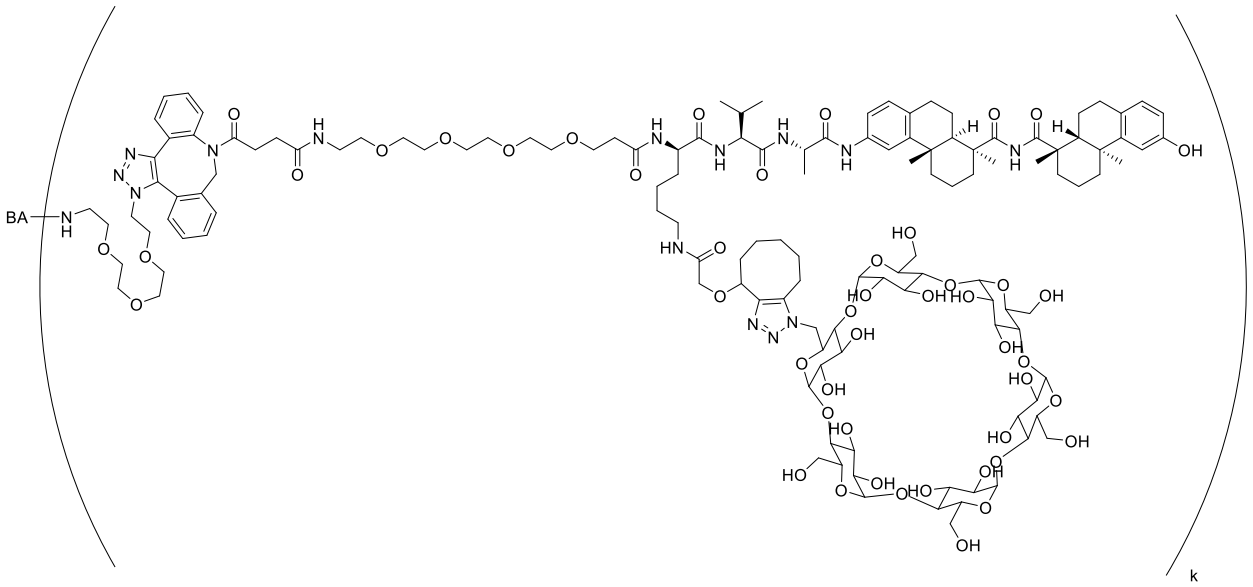
a regioisomeric 1,3-cycloaddition product at **BL**, stereoisomeric form, or pharmaceutically acceptable salt thereof, wherein **k** is an integer from one to four.

37. The compound of claim 28, selected from the group consisting of

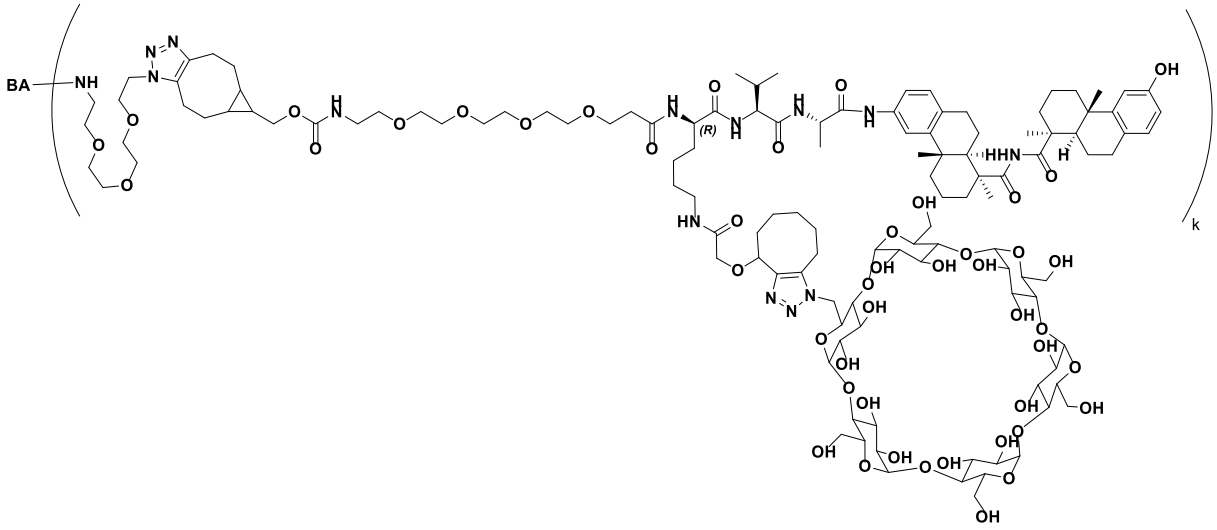


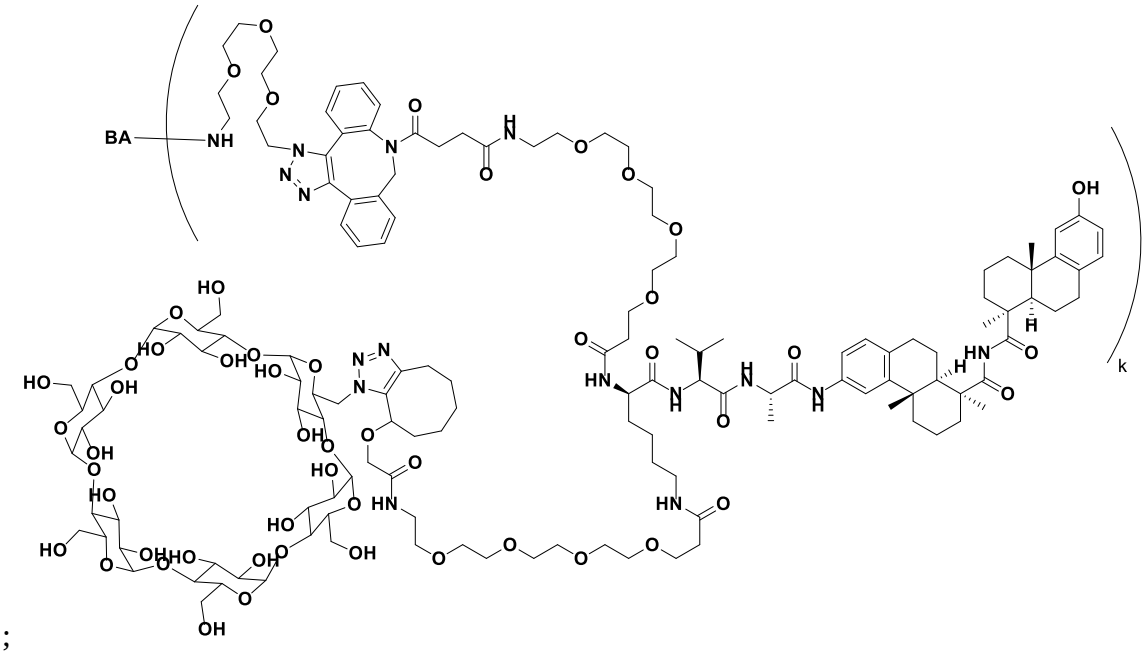
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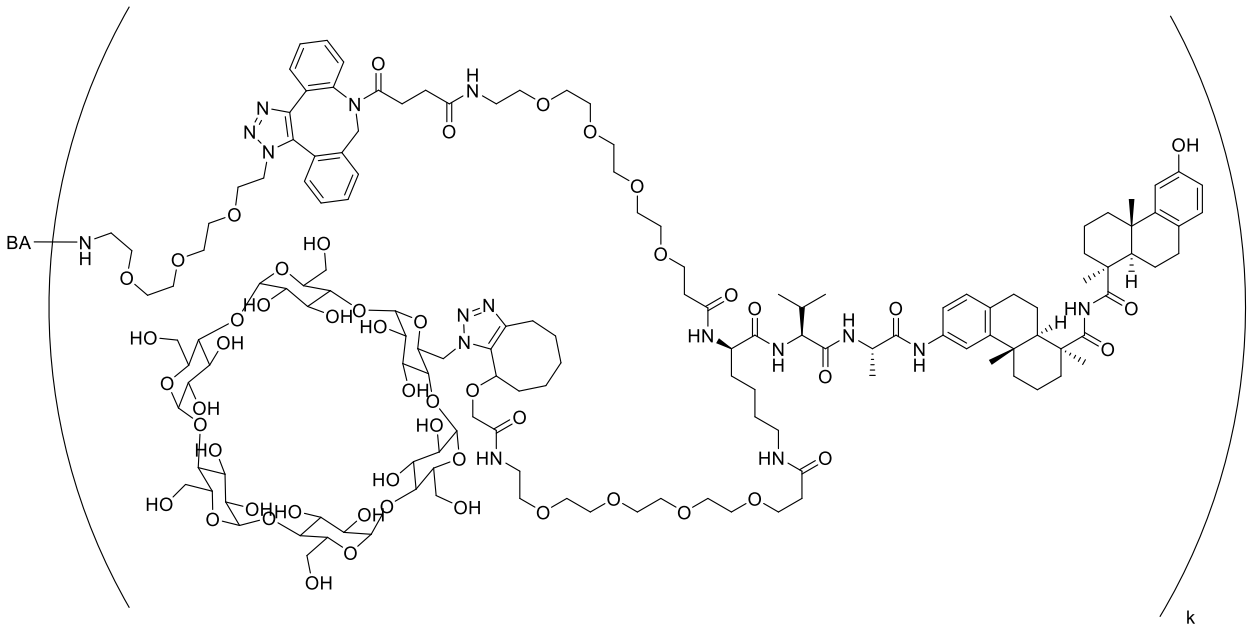
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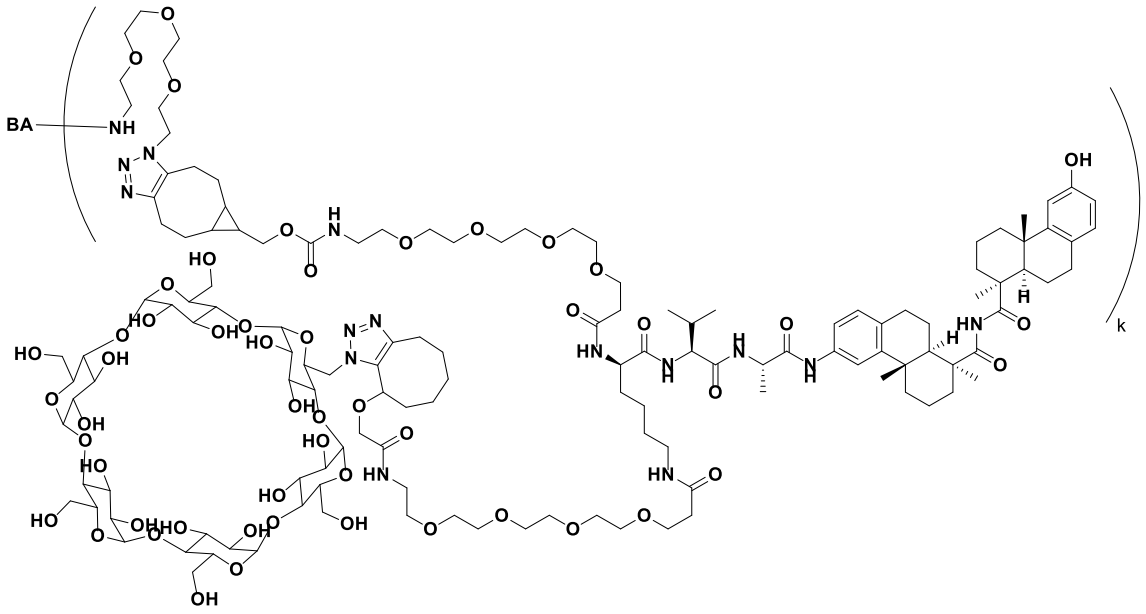




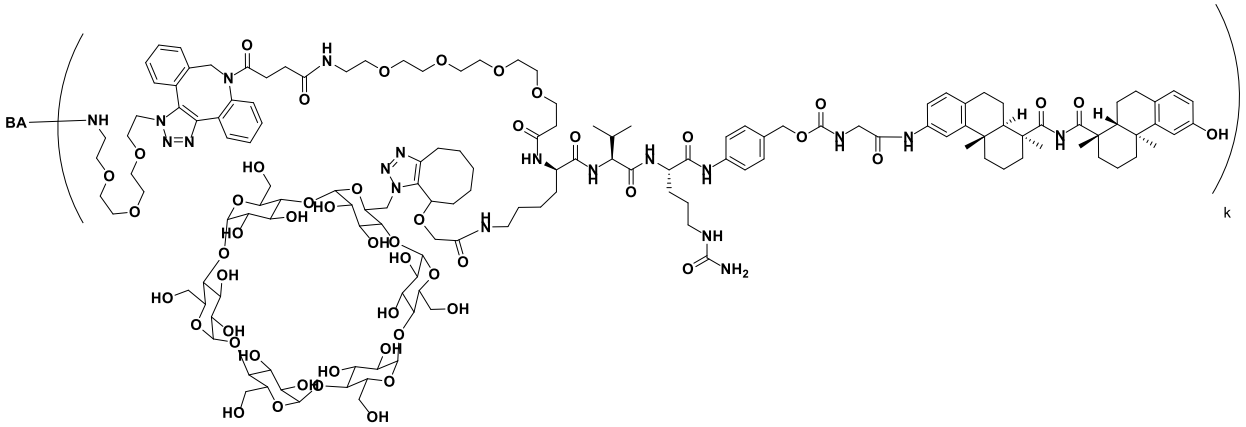
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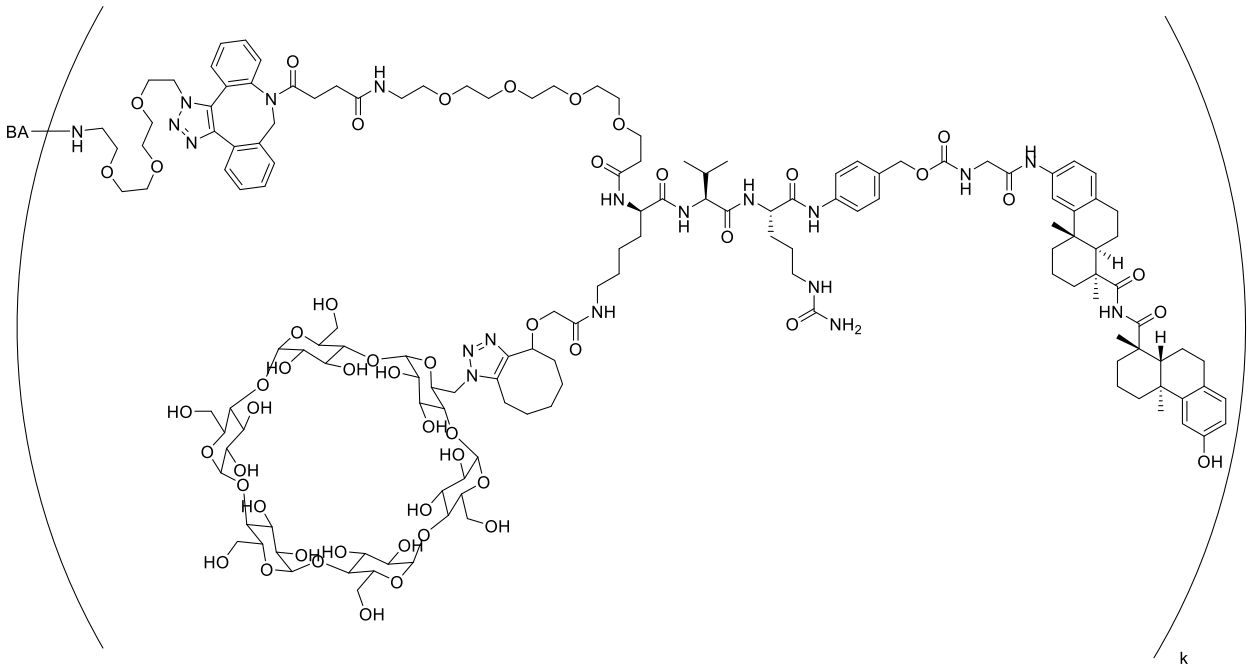
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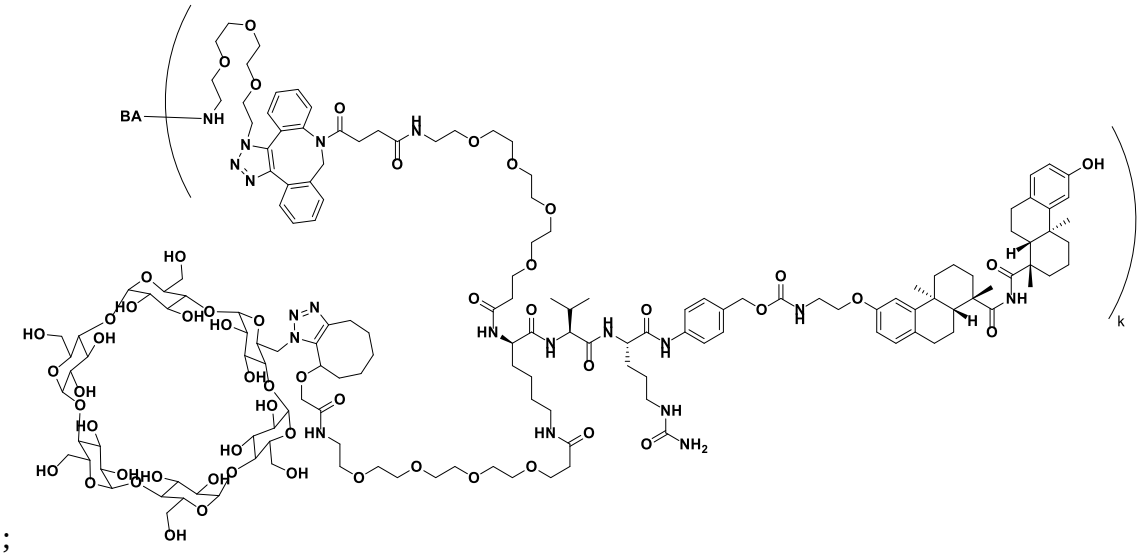




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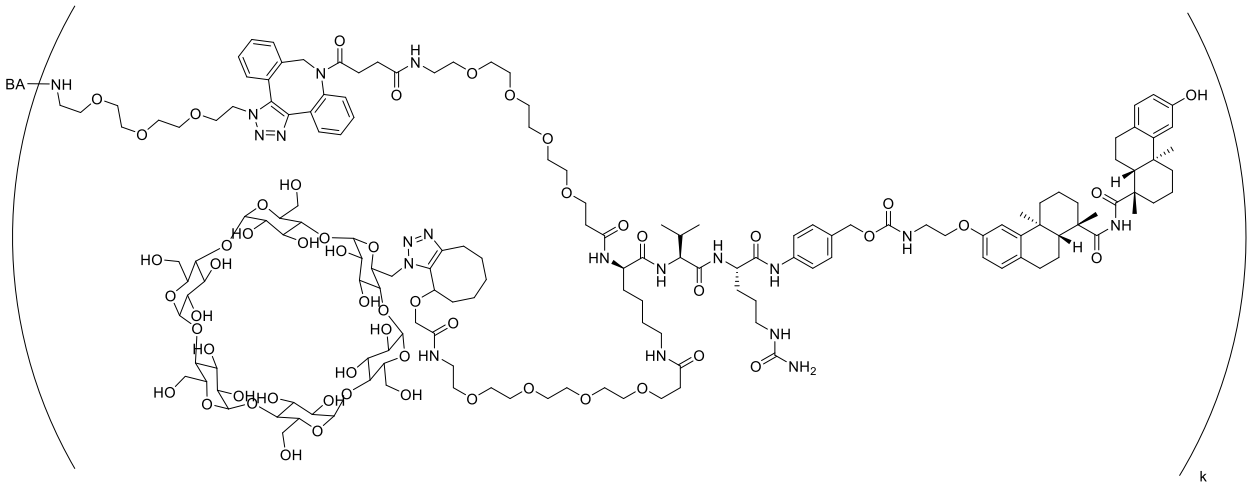


