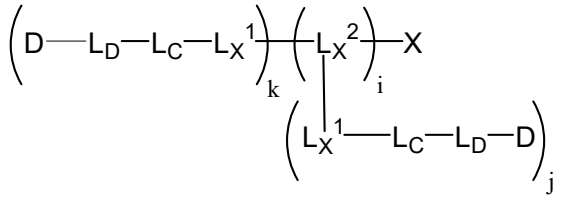
CLAIMS

1. A drug-linker conjugate having the structural formula (I):



(I)

or a salt or ester thereof,

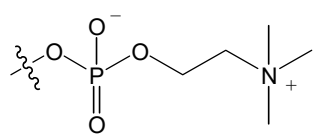
wherein

each D is independently a drug moiety;

X is a conjugation functional group capable of forming a covalent linkage with an antigen binding moiety;

each L_C is independently a moiety formed by a click chemistry reaction between an alkyne and an azide;

each of L_D, L_X^1 and L_X^2 is independently a linker or spacer moiety, wherein at least one of L_D, L_X^1 and L_X^2 comprises a phosphoryl choline (PC) group



; and

i is an integer selected from 0-8; and

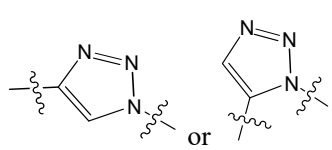
each of *j* and *k* is independently 0 or 1, provided that *j* and *k* are not both 0.

2. The drug-linker conjugate of claim 1, wherein *j* is 0.

3. The drug-linker conjugate of claim 1, wherein *j* is 1 and/or *k* is 1.

4. The drug-linker conjugate of any one of claims 1-3, wherein *i* is 1 or 2.

5. The drug-linker conjugate of any one of claims 1-4, wherein L_C is



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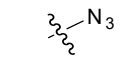
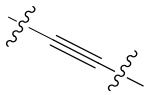
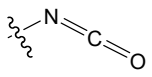
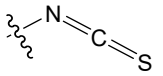
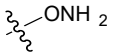
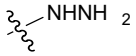
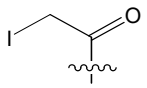
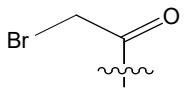
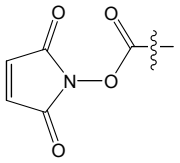
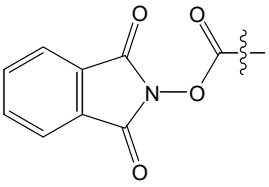
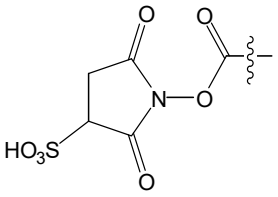
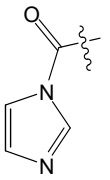
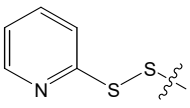
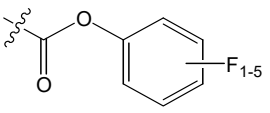
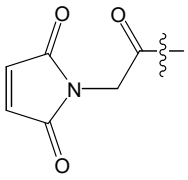
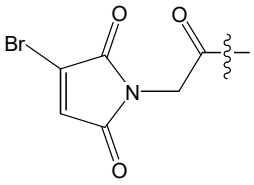
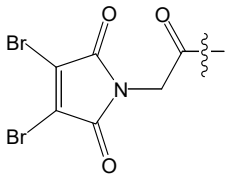
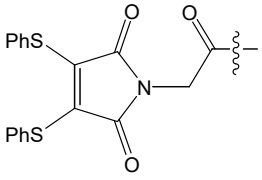
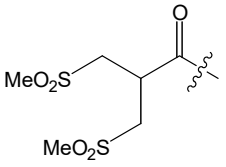
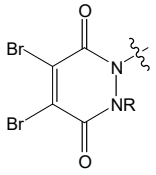
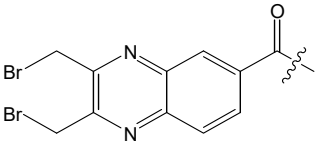
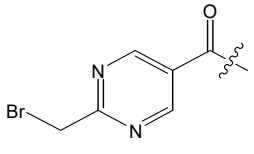
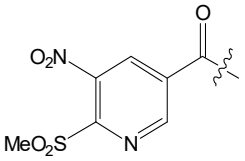
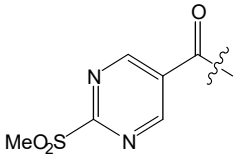
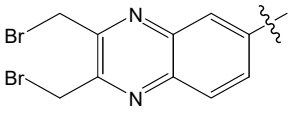
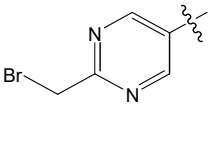
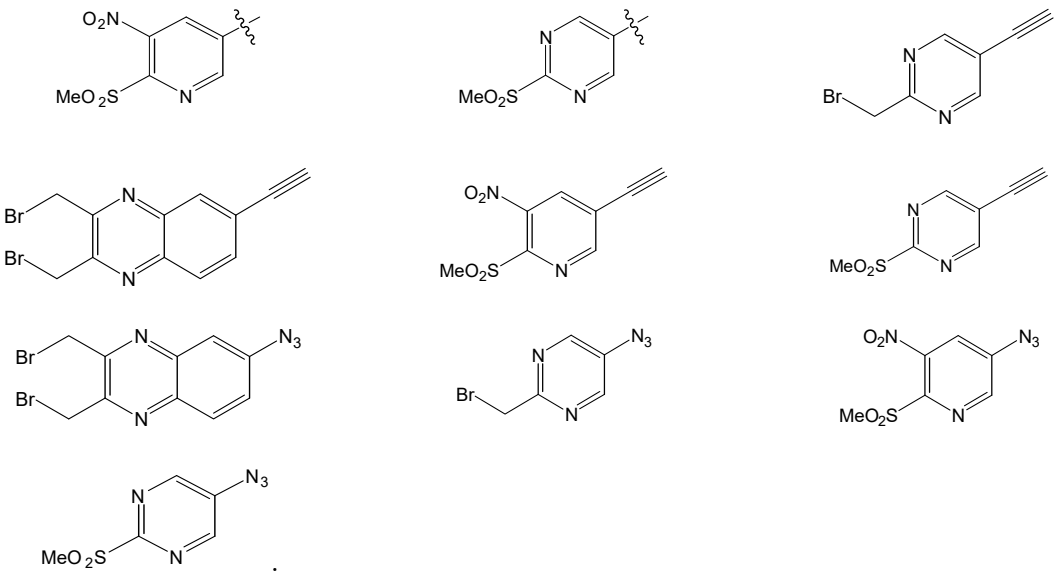
6. The drug-linker conjugate of any one of claims 1-5, wherein X is selected from:

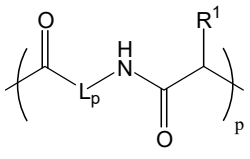









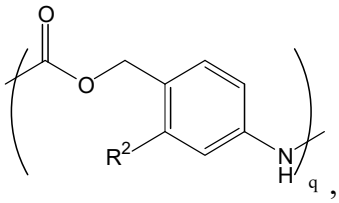


7. The drug-linker conjugate of any one of claims 1-6, wherein -L_D- is -L_D^2-L_D^1-, wherein

L_D^1 is


; and

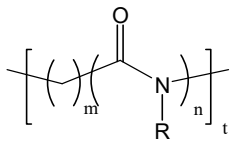
L_D^2 is


,

wherein

L_p is a di-, tri- or tetra peptide linker;

each of R^1 and R^2 is H, C_{1-3} alkyl, or L_{PC}-(PC), wherein L_{PC} is


,

each *p* and *q* is independently 0 or 1, provided that *p* and *q* are not both 0;

R is H or C_{1-3} alkyl;

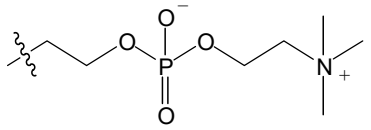
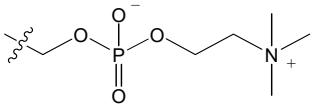
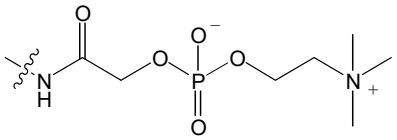
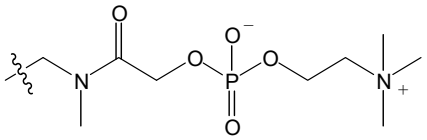
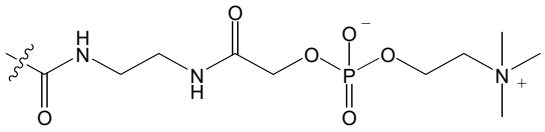
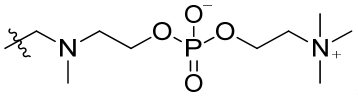
m is 0, 1, 2 or 3;

n is 0 or 1, and

t is 0 or 1.

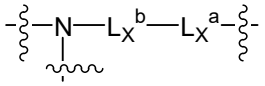
8. The drug-linker conjugate of claim 7, wherein each of R^1 and R^2 is L_{PC}-(PC).

9. The drug-linker conjugate of claim 7 or 8, wherein L_{PC}-(PC) is selected from:






 .

10. The drug-linker conjugate of any one of claims 1-9, wherein L_X^1 is $(CH_2)_g$, wherein is *g* is an integer selected from 0-6.

11. The drug-linker conjugate of any of claims 1-10, wherein L_X^2 is:



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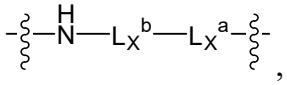
 ,

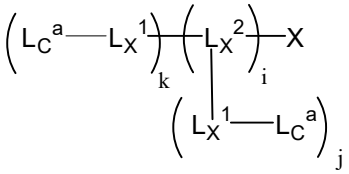
wherein

L_X^a is a substituted or unsubstituted C_{1-6} alkyl or a PEG group;

L_X^b is -C(=O)-, CH or CH_2.

12. The drug-linker conjugate of any of claims 1-11, wherein the spacer moiety is selected from the group consisting of an alkyl, a heteroalkyl, polyethylene glycol (PEG), and a peptide.

13. A compound having the structural formula (II):



(II)

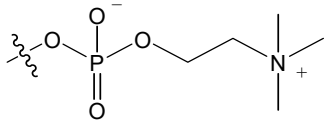
or a salt or ester thereof,

wherein

X is conjugation functional group capable of forming a covalent linkage with an antigen binding moiety;

each L_C^a is independently an alkyne or an azide group;

each of L_X^1 and L_X^2 is independently a linker or spacer moiety, wherein at least one of L_X^1 and L_X^2 comprises a phosphoryl choline (PC) group



; and

i is an integer selected from 0-8; and

each of *j* and *k* is independently 0 or 1, provided that *j* and *k* are not both 0.

14. The compound of claim 13, wherein *j* is 0.

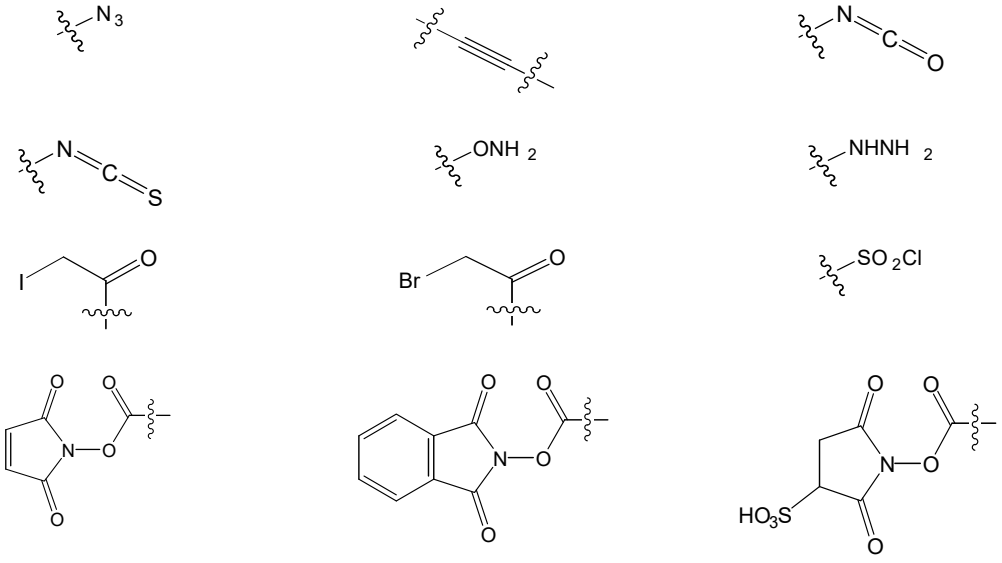
15. The compound of claim 13, wherein *j* is 1 and/or *k* is 1.