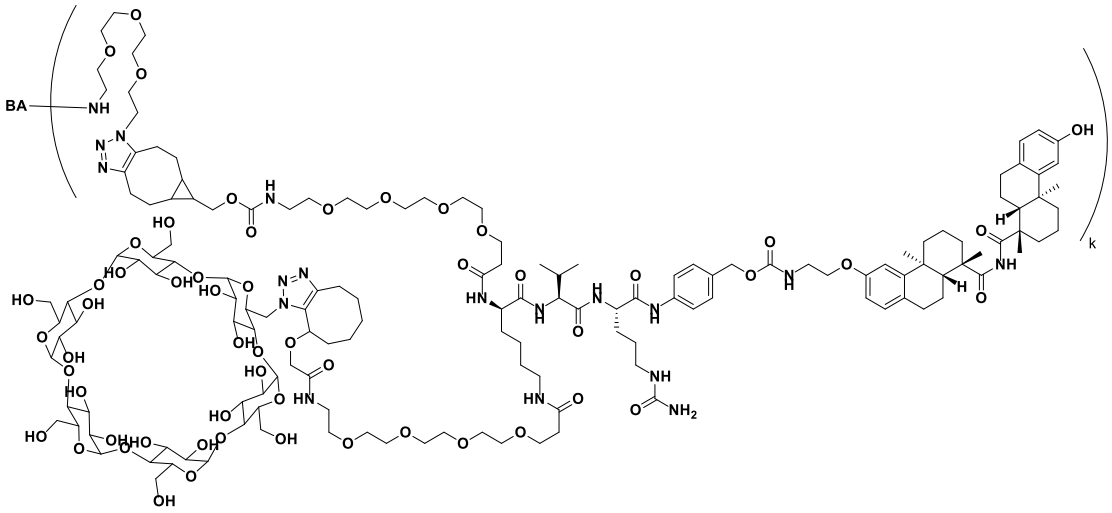

BA
k


BA
k

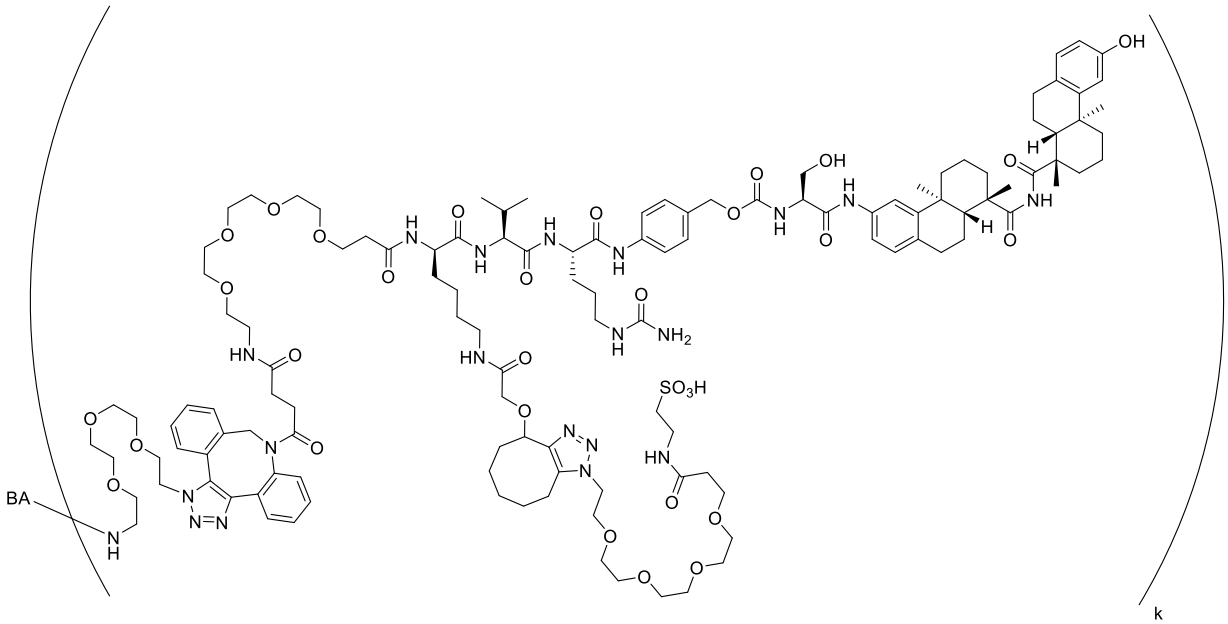
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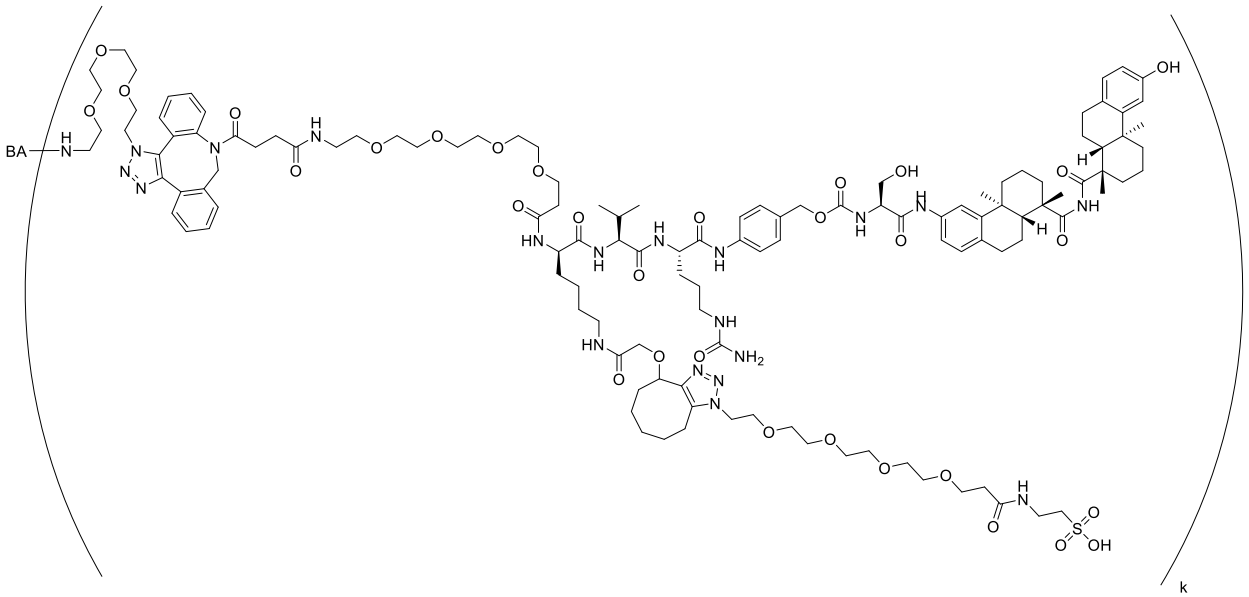
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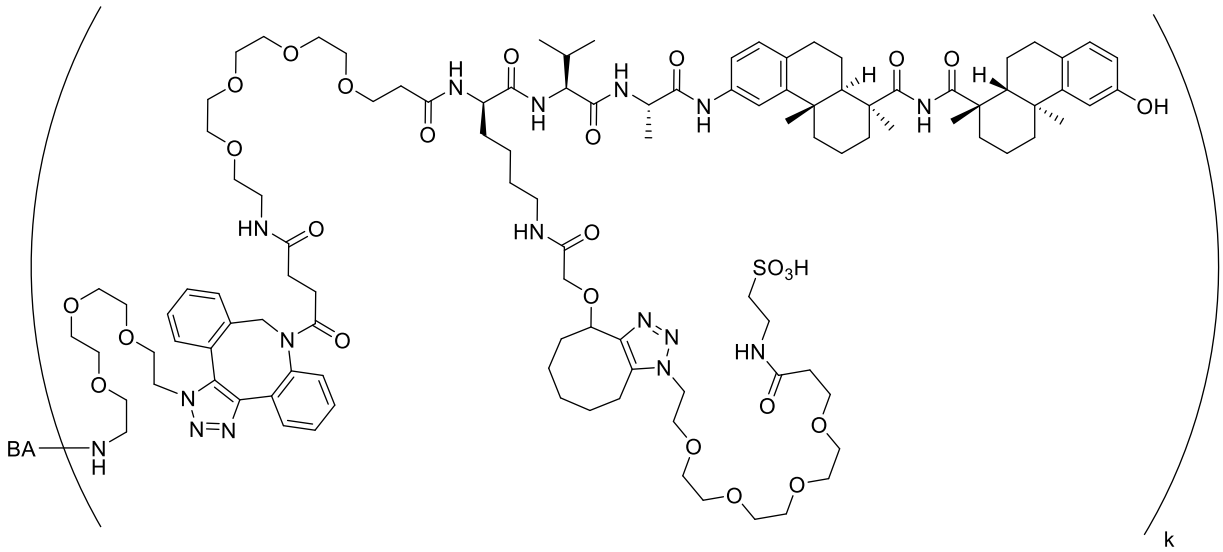


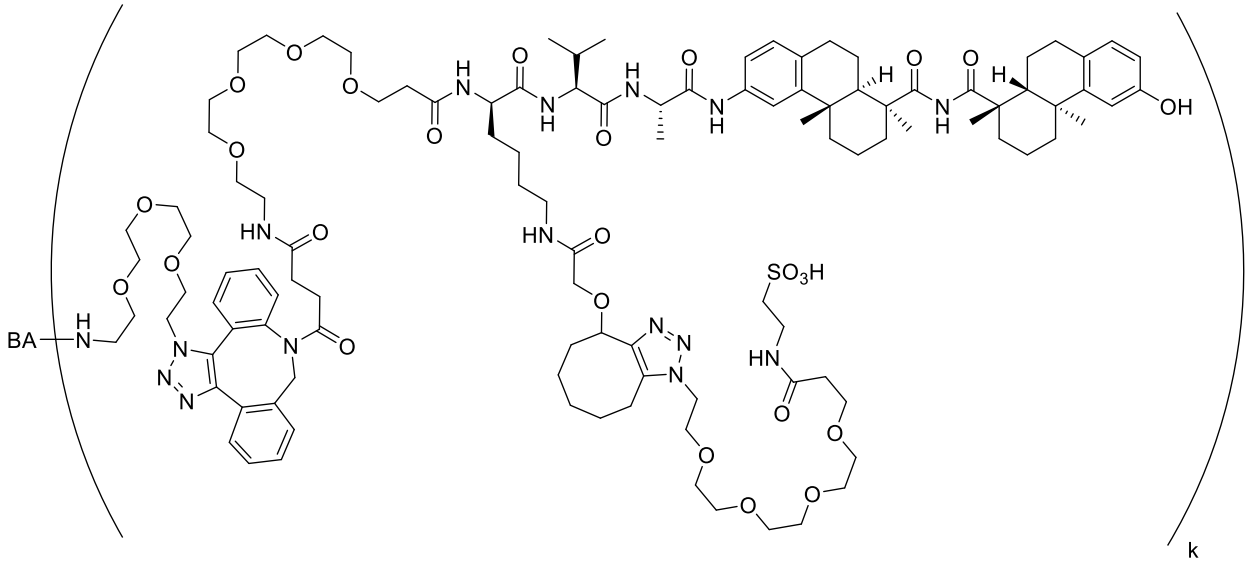
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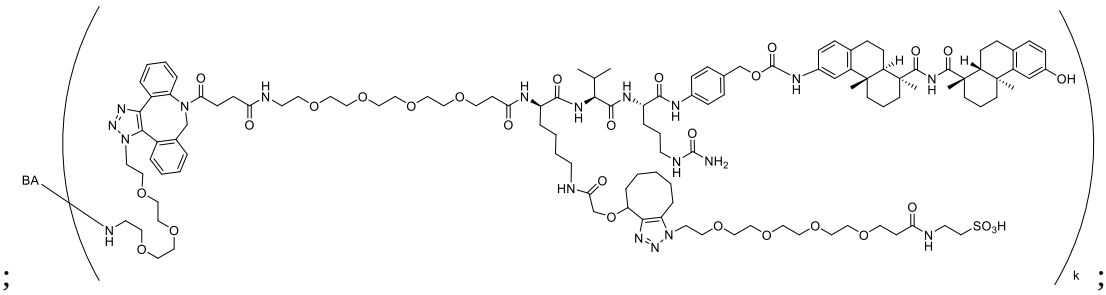



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NH2
SO3H
k

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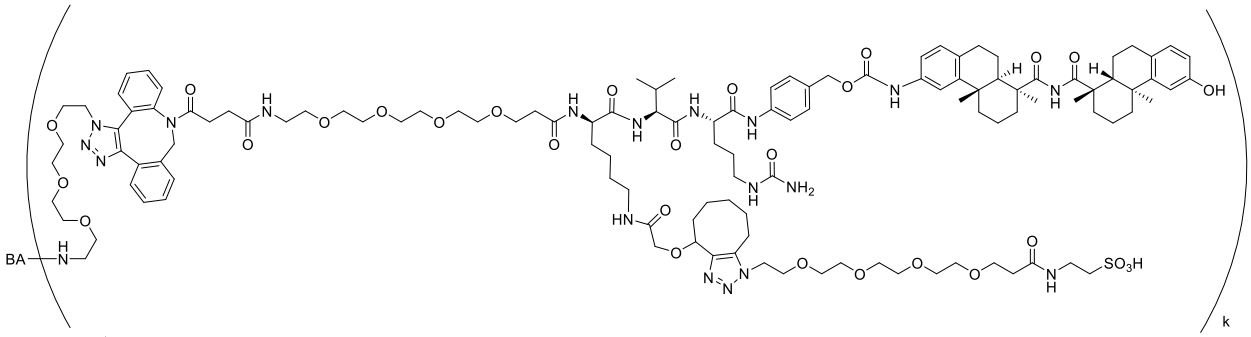

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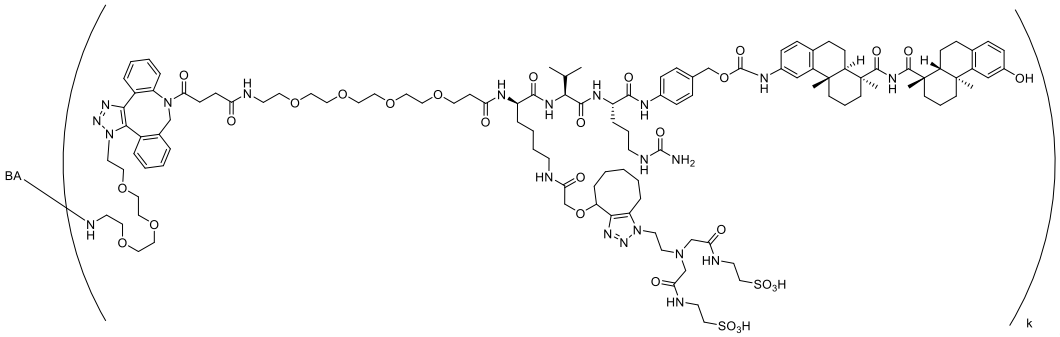

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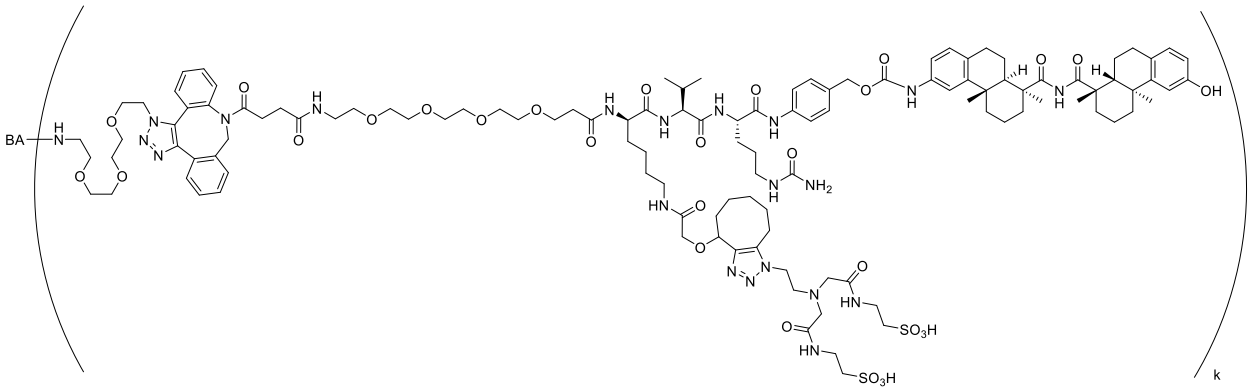
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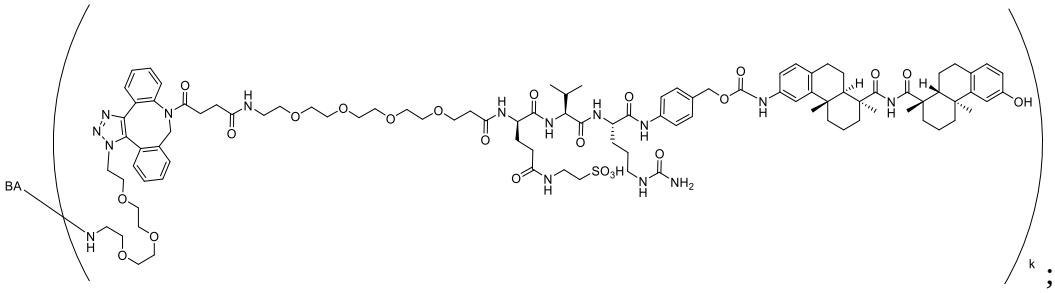
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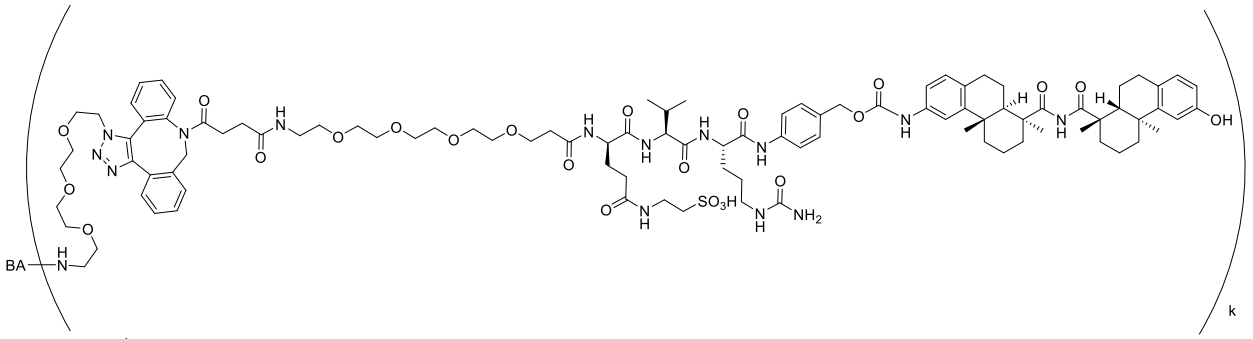

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SO3H
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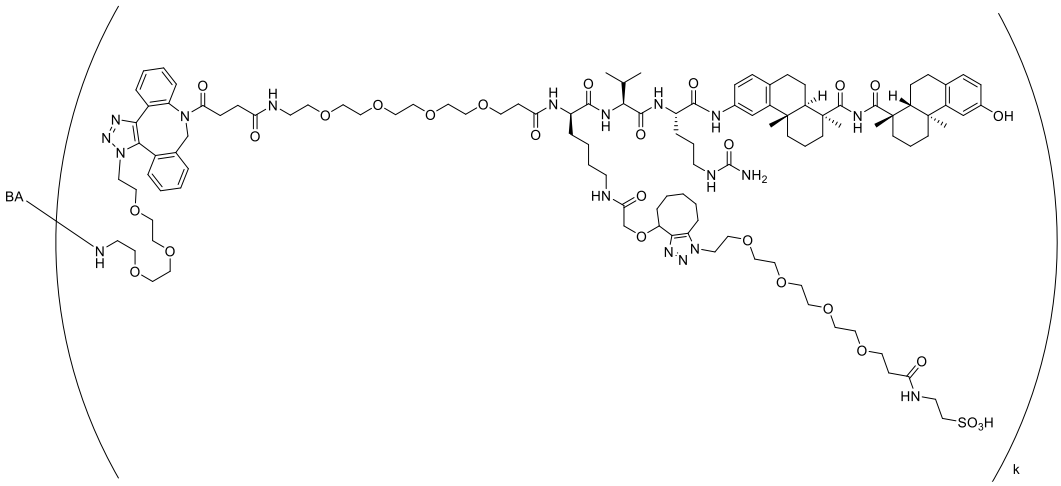
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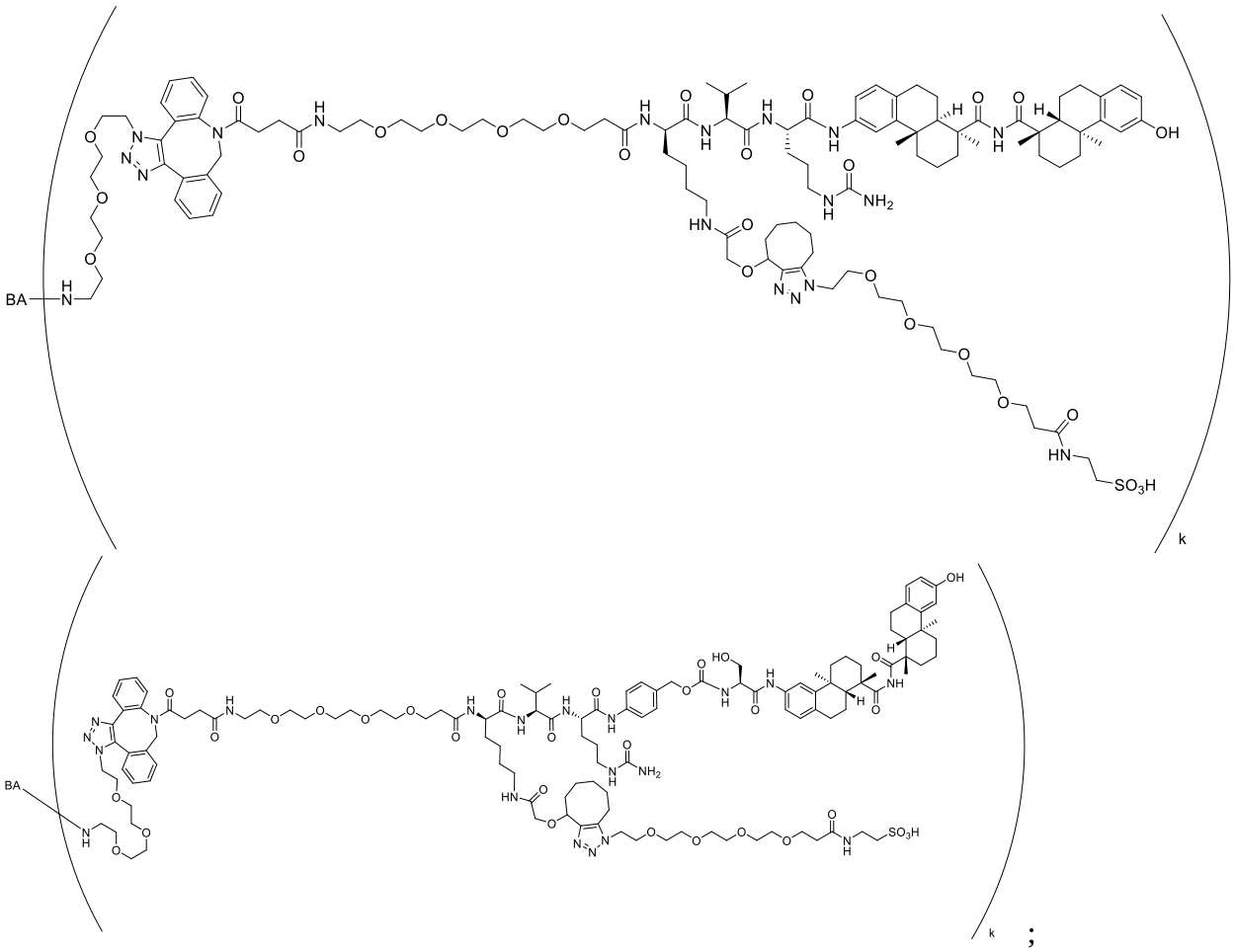