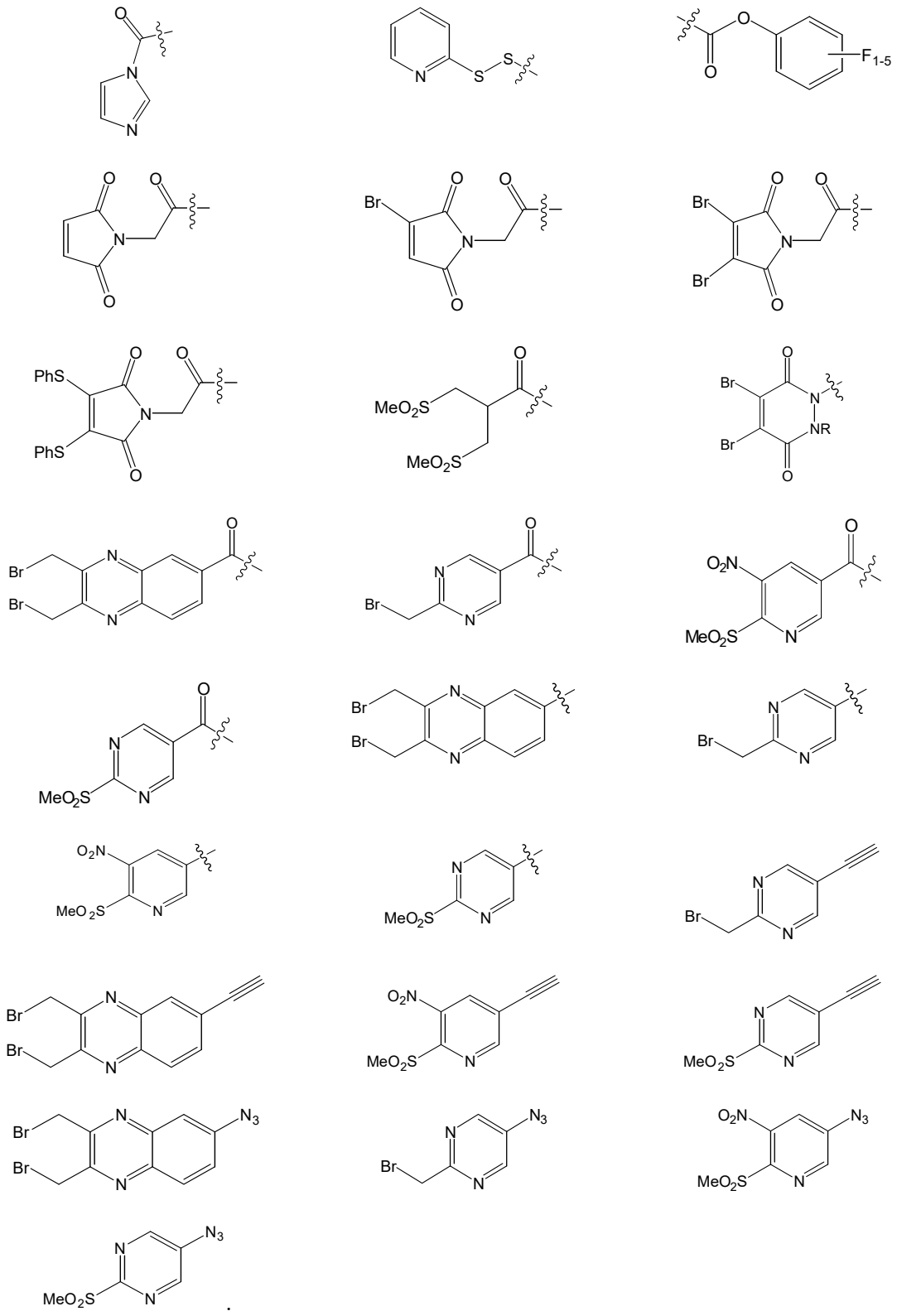
16. The compound of any one of claims 13-15, wherein *i* is 1.

17. The compound of any one of claims 13-16, wherein each L_C^a is an alkyne group.

18. The compound of any one of claims 13-16, wherein each L_C^a is an azide group.

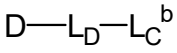
19. The compound of any one of claims 13-18, wherein X is selected from:





20. The compound of any one of claim 13-19, wherein each of L_X^1 and L_X^2 comprises L_{PC}-(PC).

21. A compound having the structural formula (III):



(III)

or a salt or ester thereof,

wherein

D is a drug moiety;

L_D is a linker or spacer moiety comprising a phosphoryl choline (PC) group; and

L_C^b is an alkyne or an azide group.

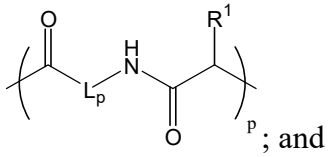
22. The compound of claim 21, wherein L_C^b is an alkyne group.

23. The compound of claim 21, wherein L_C^b is an azide group.

24. The compound of any one of claims 21-23, wherein $-L_D-$ is $-L_D^2-L_D^1-$,

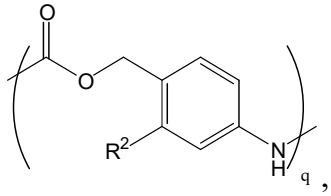
wherein

L_D^1 is



; and

L_D^2 is



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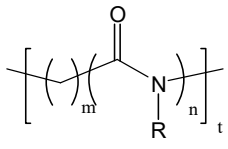
wherein

L_p is a di-, tri- or tetra peptide linker;

each of R^1 and R^2 is H, C_{1-3} alkyl, or L_{PC}-(PC), wherein L_{PC} is



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each *p* and *q* is independently 0 or 1, provided that *p* and *q* are not both 0;

R is H or C_{1-3} alkyl;

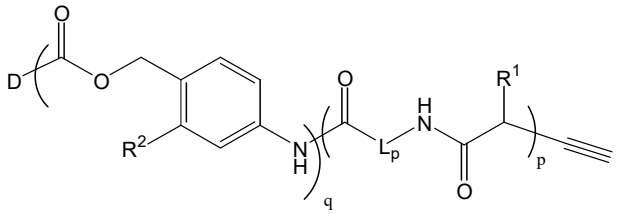
m is 0, 1, 2 or 3;

n is 0 or 1, and

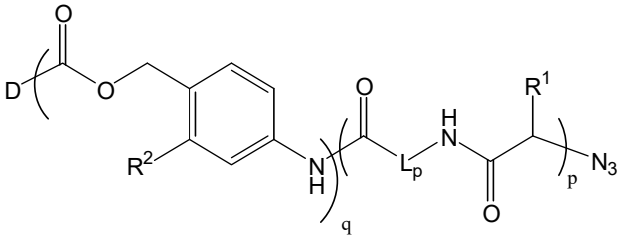
t is 0 or 1.

25. The compound of claim 24, wherein each of R^1 and R^2 is L_{PC}-(PC),

26. A compound having the structural formula:



or

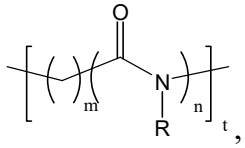


wherein

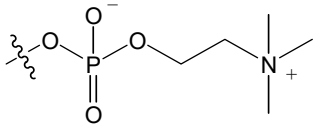
D is a drug moiety;

L_p is a di-, tri- or tetra peptide linker;

each of R^1 and R^2 is H, C_{1-3} alkyl, or L_{PC}-(PC), wherein L_{PC} is



PC is phosphoryl choline group:



;

each *p* and *q* is independently 0 or 1, provided that *p* and *q* are not both 0;

R is H or C_{1-3} alkyl;

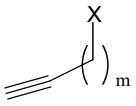
m is 0, 1, 2 or 3;

n is 0 or 1, and

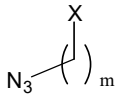
t is 0 or 1.

27. The compound of claim 26, wherein each of R^1 and R^2 is L_{PC}-(PC),

28. A compound having the structural formula:



or



wherein

X is a conjugation functional group capable of forming a covalent linkage with an antigen binding moiety; and

m is 1, 2, 3 or 4.

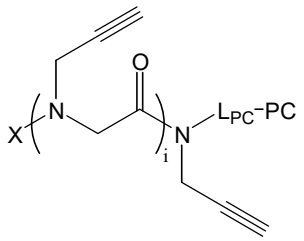
29. The compound of any one of claims 21-27, wherein D is selected from the group consisting of an anticancer agent, an antibiotic, an immune agonist, a steroid, and an anti-autoimmune disease agent.

30. The compound of any one of claims 21-27, wherein D is a peptide or protein.

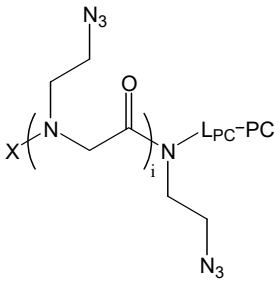
31. The compound of any one of claims 21-27, wherein D is a PROTAC molecule, molecular glue, or degrader.

32. The compound of any one of claims 21-27, wherein D is a nucleic acid.

33. A compound having the structural formula:



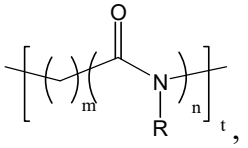
or



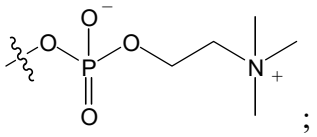
wherein

X is a conjugation functional group capable of forming a covalent linkage with an antigen binding moiety;

L_{PC} is



PC is phosphoryl choline group:



;

R is H or C_{1-3} alkyl;

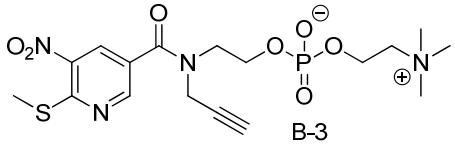
i is an integer selected from 0-8;

m is 0, 1, 2 or 3;

n is 0 or 1, and

t is 0 or 1.

34. A compound selected from:



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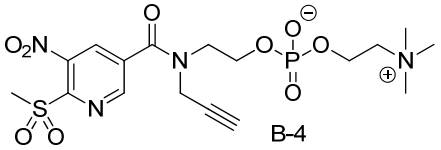

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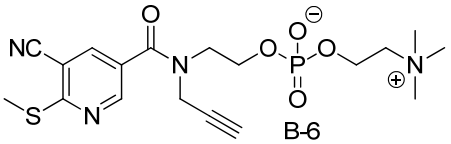

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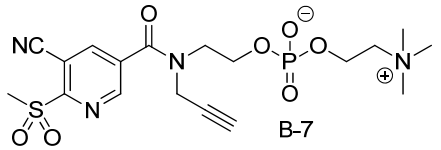

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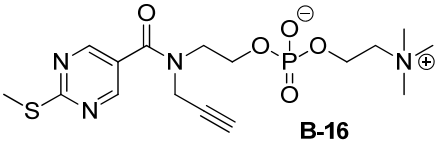

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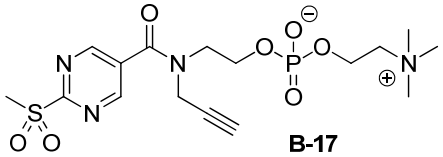

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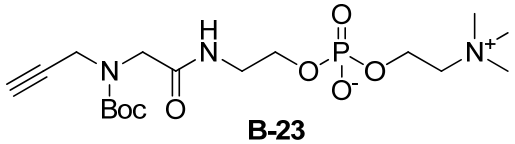

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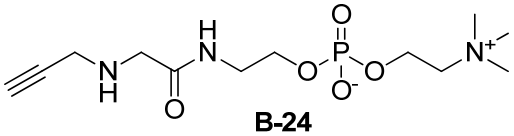

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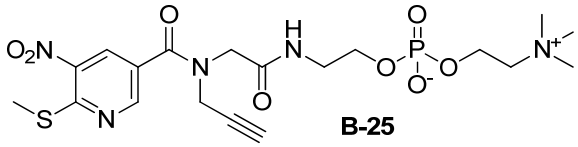

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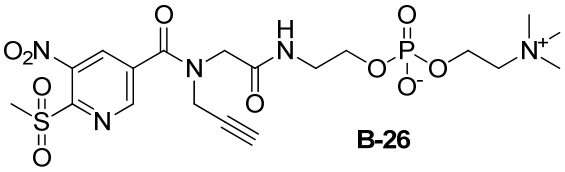

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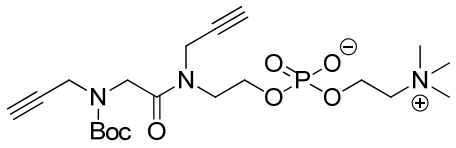

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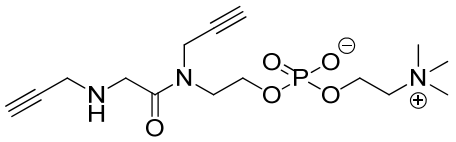

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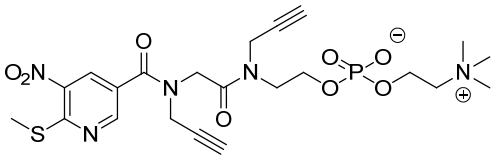

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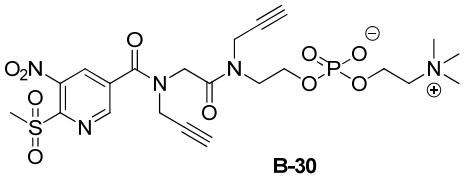