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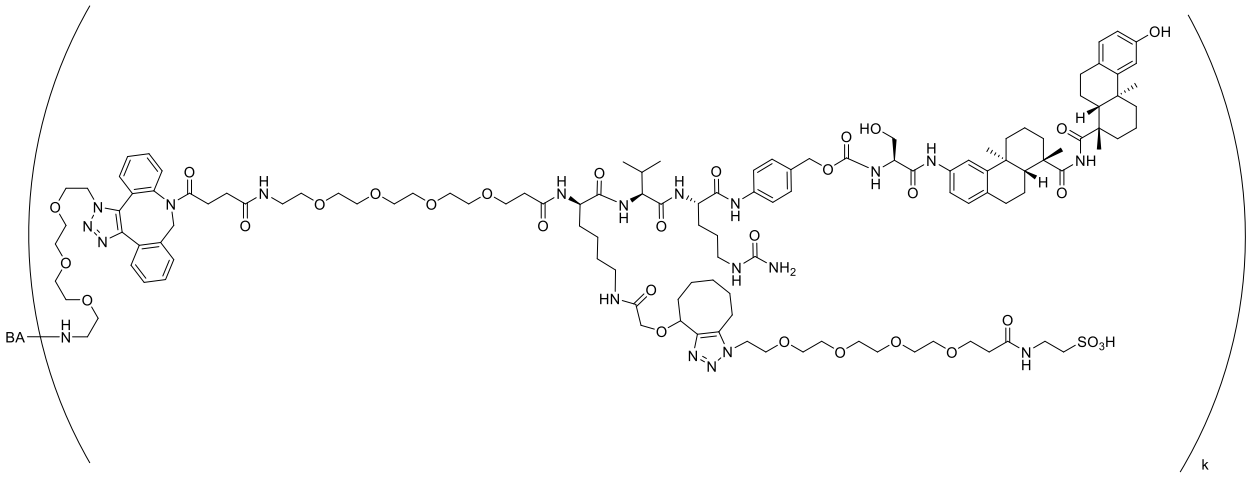


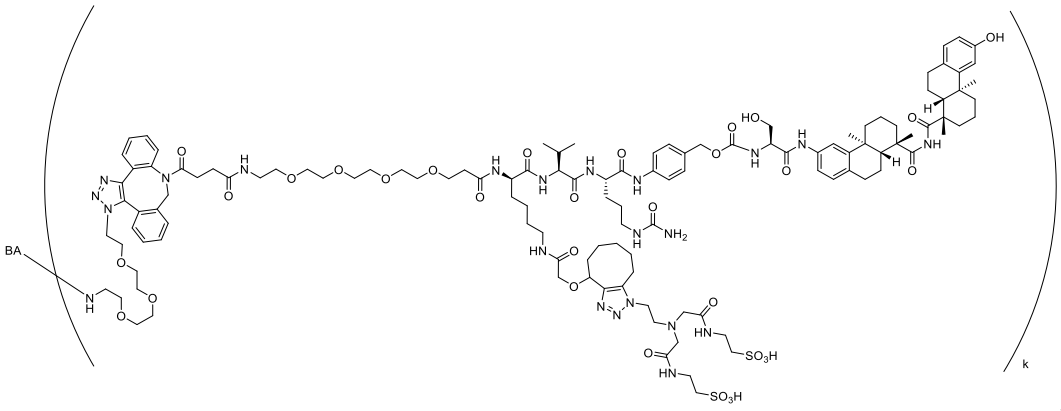


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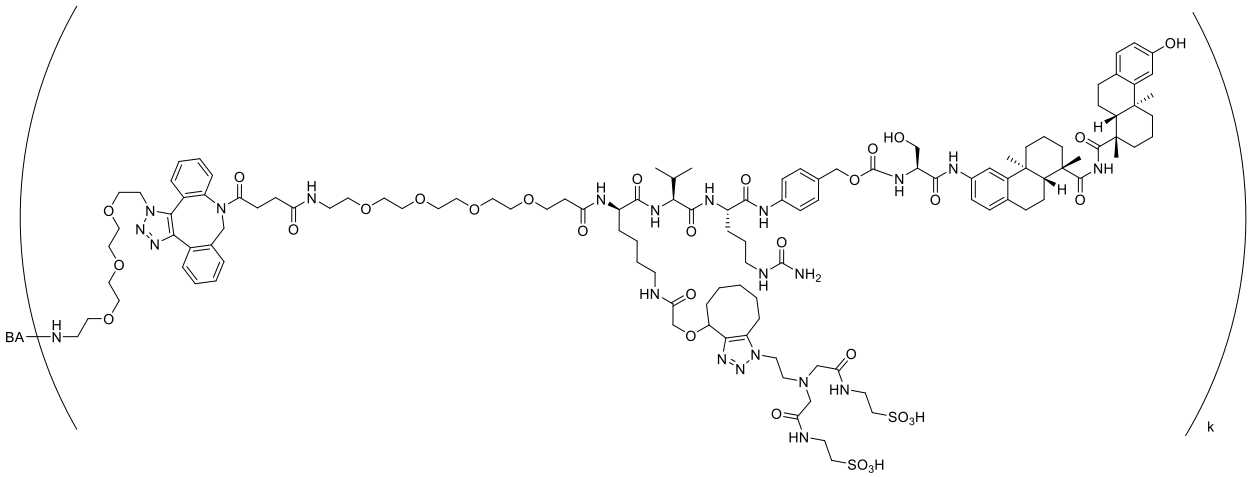

BA
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OH
HO
NH2
SO3H

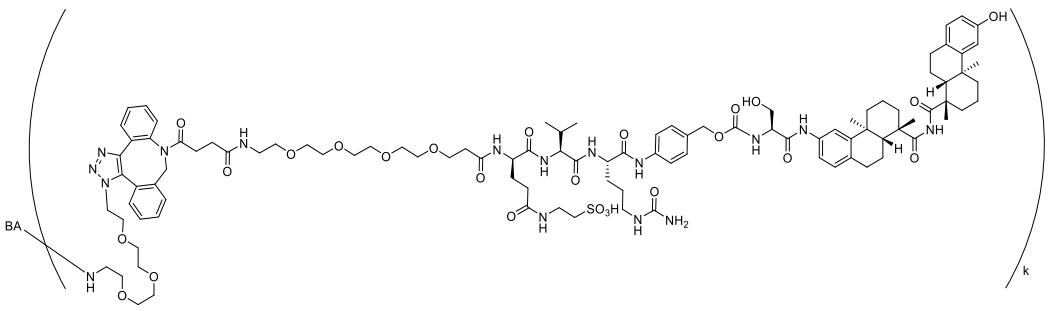
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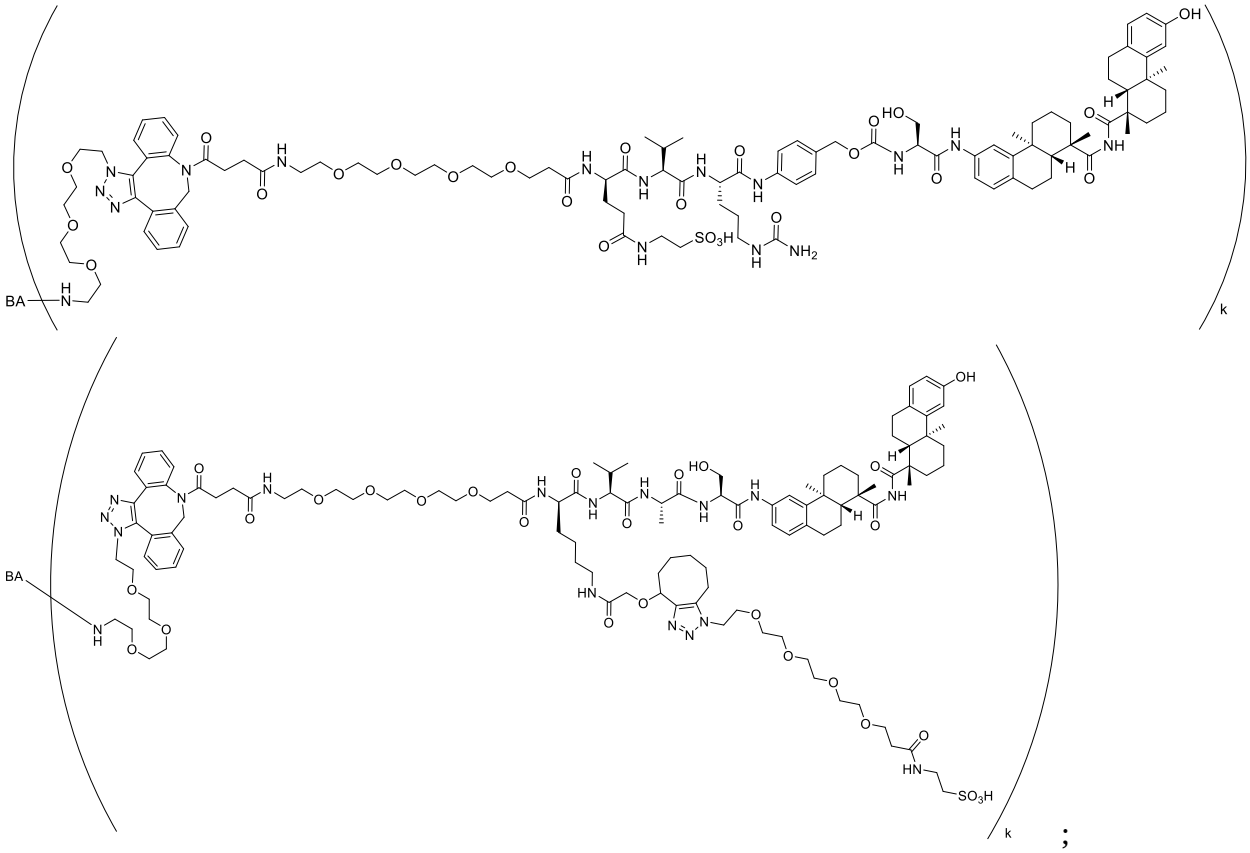


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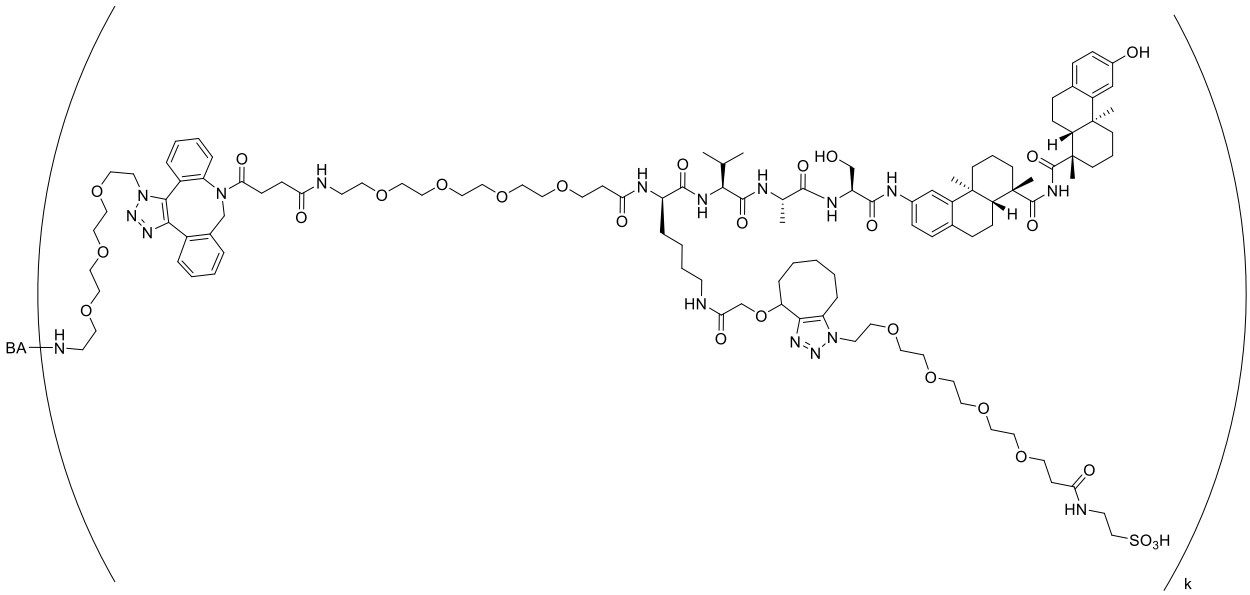


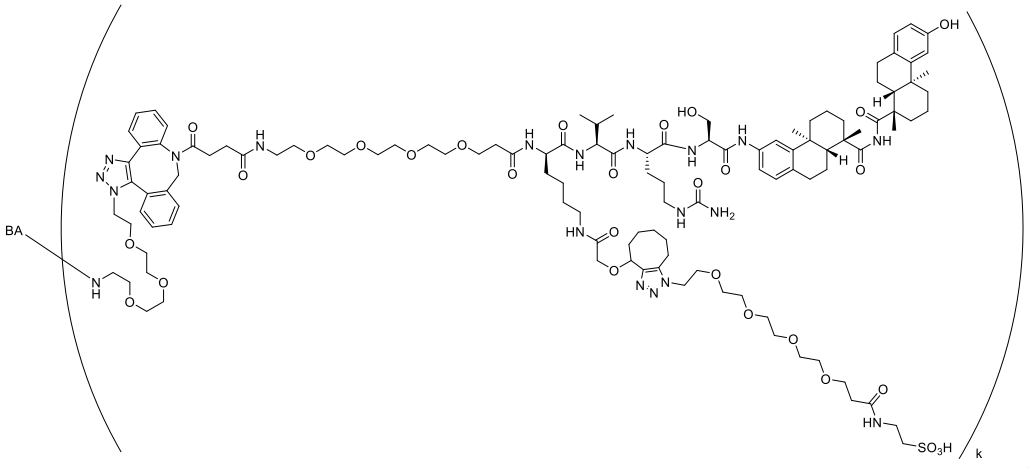


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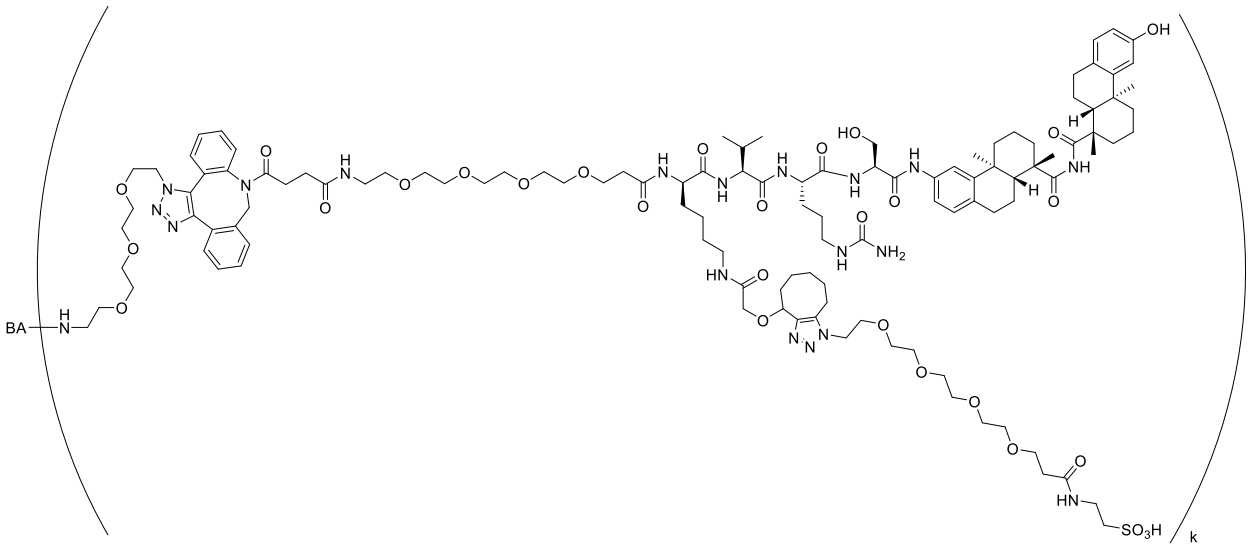

BA
k
OH
HO
SO3H
NH2
BA
k
OH
HO
SO3H

;





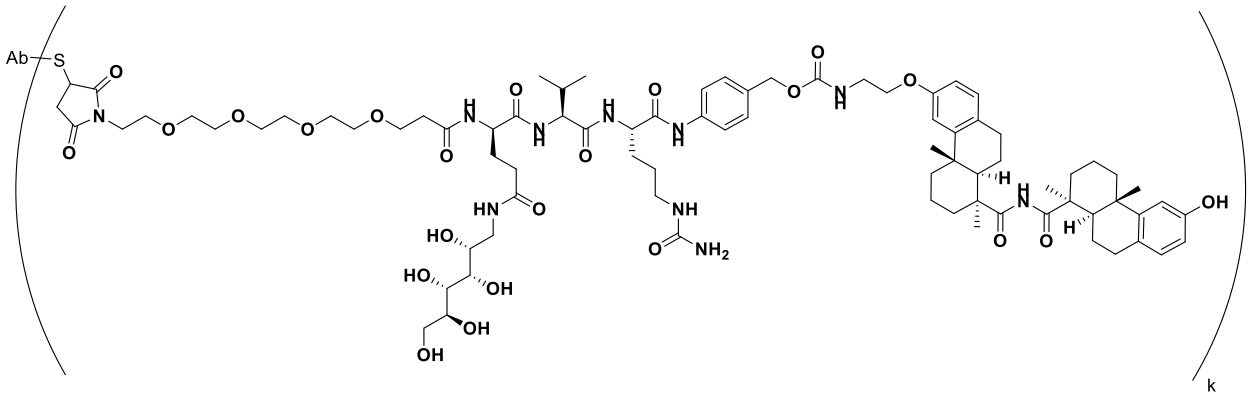
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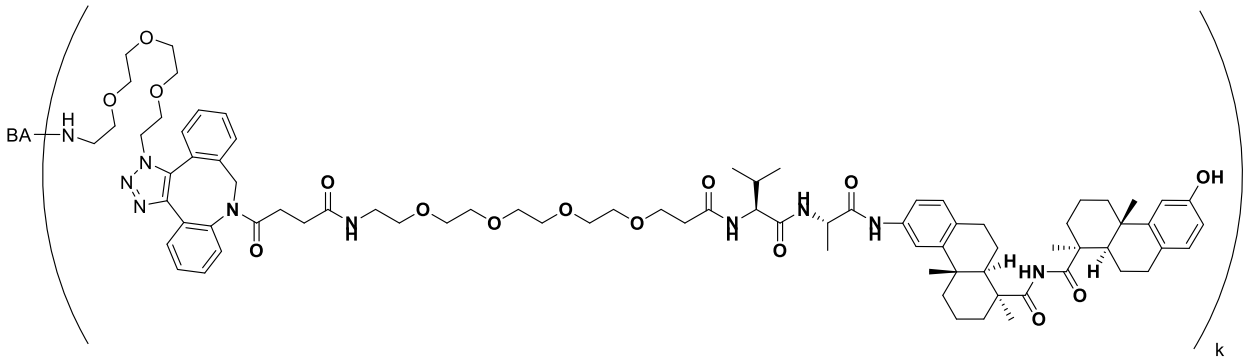
or

a stereoisomeric form or pharmaceutically acceptable salt thereof, wherein **k** is an integer from one to four.

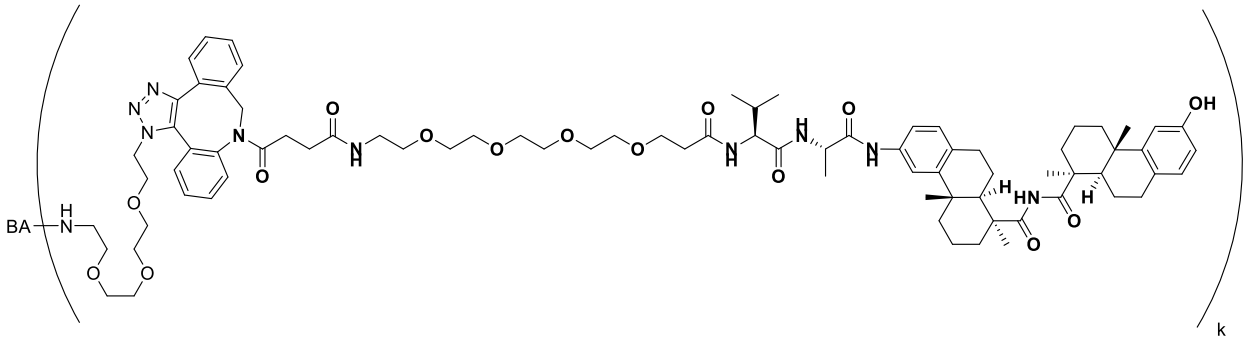
38. The compound of claim 28, selected from the group consisting of



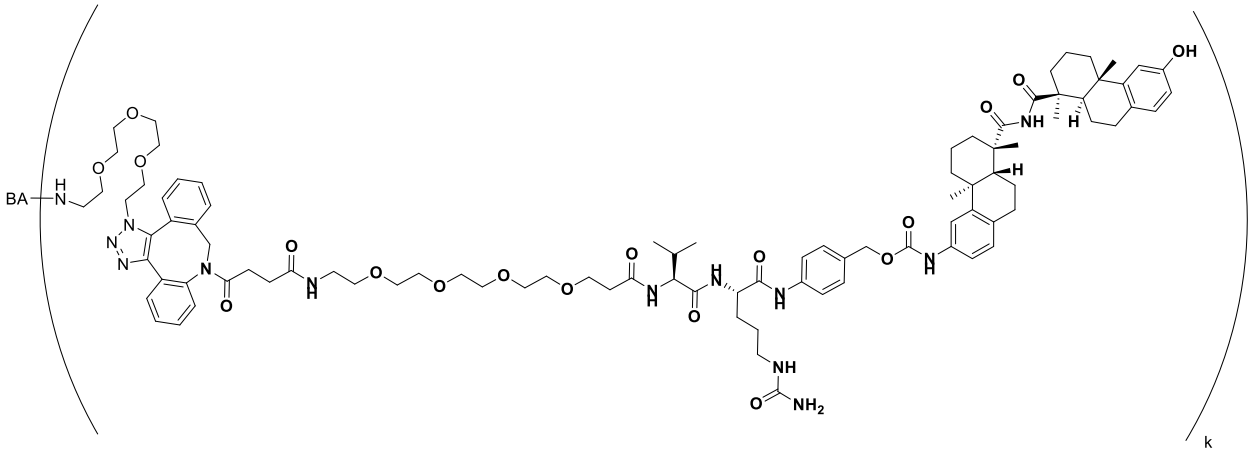
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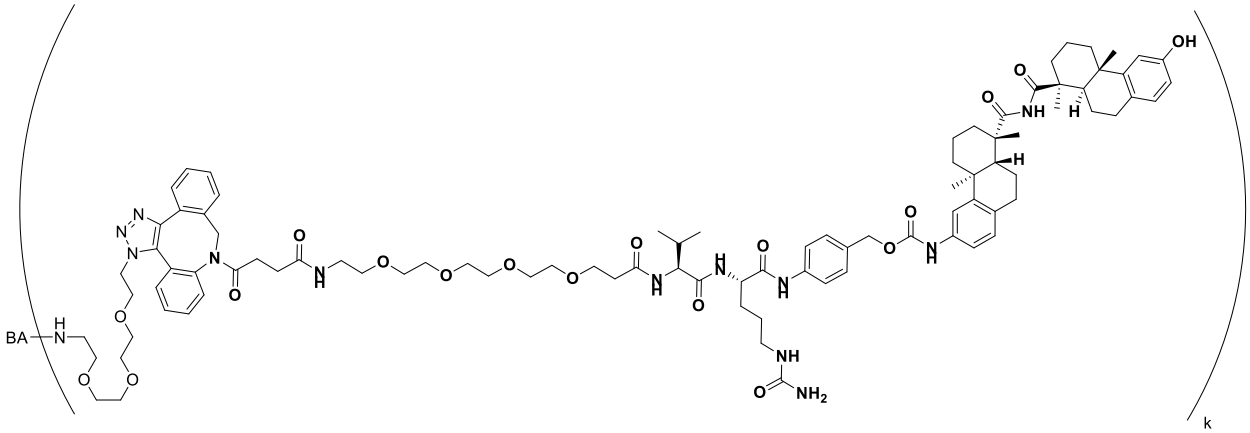
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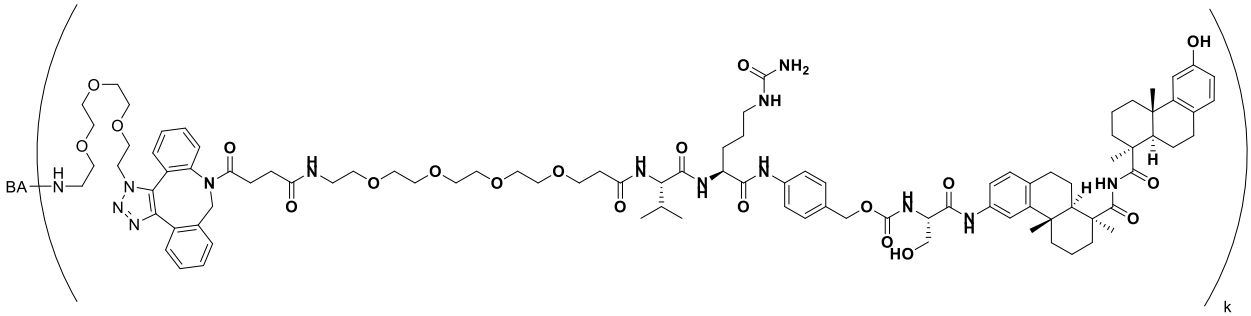
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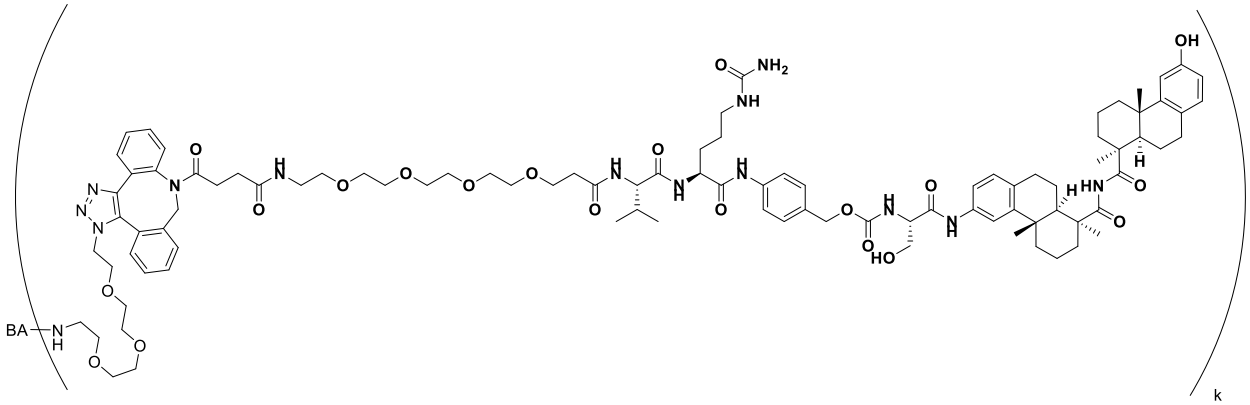
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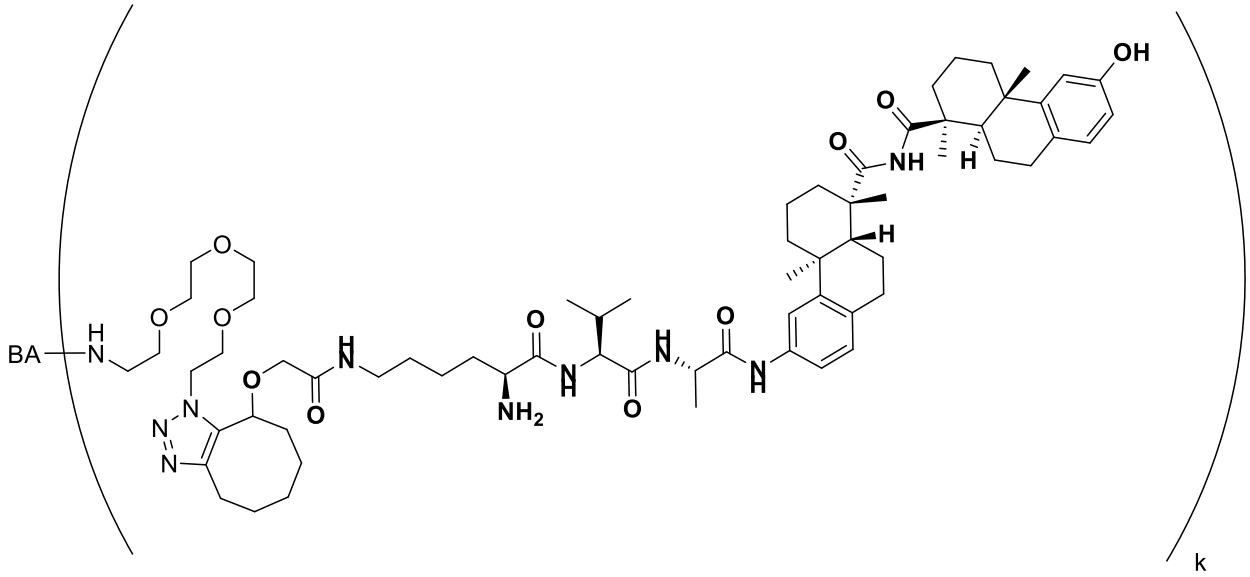
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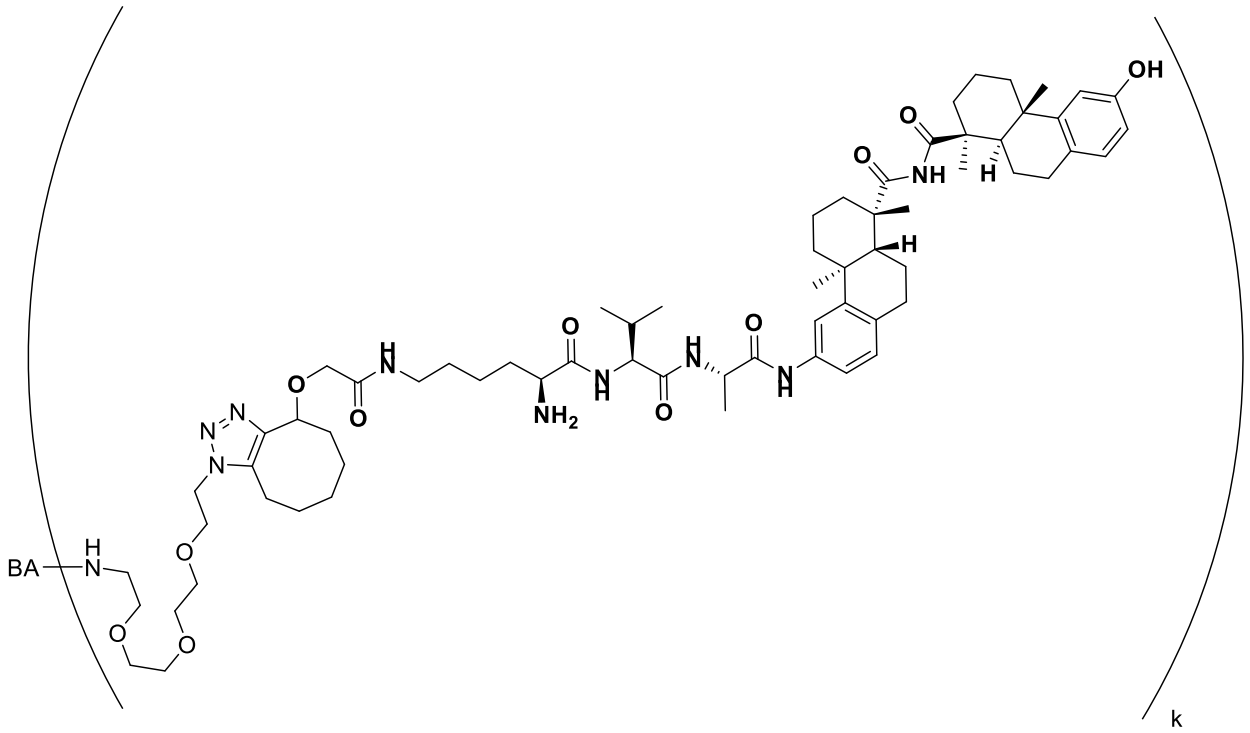
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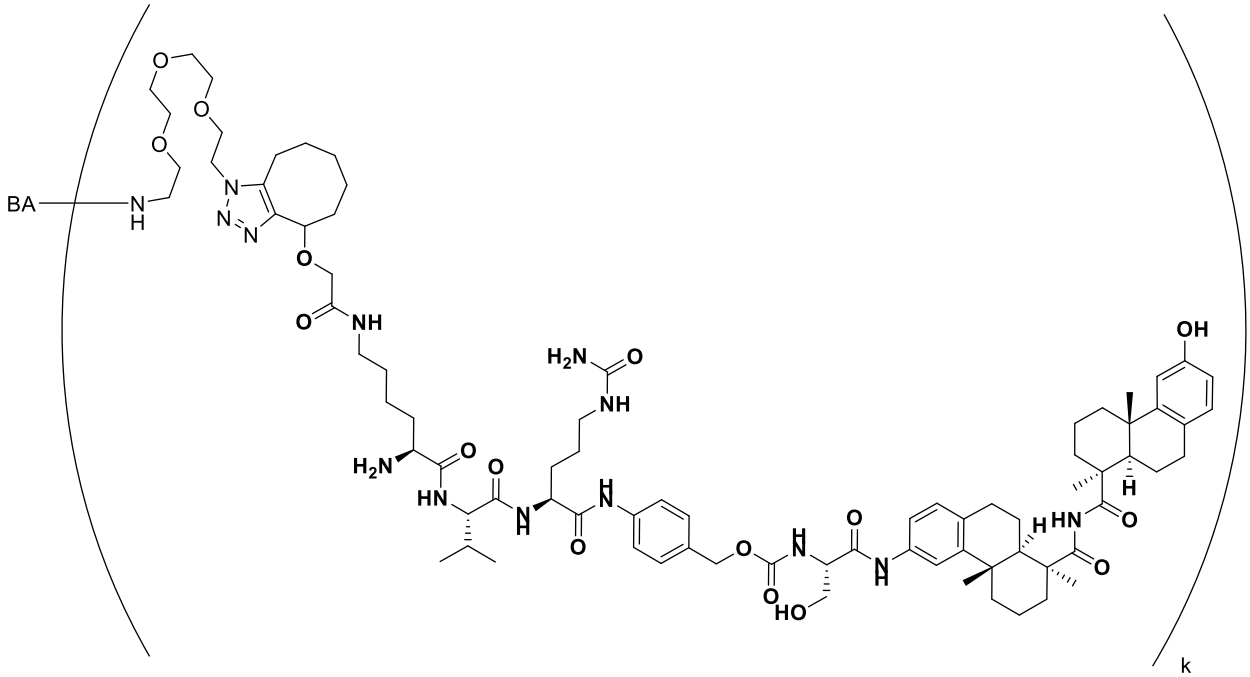
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NH
NH2
k

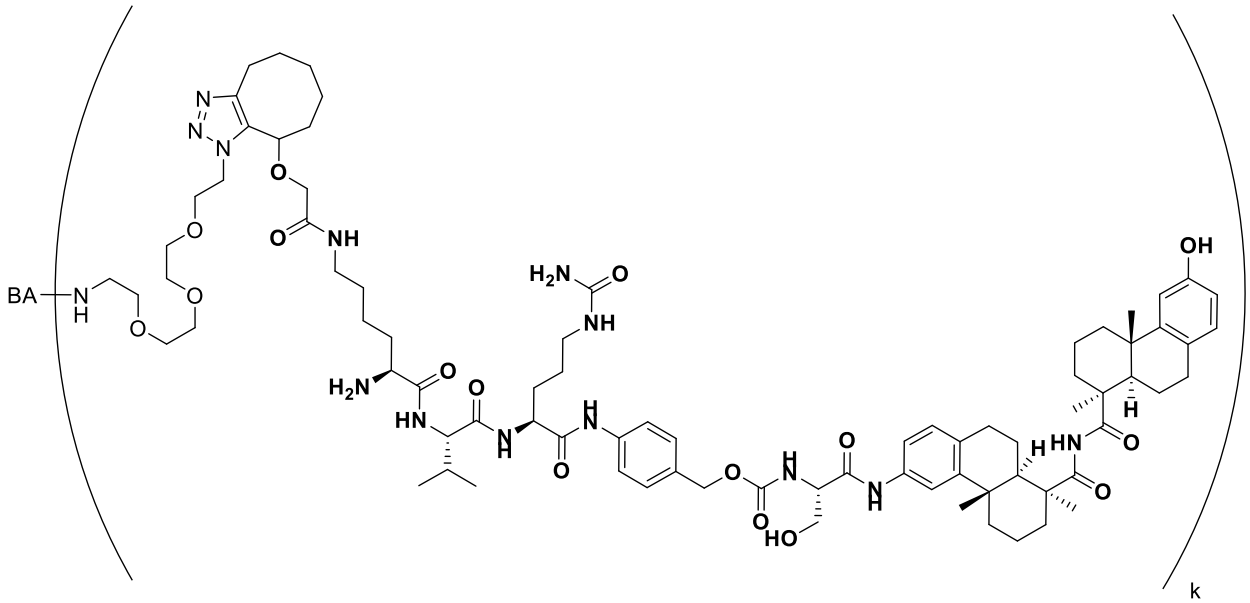
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NH
NH2
k

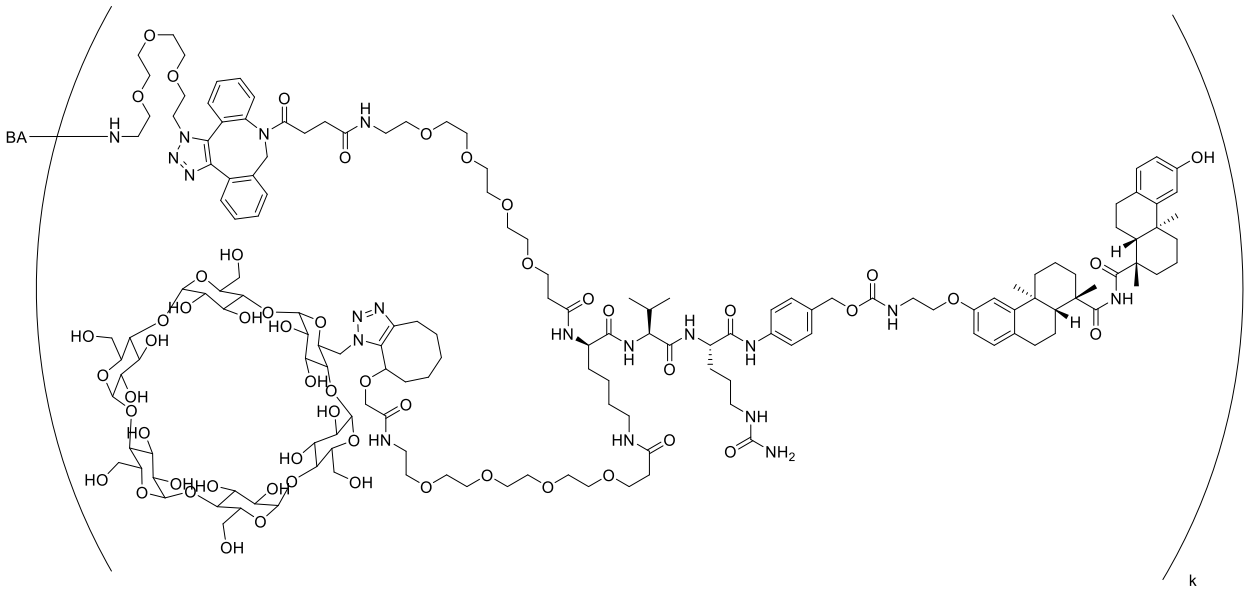
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BA
N
H
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O
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N
N
N
O
O
NH
H2N
O
NH
H2N
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HN
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N
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HO
H
HN
O
H
OH
k

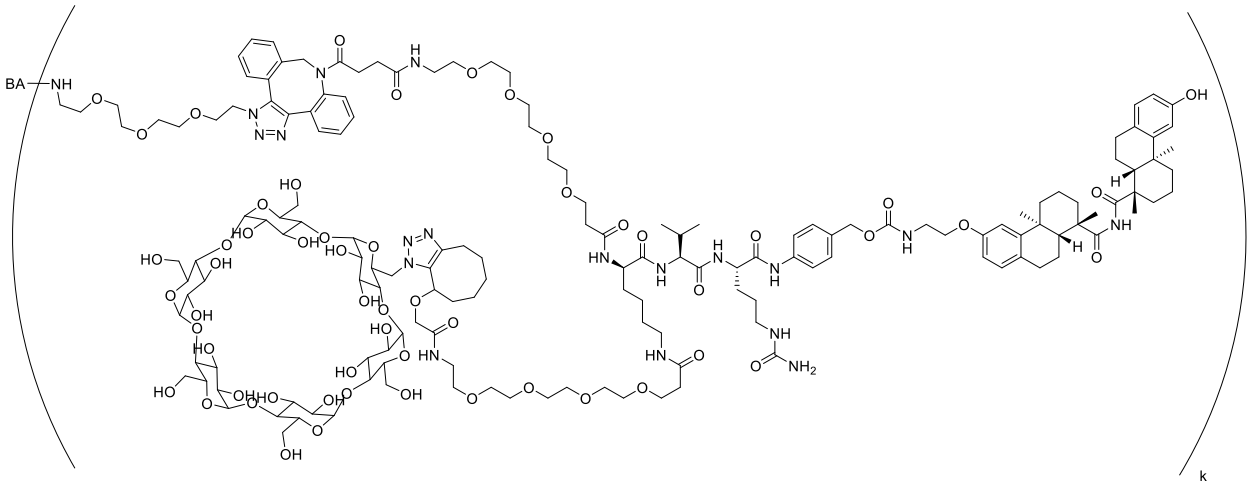
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BA
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N
N
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NH
H2N
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H
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k