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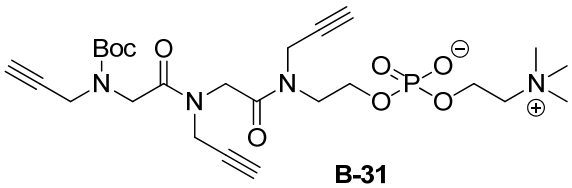

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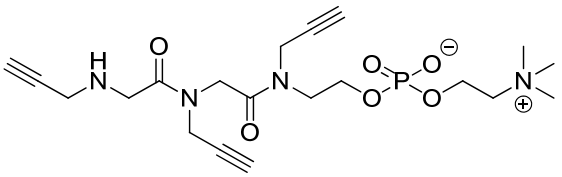

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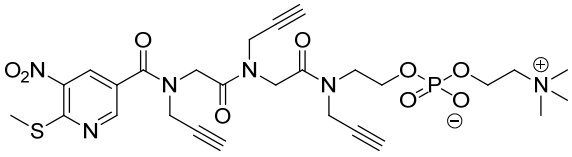

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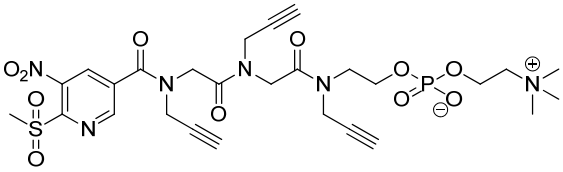

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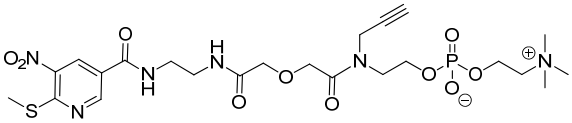

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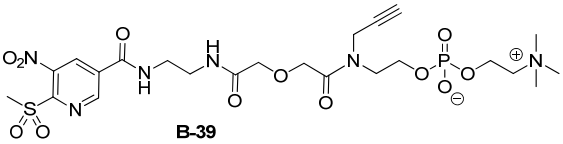

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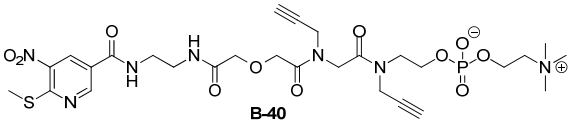

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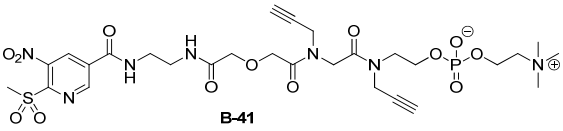

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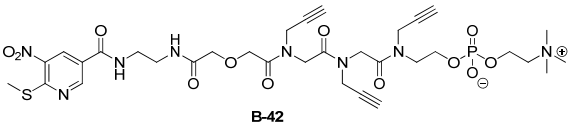

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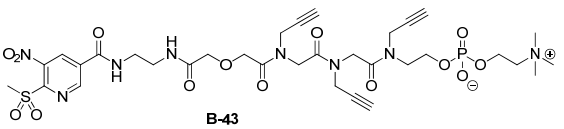

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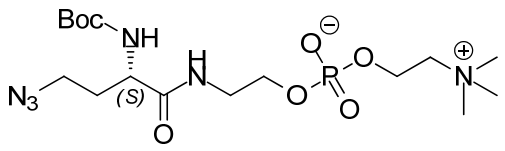

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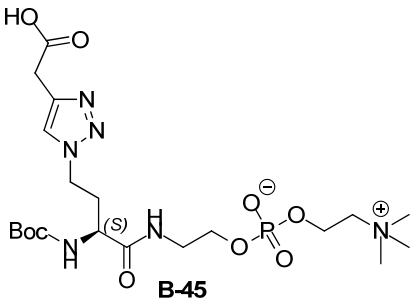

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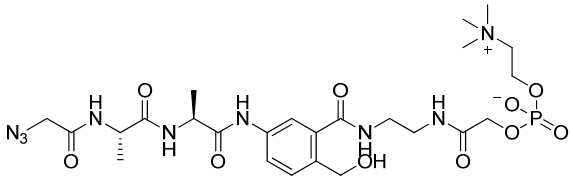

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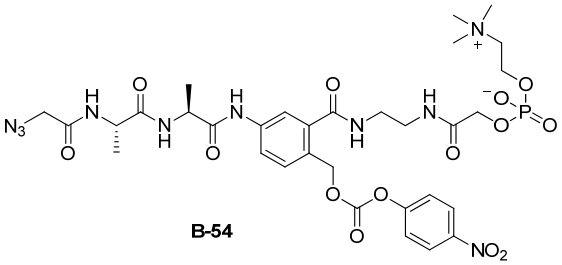

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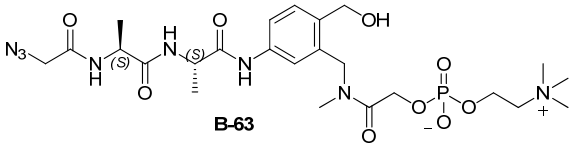

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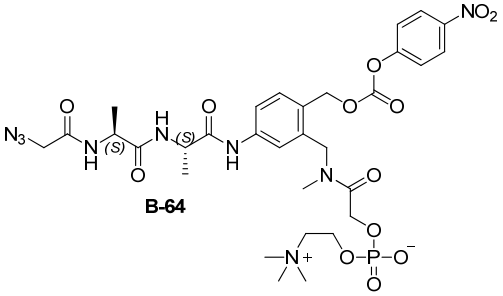

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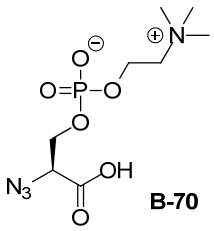

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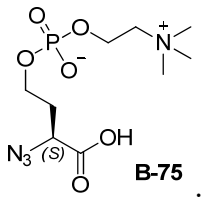

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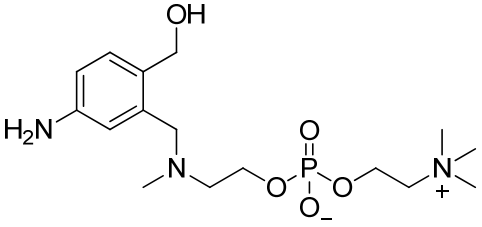

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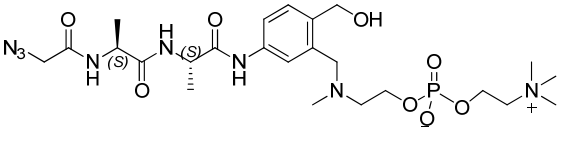