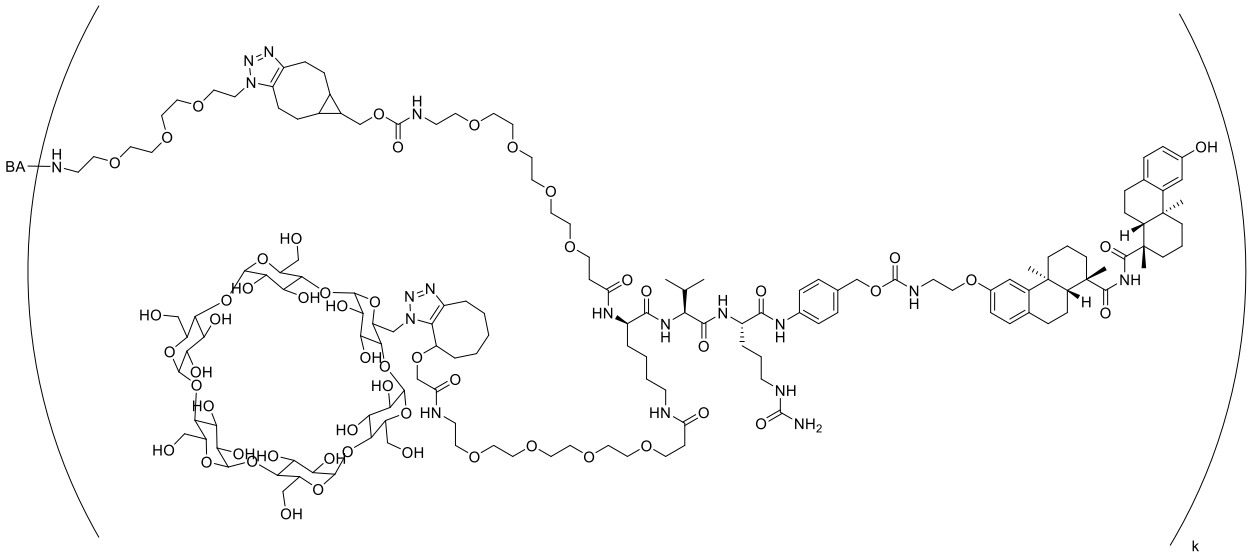
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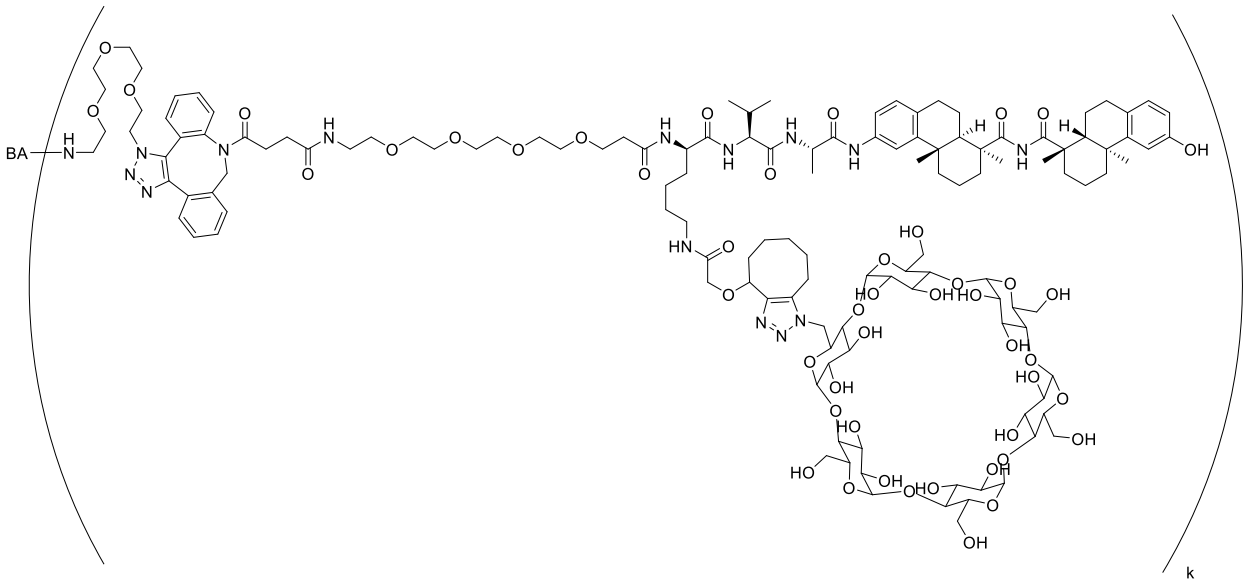
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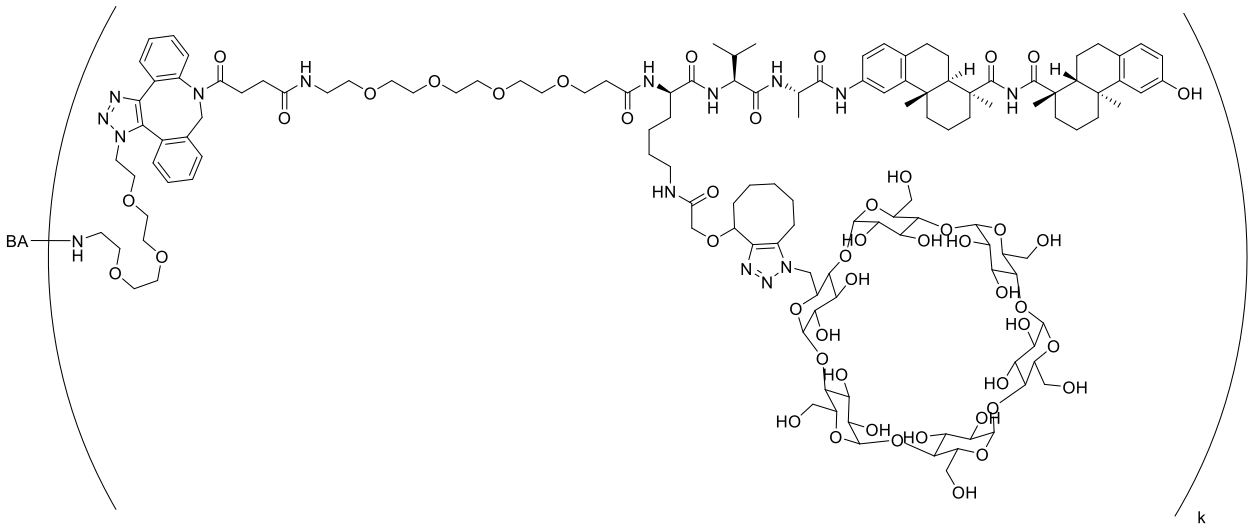
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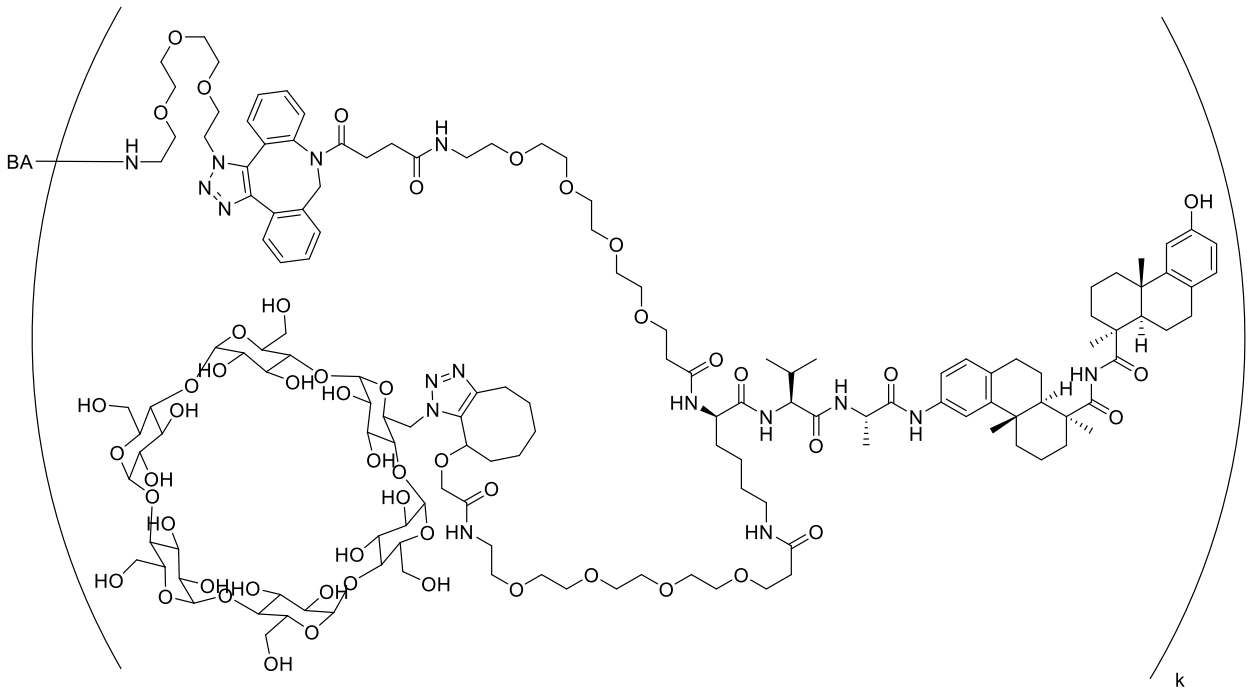
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BA
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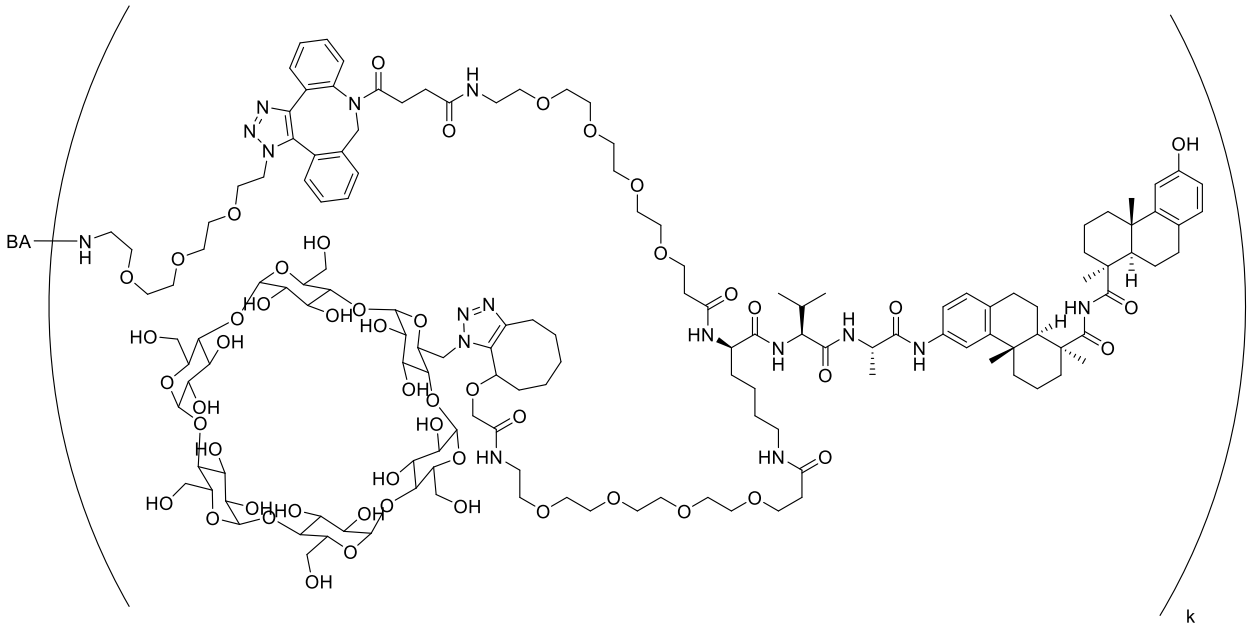
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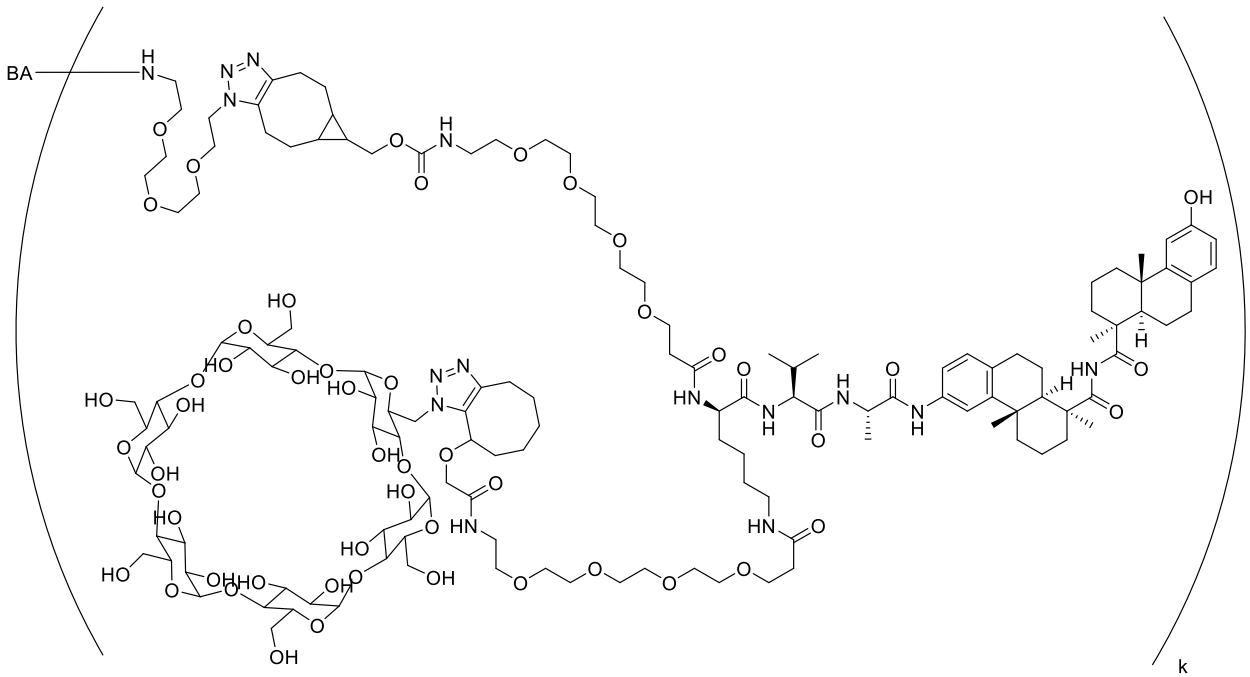
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BA
k

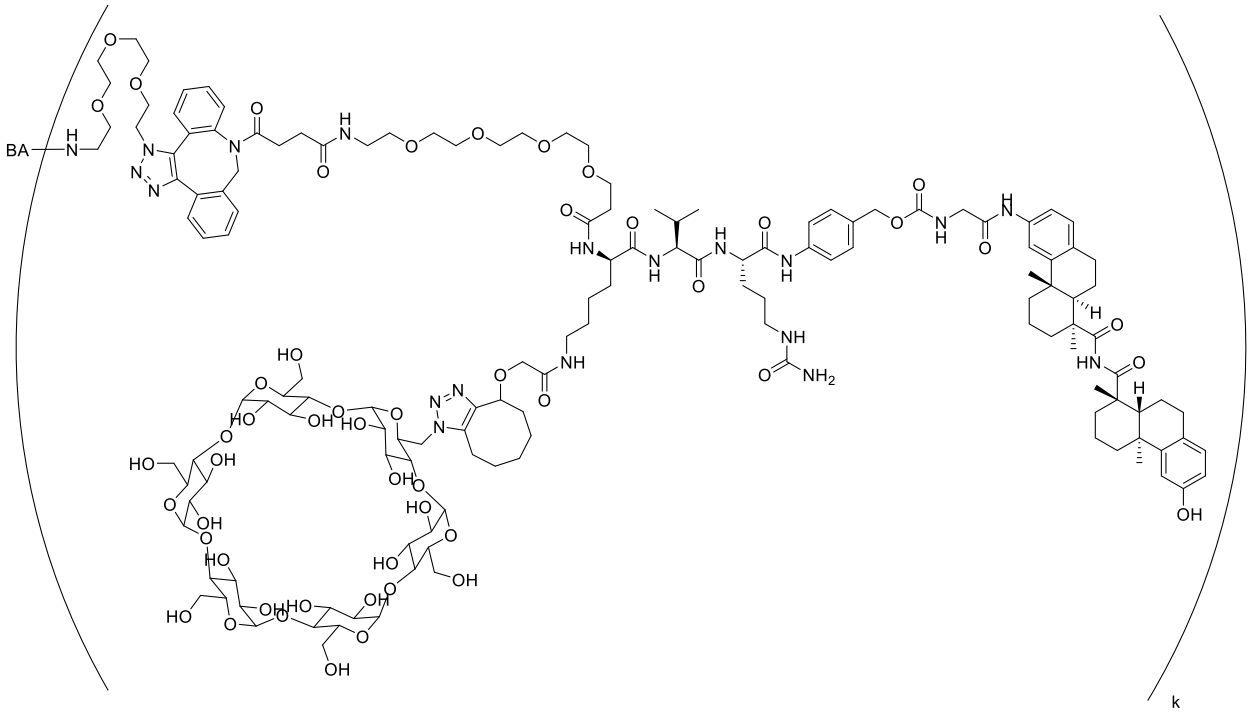
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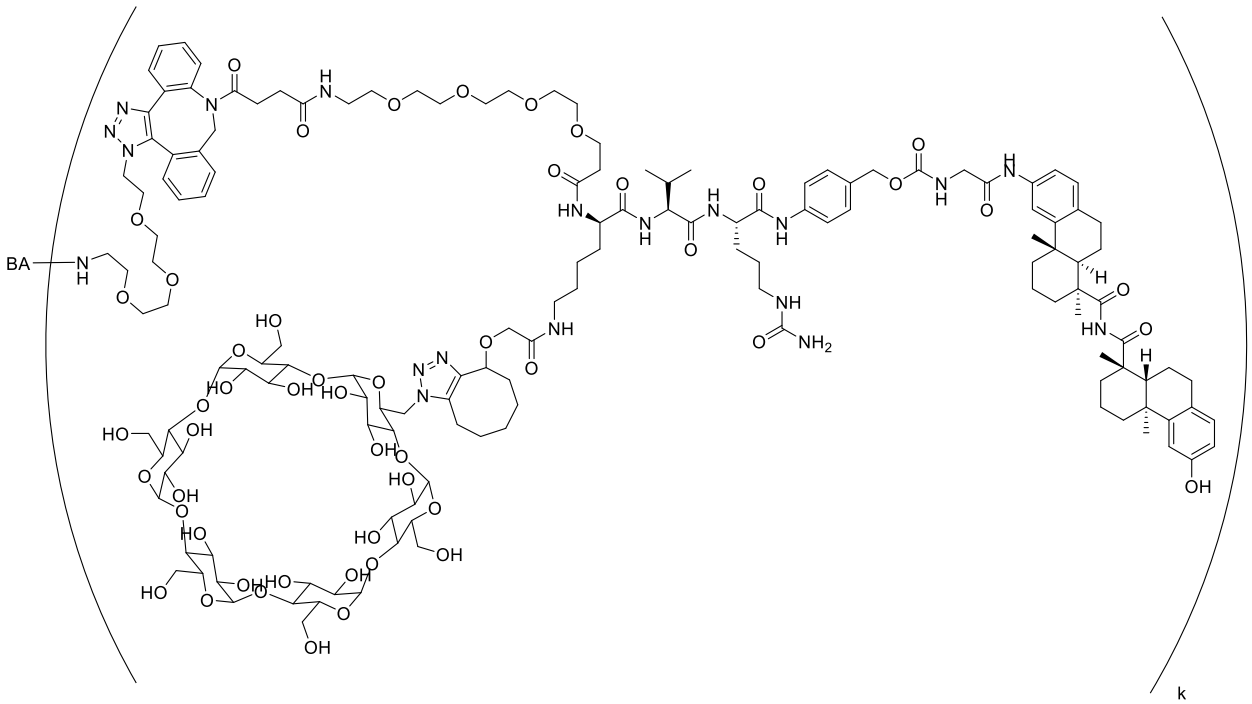
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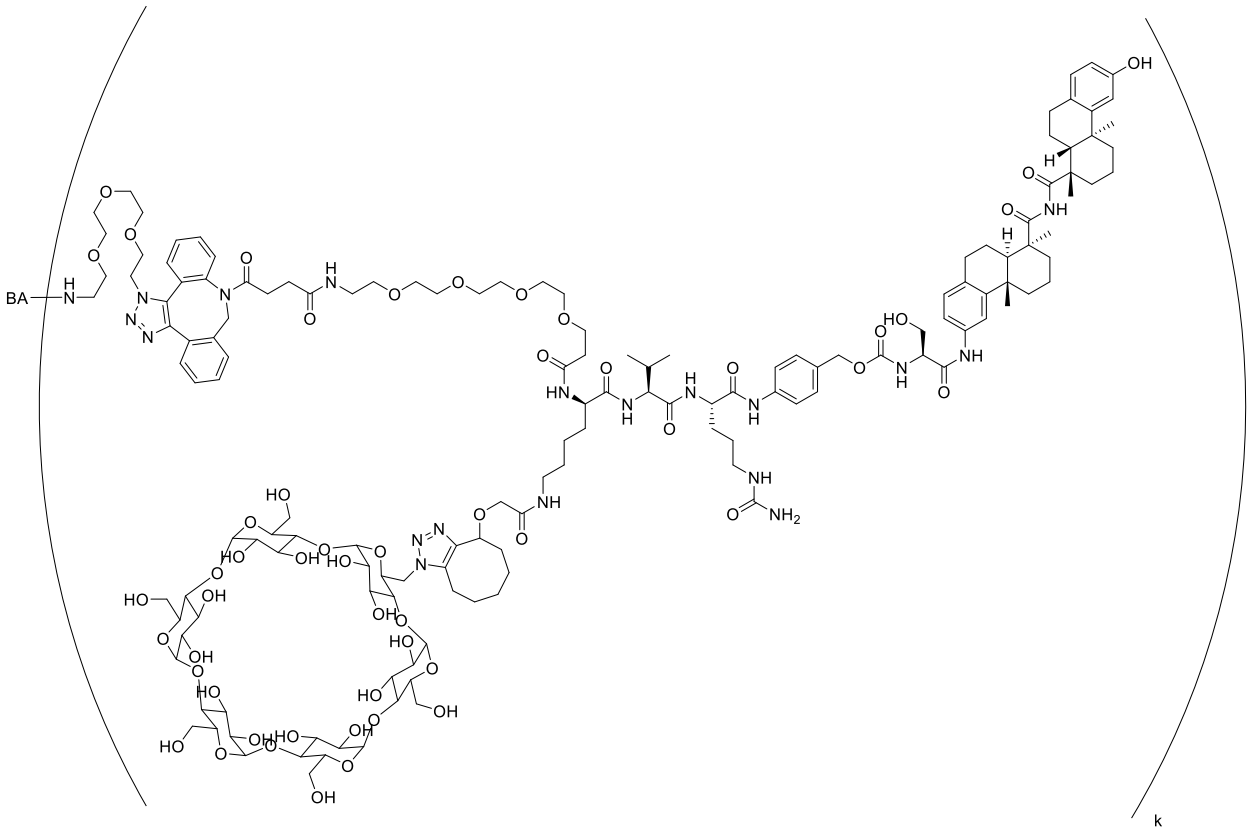
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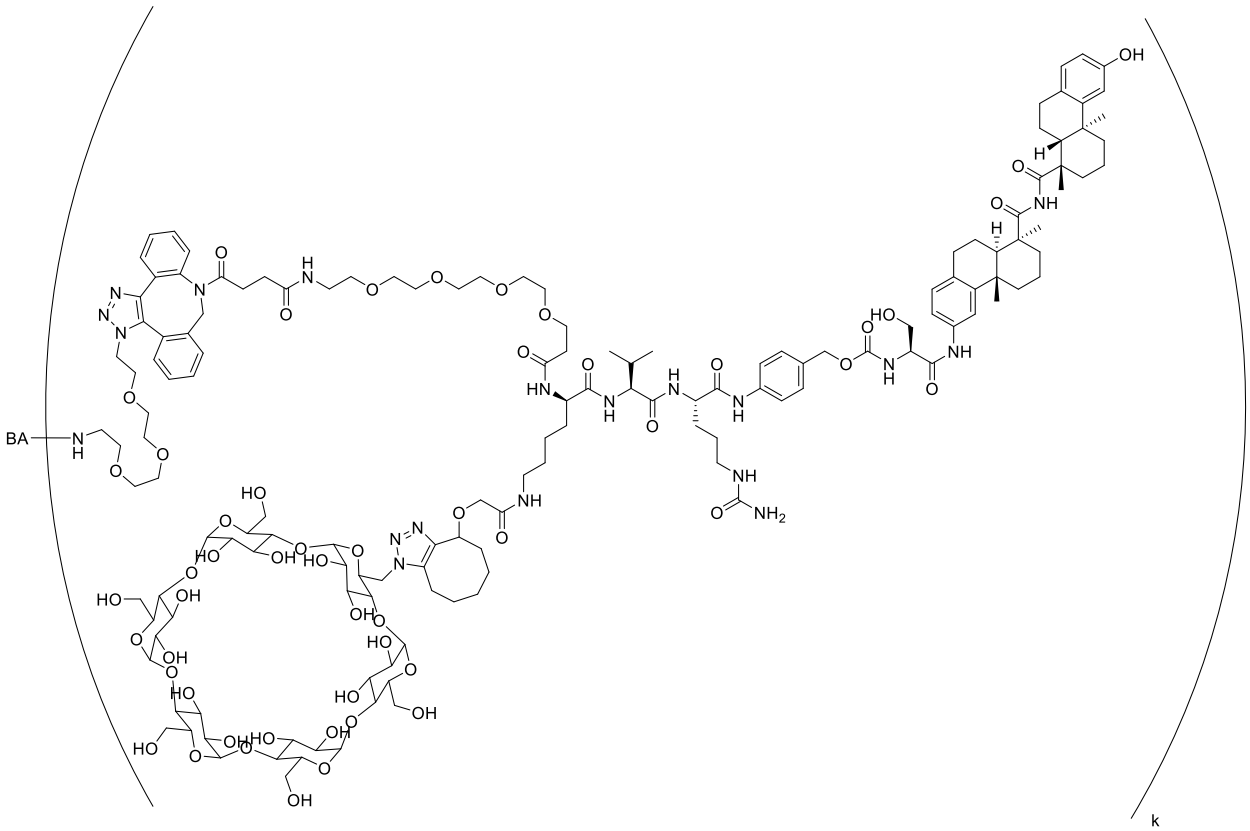
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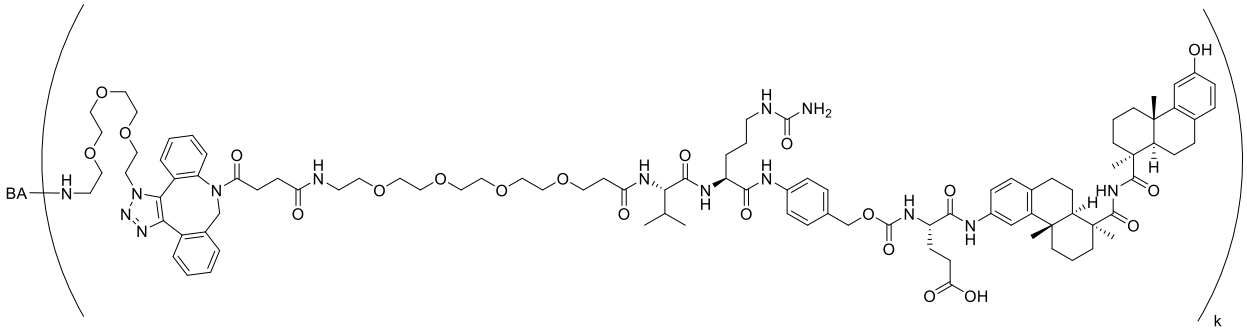
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BA
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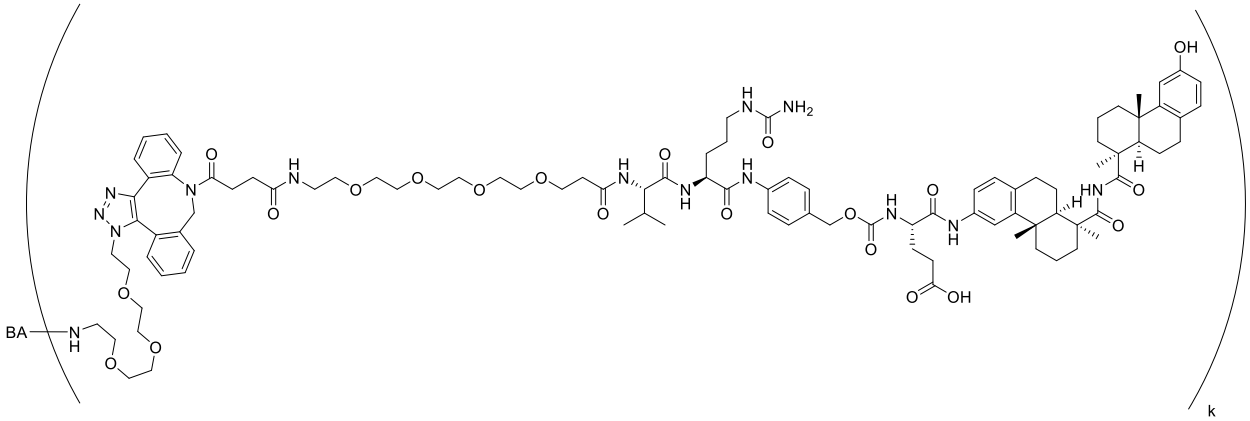
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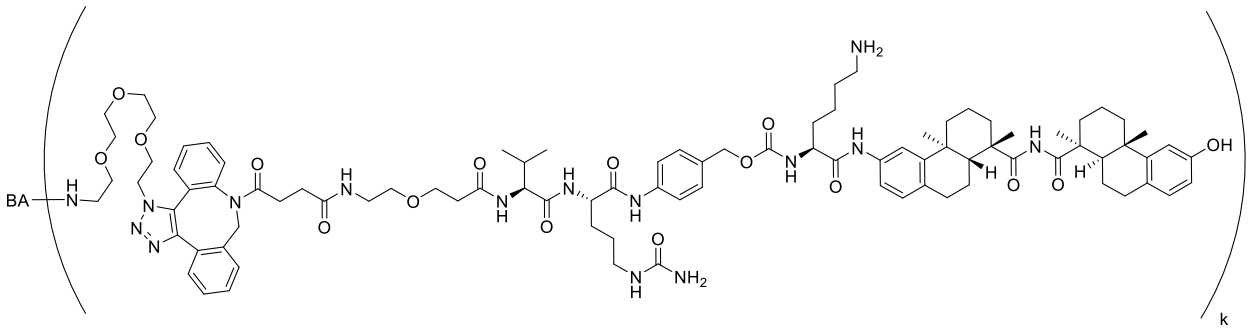
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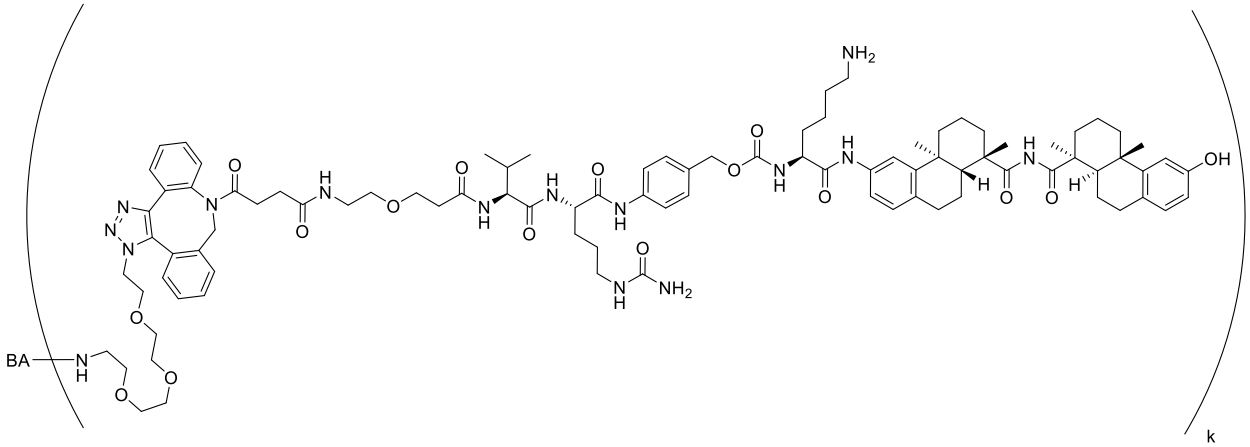
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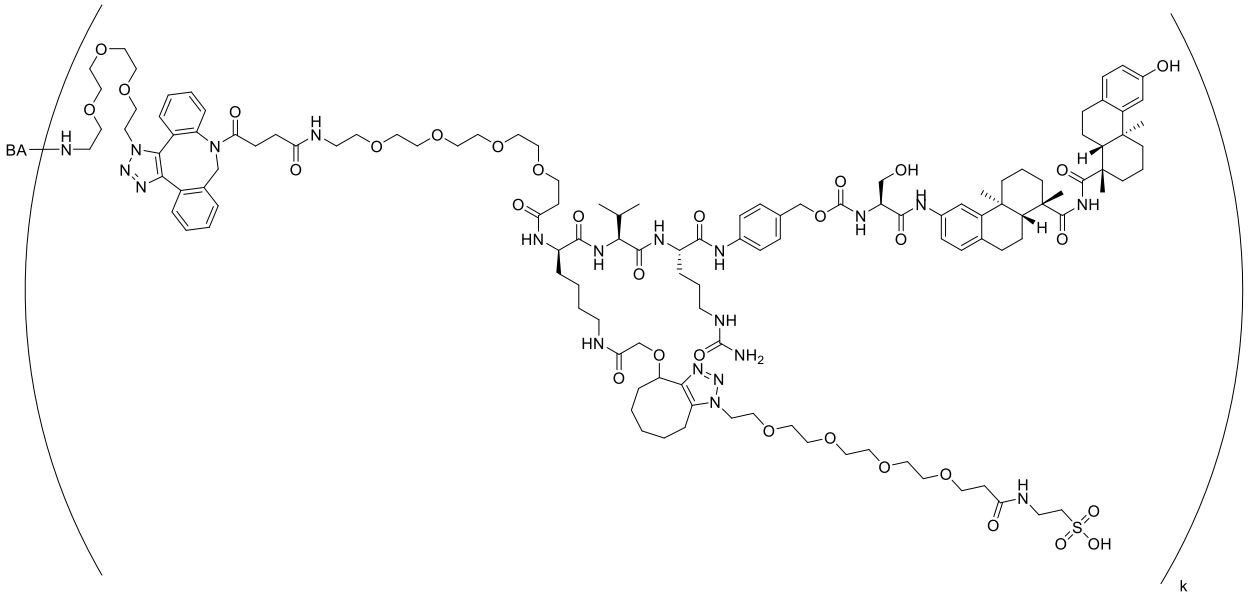
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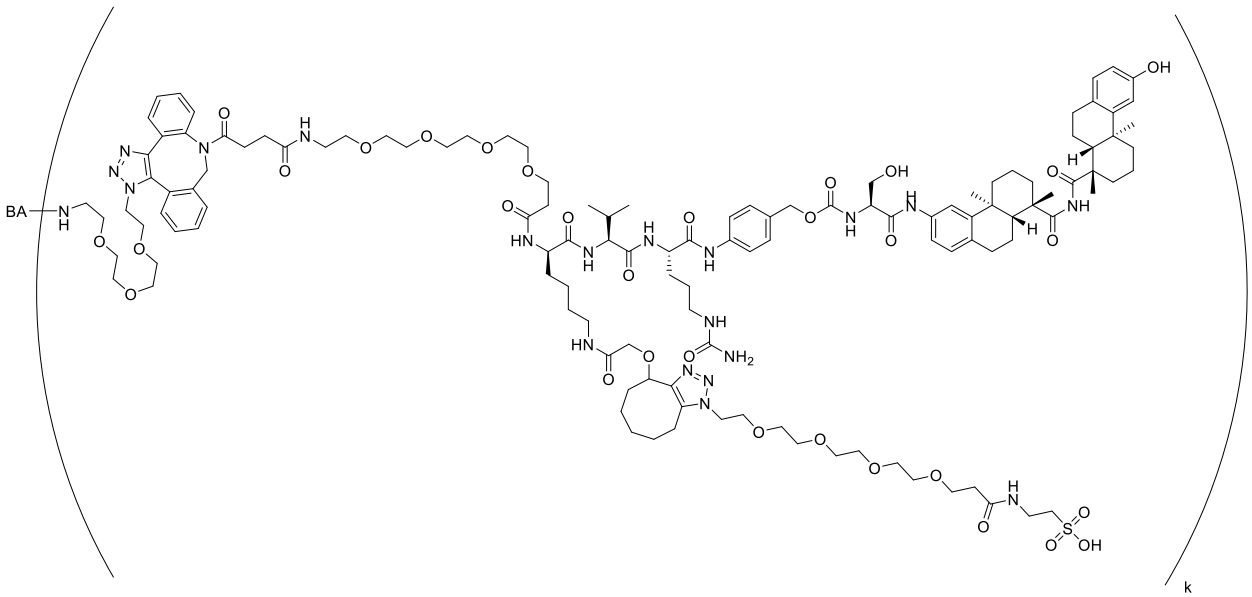
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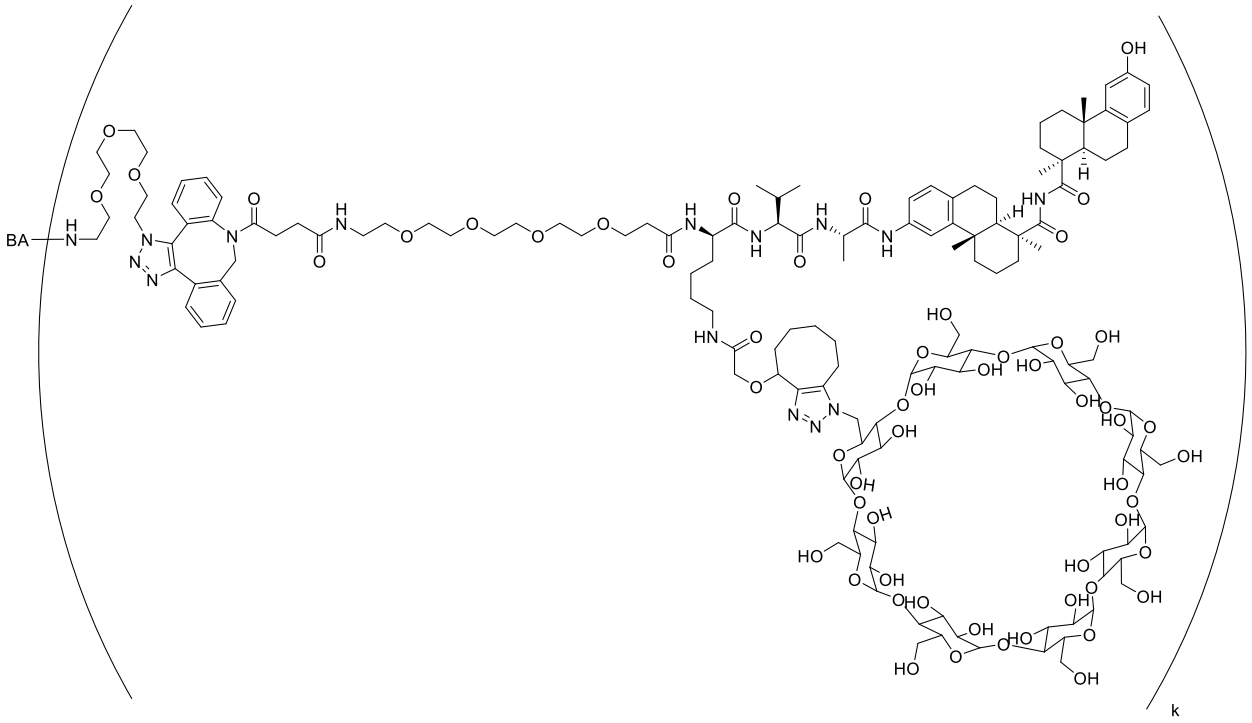
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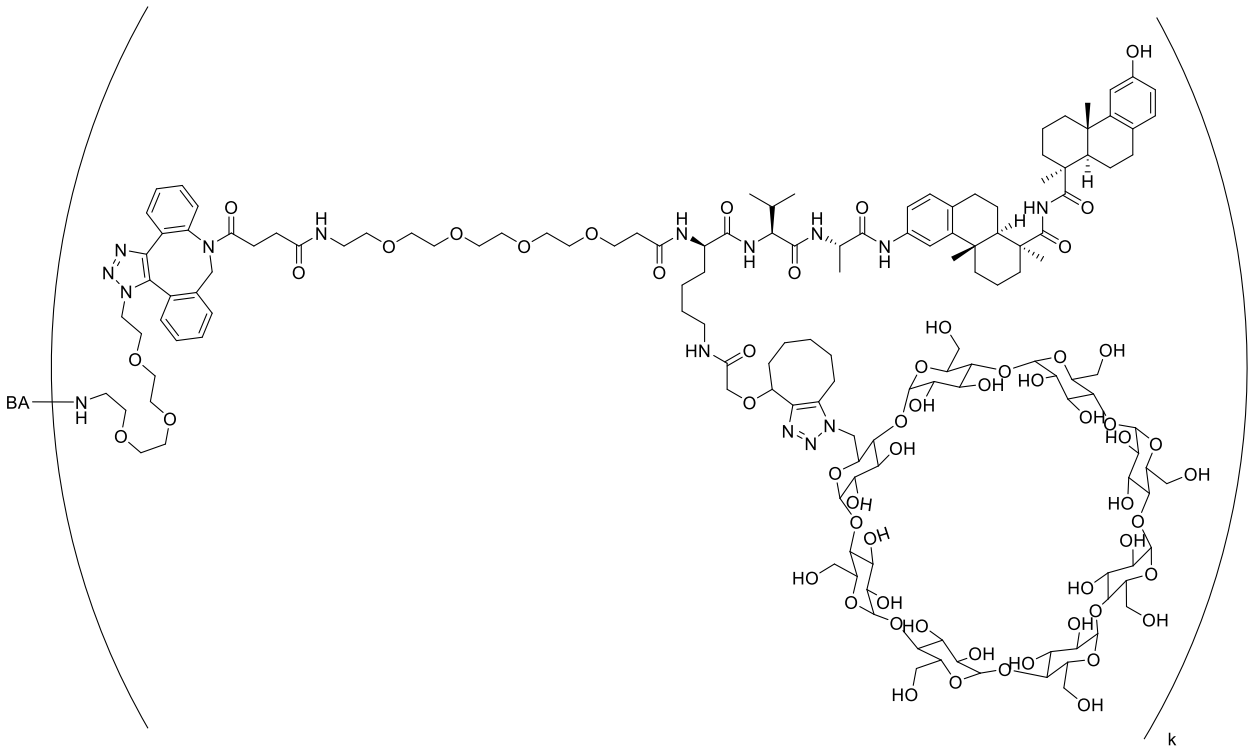
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;



;




;

or a stereoisomeric form or pharmaceutically acceptable salt thereof, wherein **k** is an integer from one to four; and

**Ab** is a binding agent or antibody or antigen binding fragment thereof.

39. The compound of any one of claims 35-38, wherein **k** is two.

40. The compound of any one of claims 35-38, wherein **k** is four.

41. The compound of any one of claims 35-38, wherein **BA** or **Ab** is an antibody having binding specificity for an antigen selected from the group consisting of class A-J scavenger receptors.