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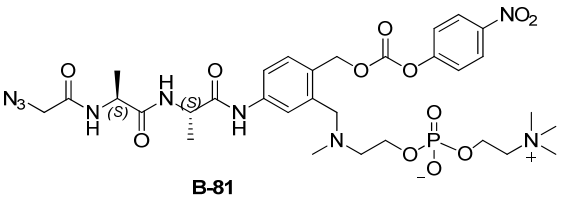

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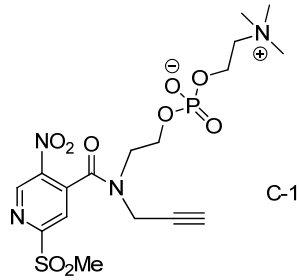

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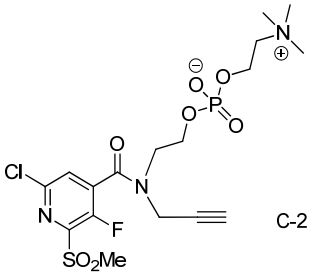

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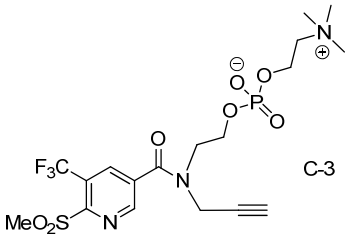

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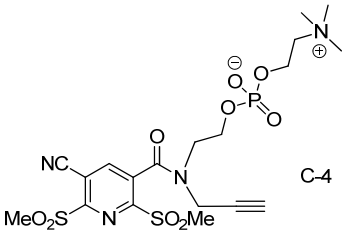

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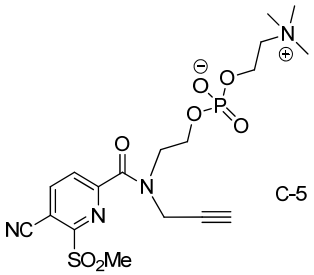

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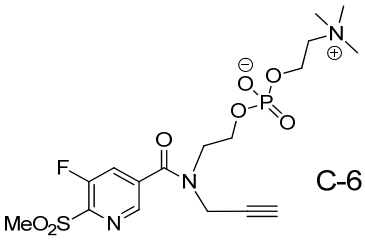

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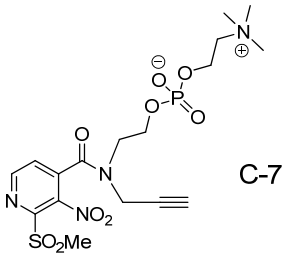

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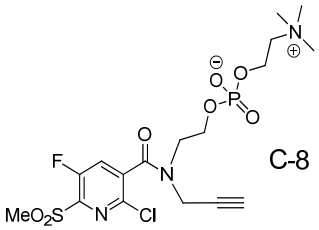

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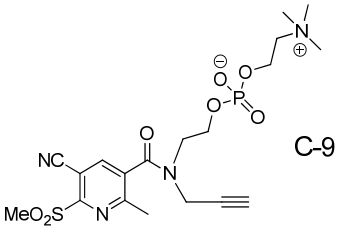

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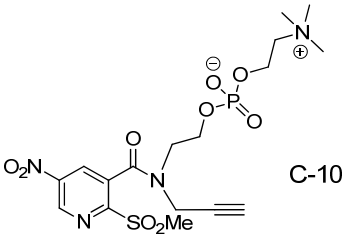

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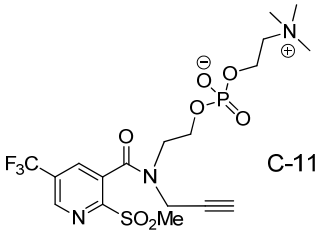

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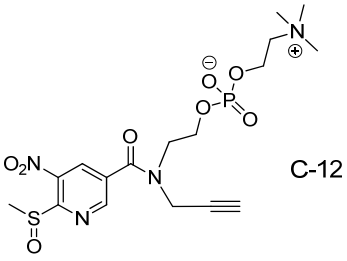

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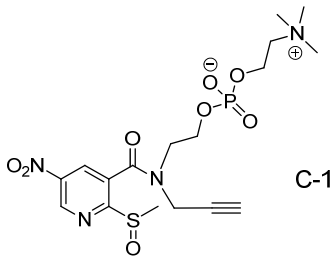

C-13

.

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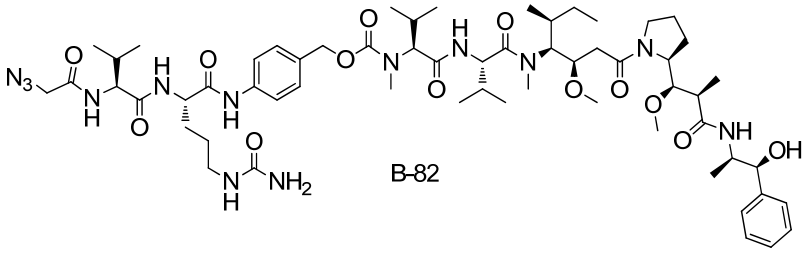
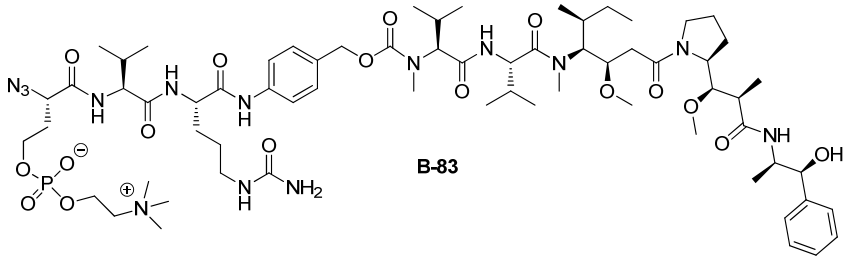