42. The compound of any one of claims 35-38, wherein **BA** or **Ab** is an antibody having binding specificity for an antigen selected from the group consisting of MSR1, MARCO, SRCL, SCARA5, COLEC12, CD36, LIMPII, SRBI, SRBII, CD68, LAMP, LOX-1, Dectin-1, SREC-I, SREC-II, MEGF, CXCL16, Fasciclin, FEEL-1, FEEL-2, CD163, RAGE, C-type lectin superfamily members, DEC205, CD206, Dectin-2, Mincle, DC-SIGN, DNGR-1, VSIG4, CSF1R, ASGPR, and APLP-2.

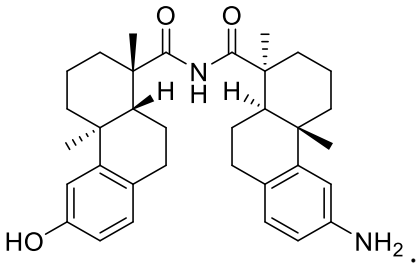
43. The compound of any one of claims 35-38, wherein **BA** or **Ab** is an antibody having binding specificity for Her2 or PRLR.

44. The compound of any one of claims 35-38, wherein **BA** or **Ab** is an antibody having binding specificity for MSR1.

45. The compound of any one of claims 35-38, wherein **BA** or **Ab** is an antibody linked through one or more N295 residues.

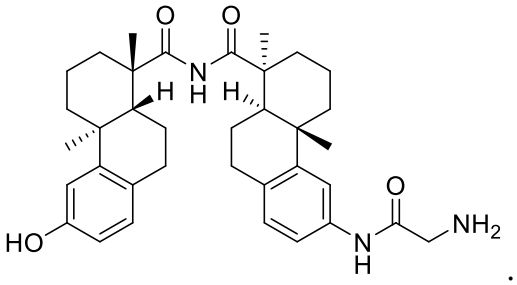
46. The compound of any one of claims 35-38, wherein **BA** or **Ab** is an antibody linked through one or more N295 and N297Q residues.

47. The compound of claim 1, having the structure



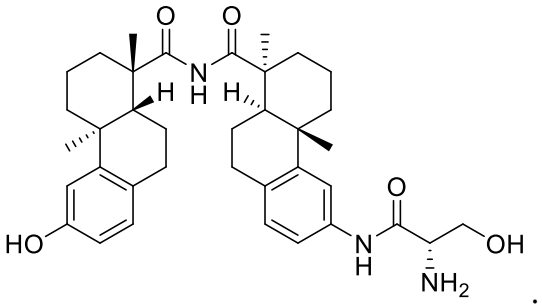
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48. The compound of claim 1, having the structure



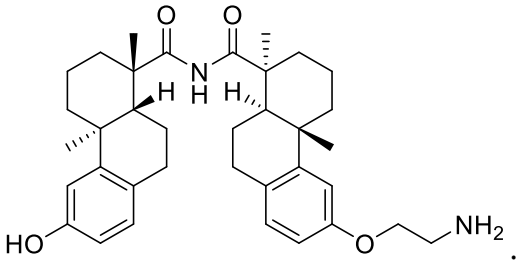
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49. The compound of claim 1, having the structure



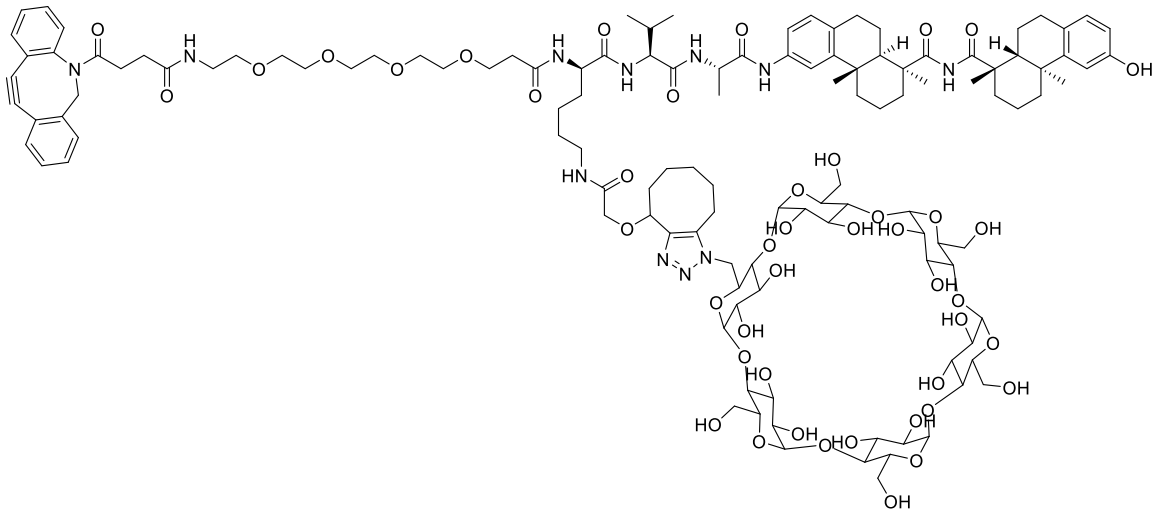
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50. The compound of claim 1, having the structure

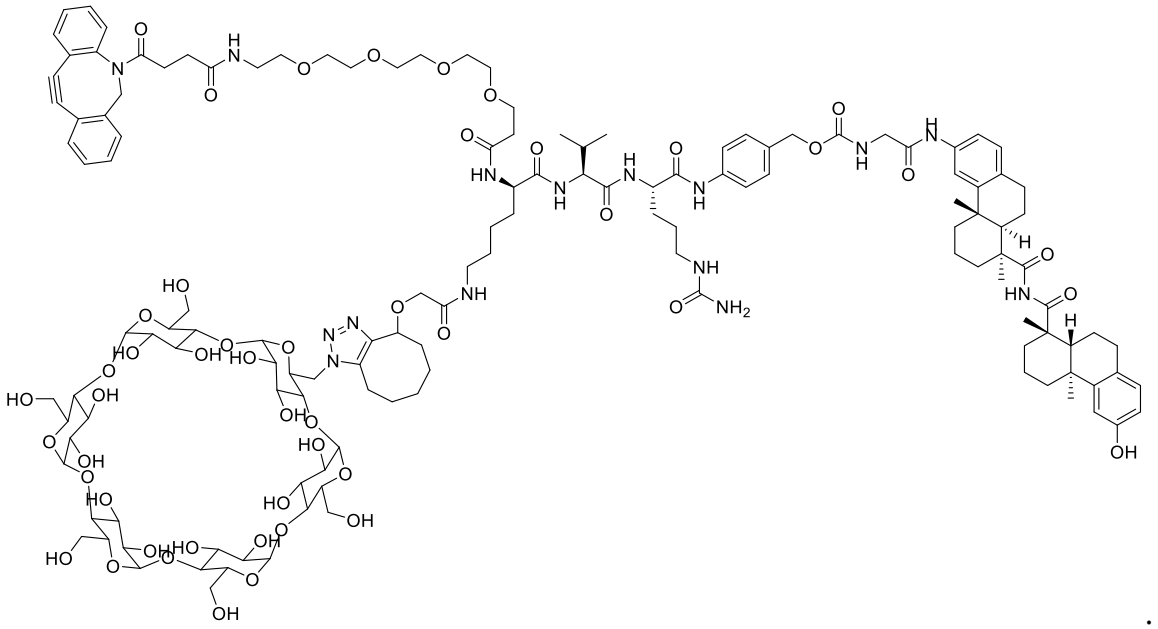


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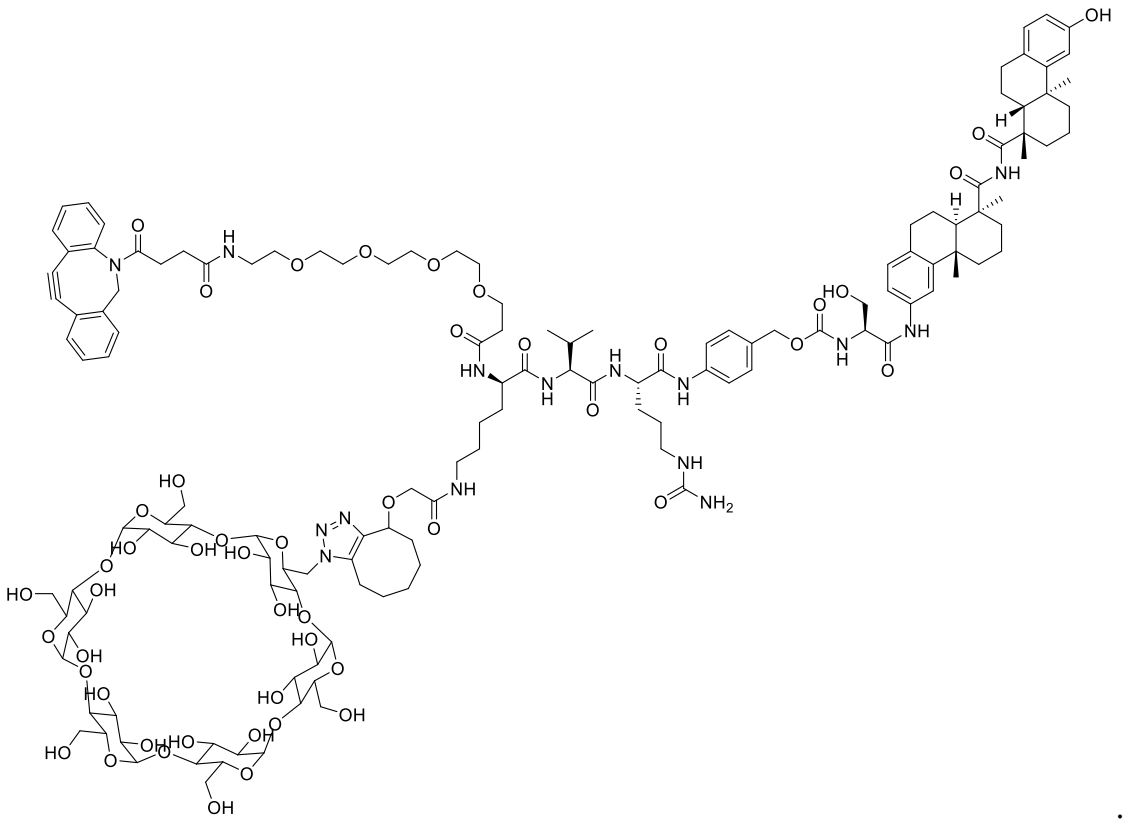
51. The linker-payload of claim 24, having the structure



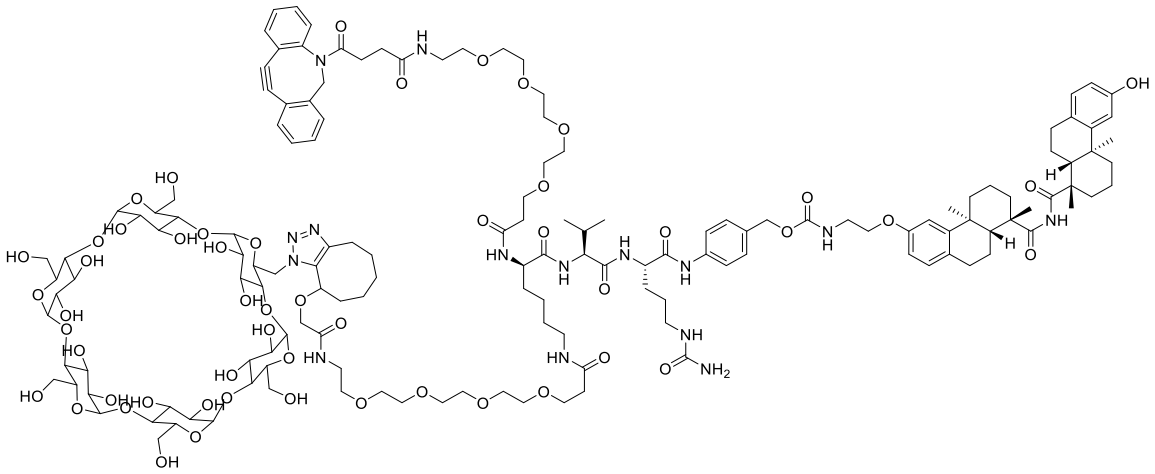
52. The linker-payload of claim 24, having the structure



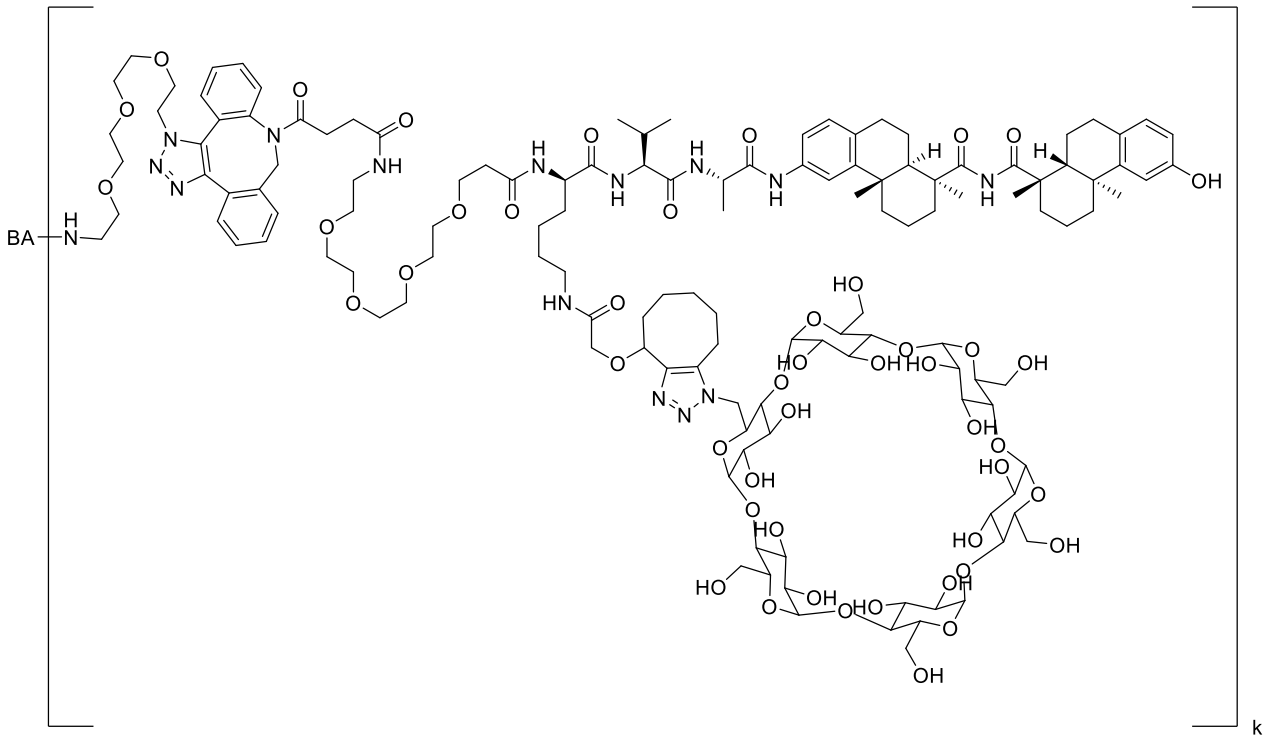
53. The linker-payload of claim 24, having the structure



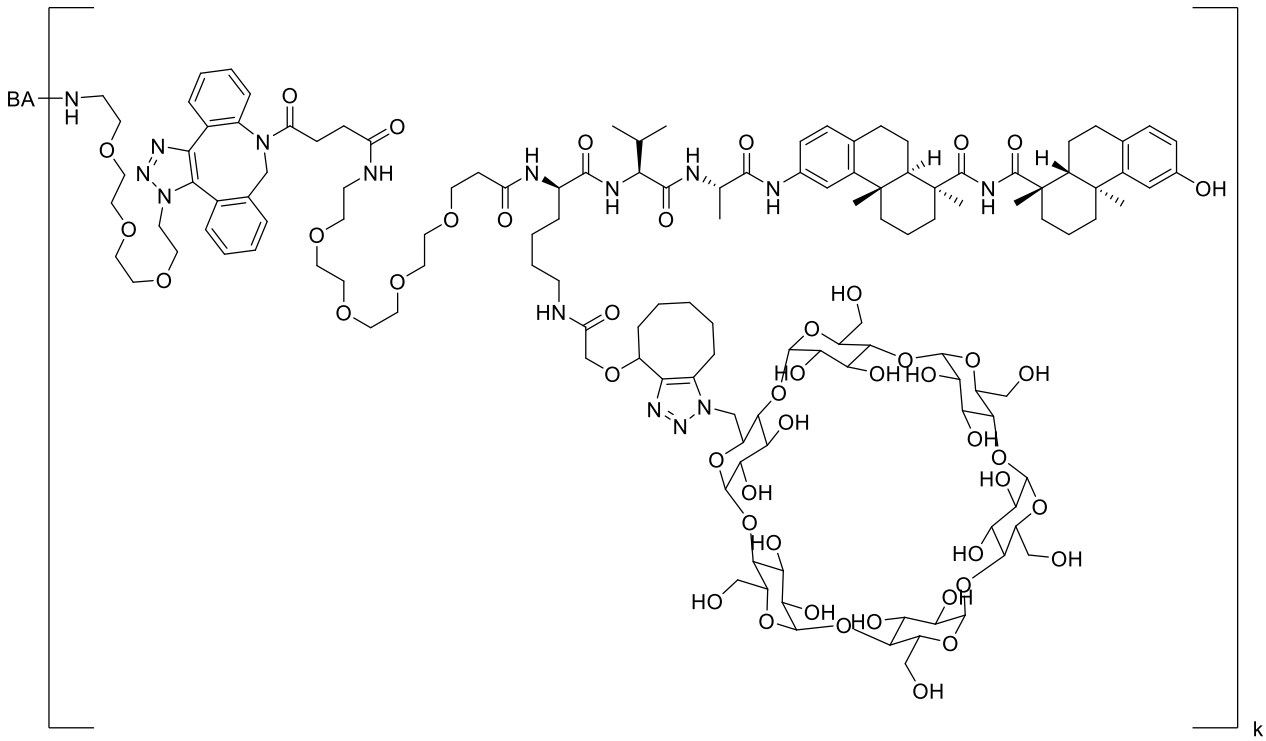
54. The linker-payload of claim 24, having the structure