B-82



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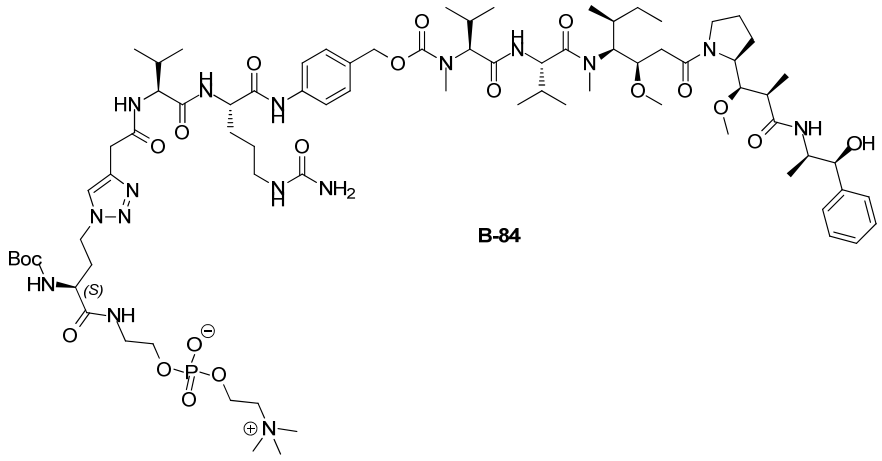
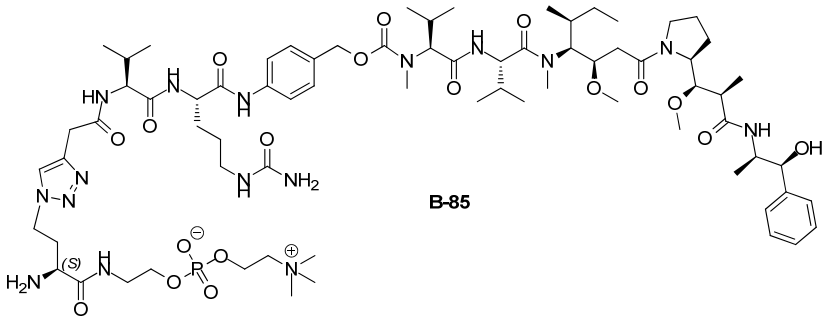


B-84



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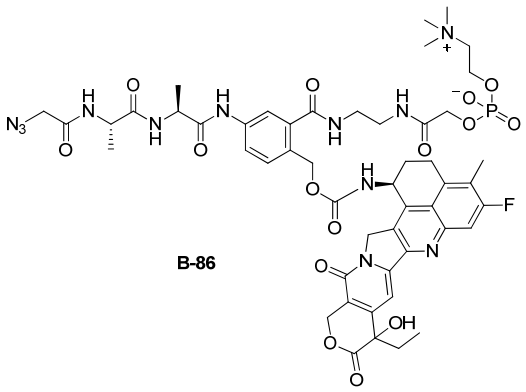

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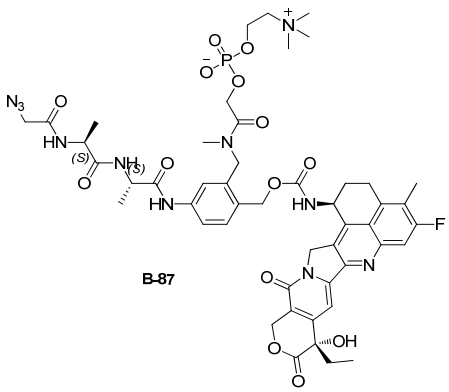

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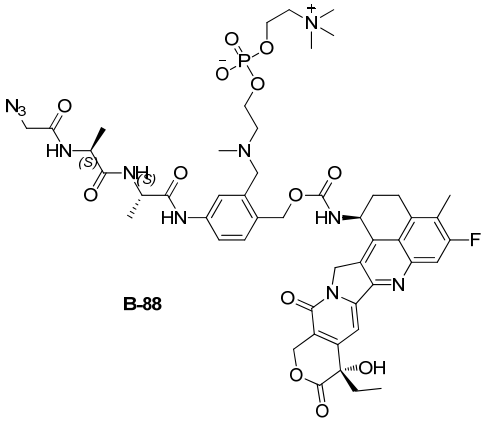
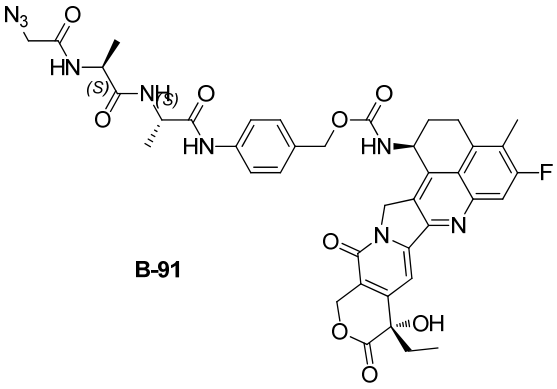


B-88



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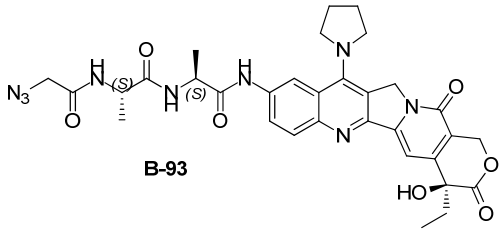
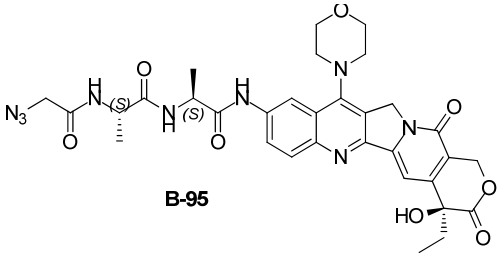
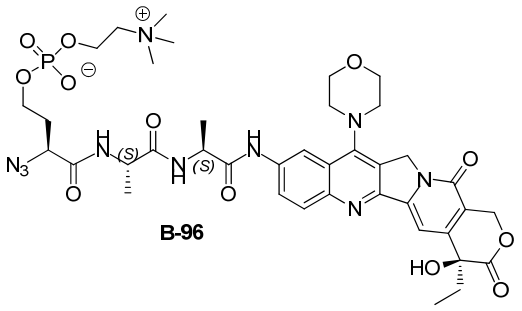


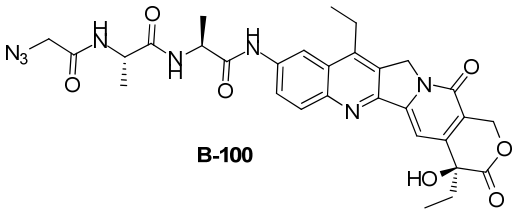
B-93



B-95



B-96



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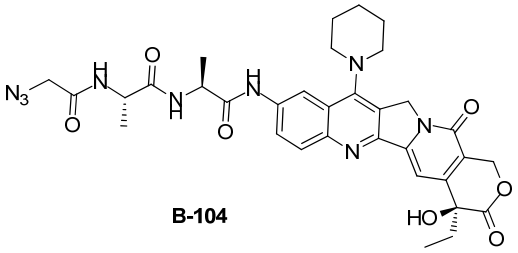