55. The compound of claim 28, having the structure

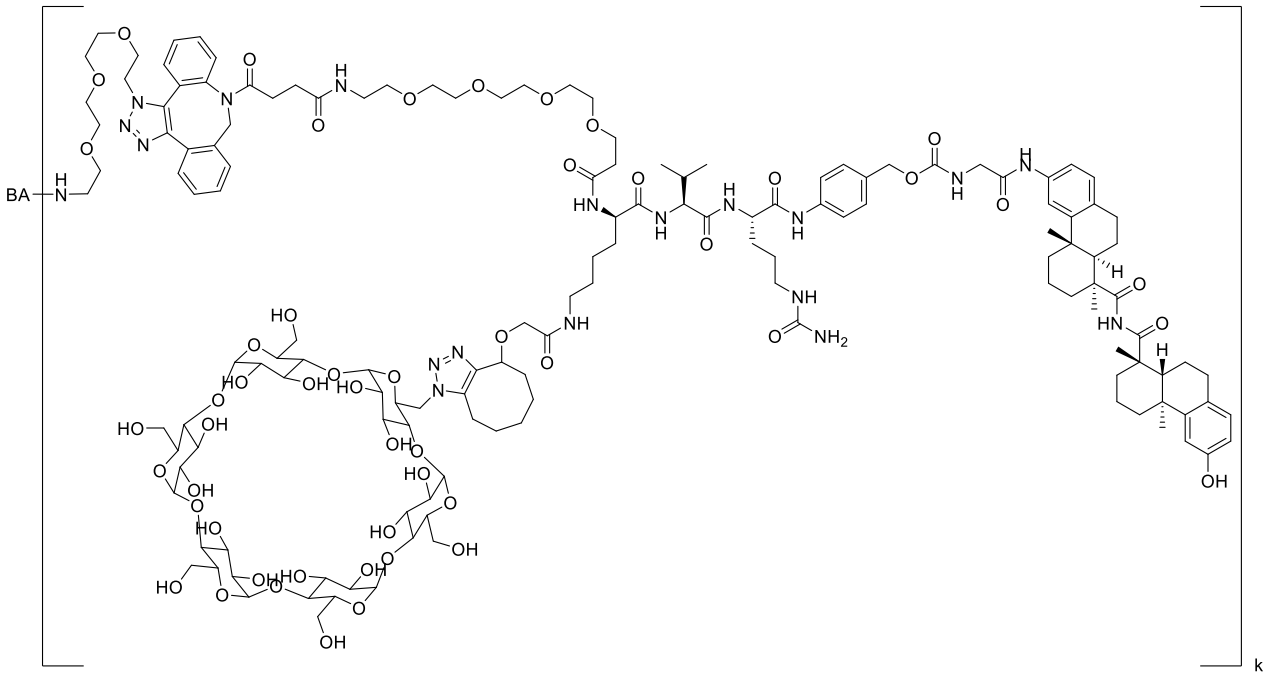


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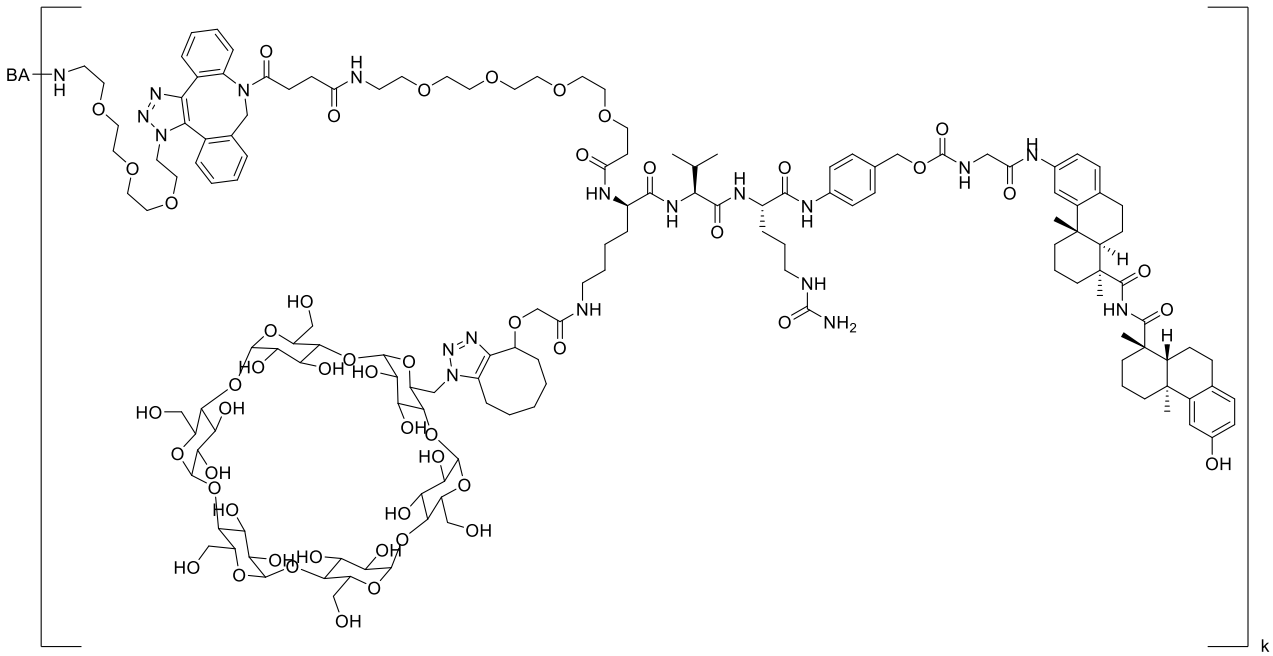


wherein **BA** is a binding agent; and **k** is an integer from one to thirty.

56. The compound of claim 28, having the structure

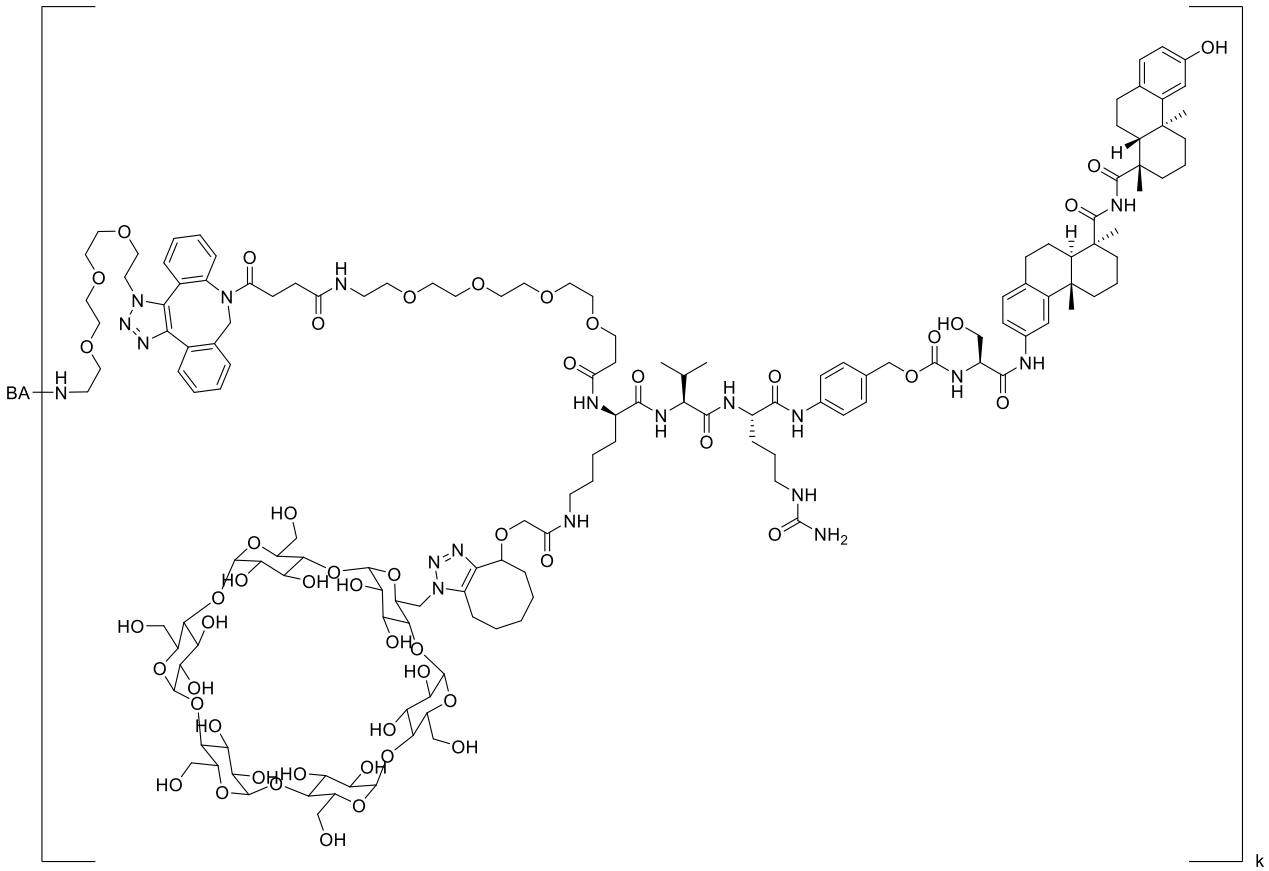


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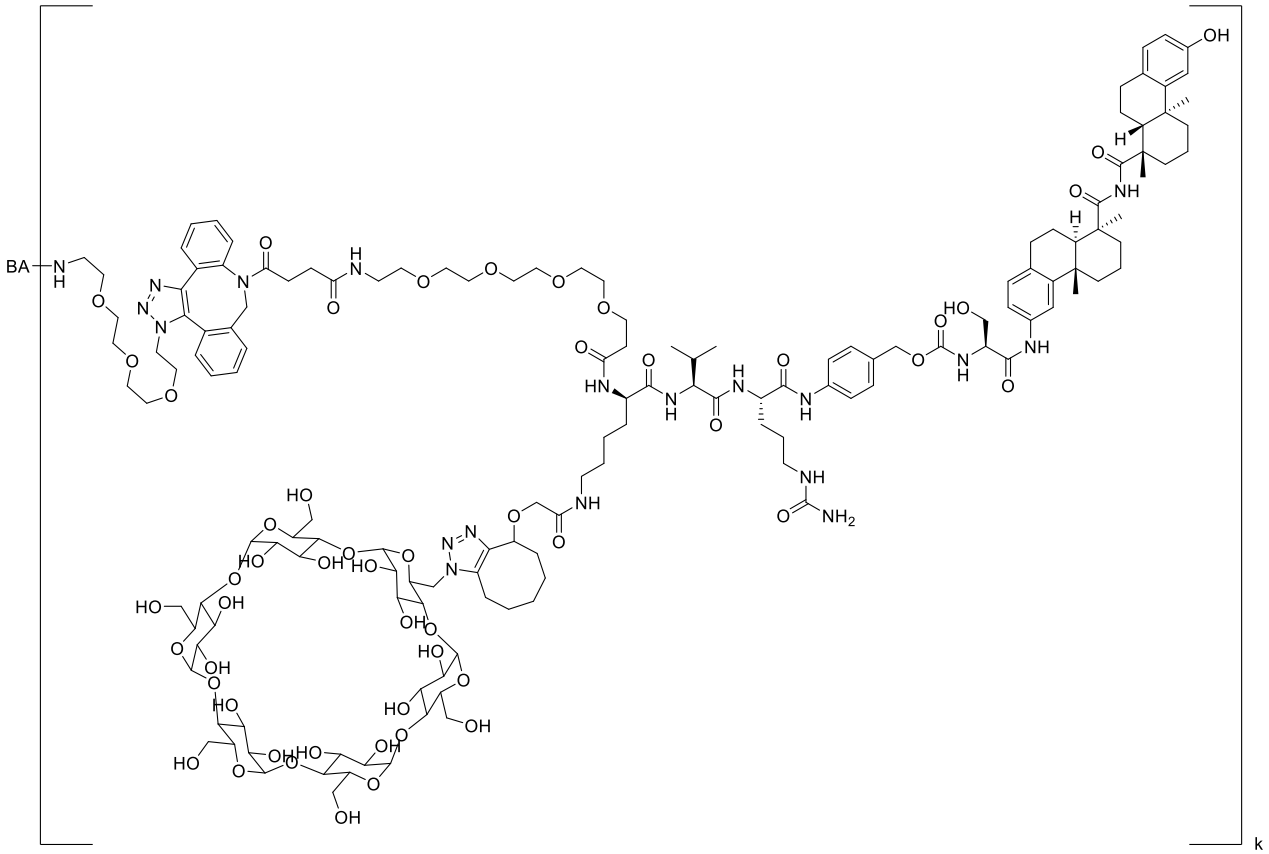


wherein **BA** is a binding agent; and **k** is an integer from one to thirty.

57. The compound of claim 28, having the structure

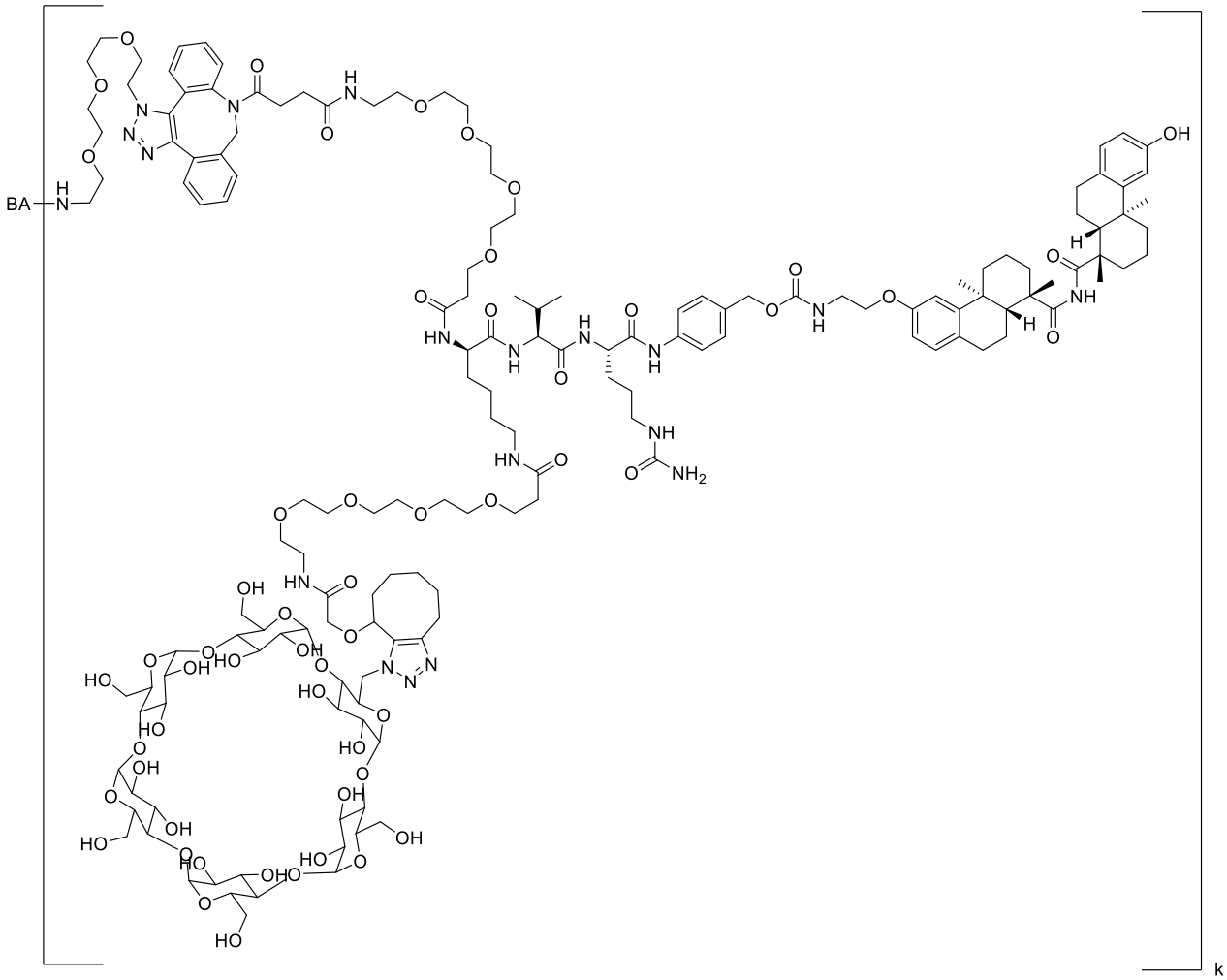


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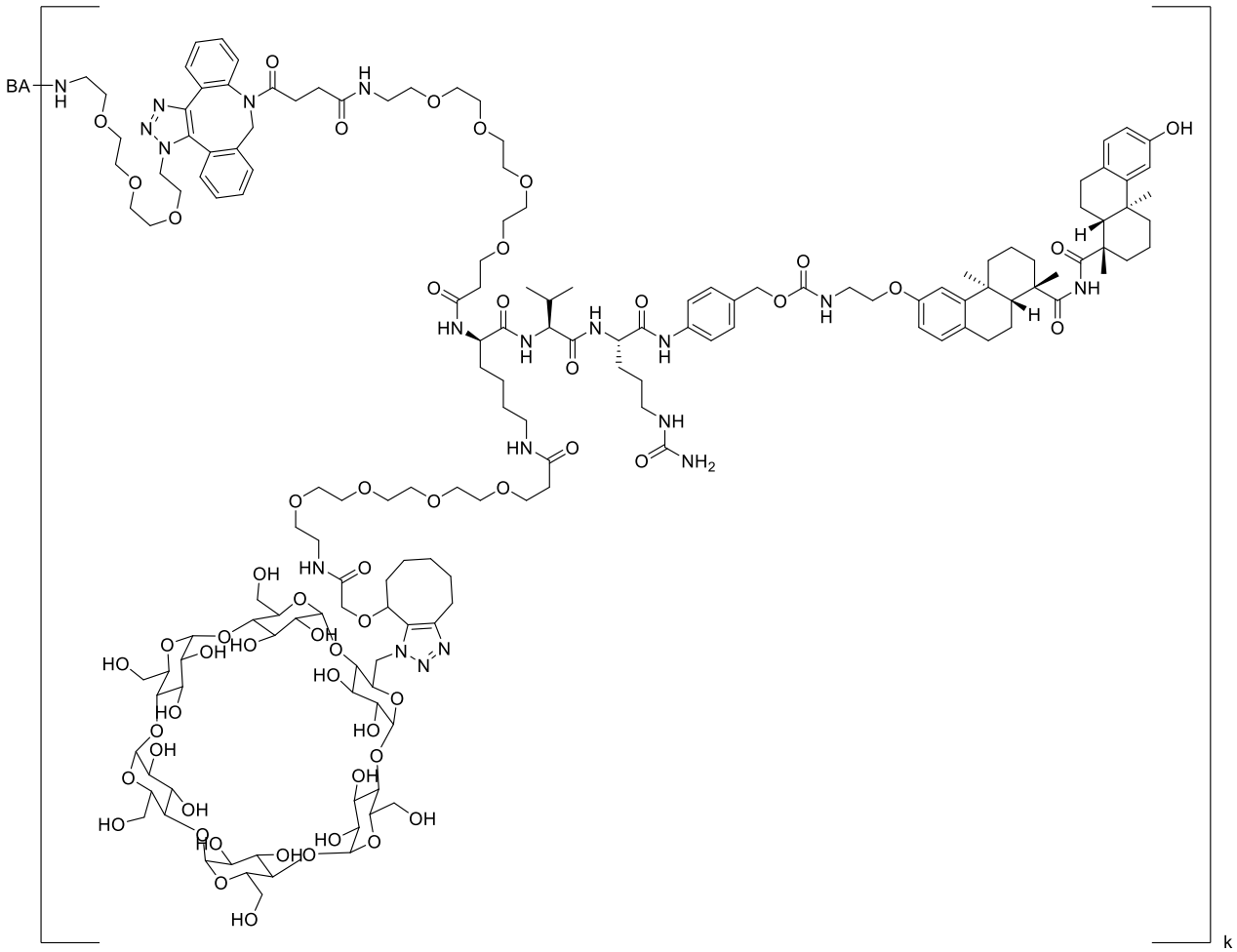


wherein **BA** is a binding agent; and **k** is an integer from one to thirty.

58. The compound of claim 28, having the structure

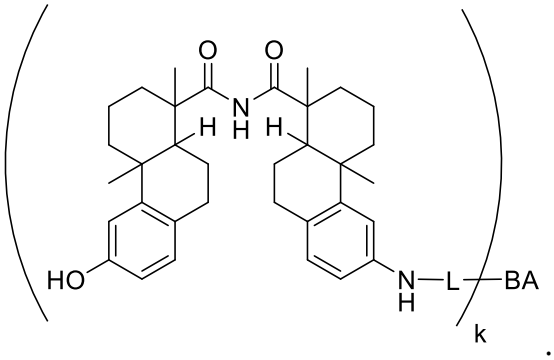


or



wherein **BA** is a binding agent; and **k** is an integer from one to thirty.

59. The compound of claim 28, having the following formula



.

60. The compound, pharmaceutical composition, or composition, of any one of claims 28-46 or 55-59, wherein **BA** or **Ab** is a transglutaminase-modified antibody or antigen binding fragment thereof having:

binding specificity for an antigen selected from the group consisting of class A-J scavenger receptors;

binding specificity for an antigen selected from the group consisting of MSR1, MARCO, SRCL, SCARA5, COLEC12, CD36, LIMPII, SRBI, SRBII, CD68, LAMP, LOX-1, Dectin-

1, SREC-I, SREC-II, MEGF, CXCL16, Fasciclin, FEEL-1, FEEL-2, CD163, RAGE, C-type lectin superfamily members, DEC205, CD206, Dectin-2, Mincle, DC-SIGN, DNGR-1, VSIG4, CSF1R, ASGPR, and APLP-2;

binding specificity for Her2 or PRLR; or

binding specificity for MSR1; and/or

**BA** or **Ab** is a transglutaminase-modified antibody or antigen binding fragment thereof coupled via one or more Q295 residues, or one or more Q295 and N297Q residues.

61. The compound of claim 28, wherein **BA** is an antibody or antigen binding fragment thereof conjugated to a primary amine compound at a glutamine residue, and **L** is bonded to **BA** through the primary amine compound.

62. The compound of claim 61, wherein the primary amine compound comprises a divalent PEG group.

63. The compound of claim 62, wherein the primary amine compound is $H_2N$-$(CH_2CH_2O)_3$-$(CH_2)_2$-$N_3$.