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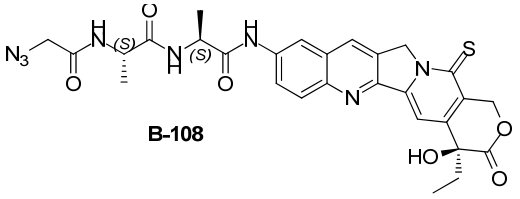

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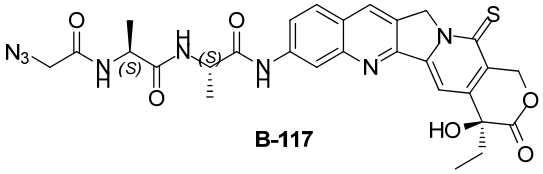

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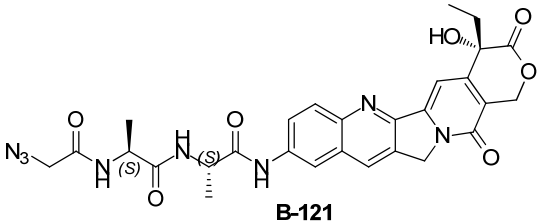

B-121

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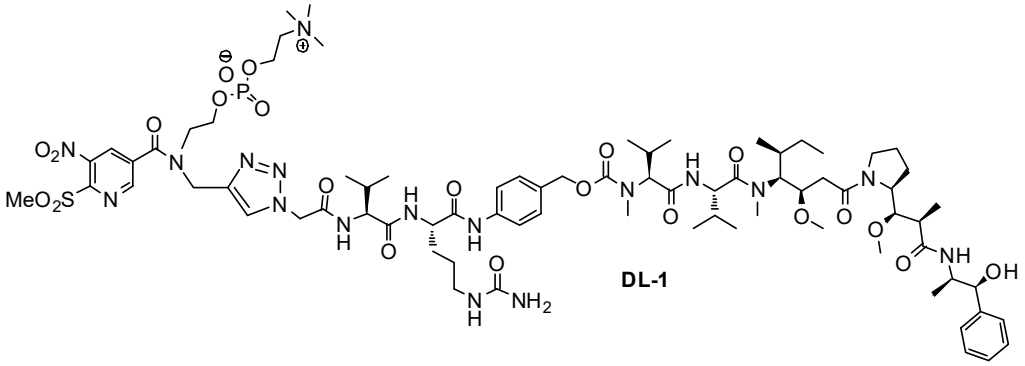
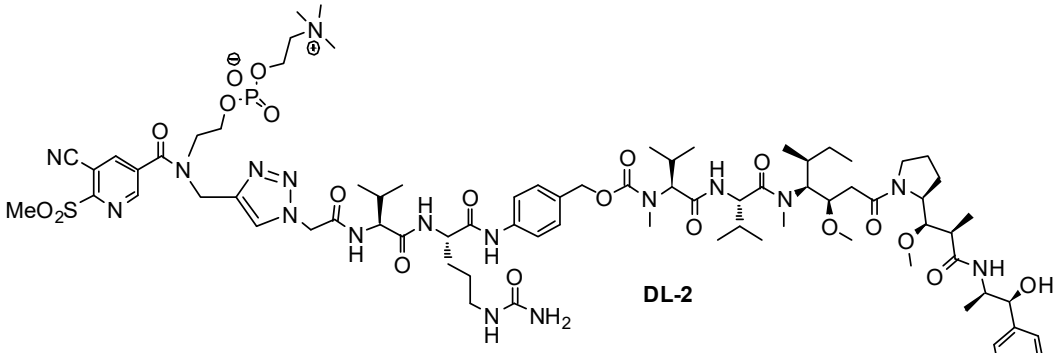


DL-1



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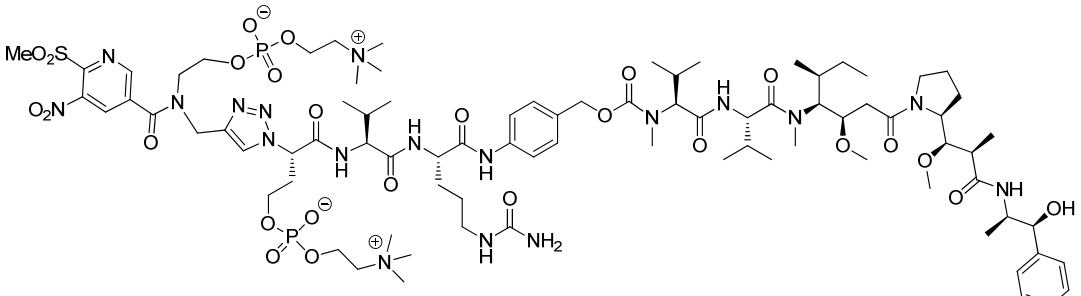

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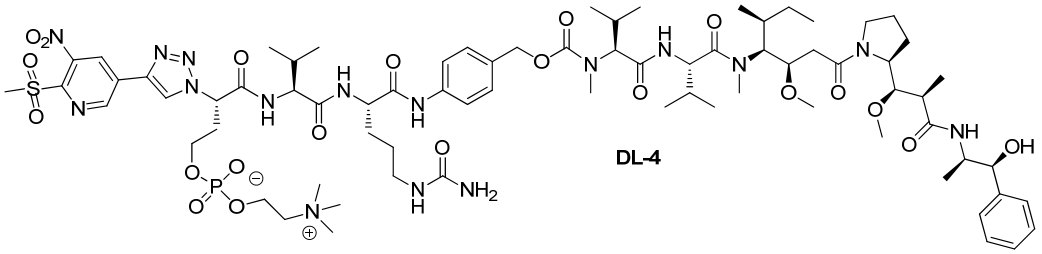

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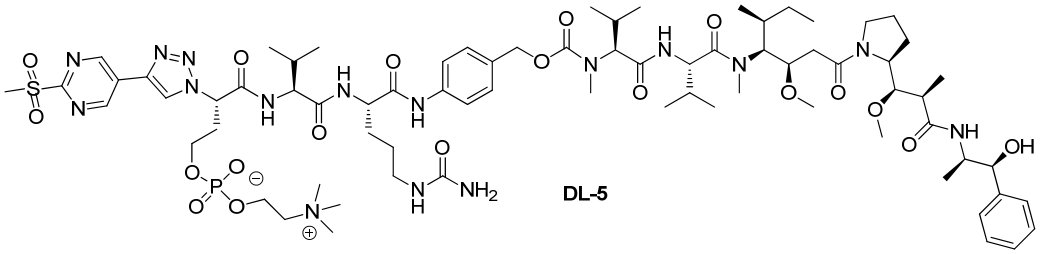

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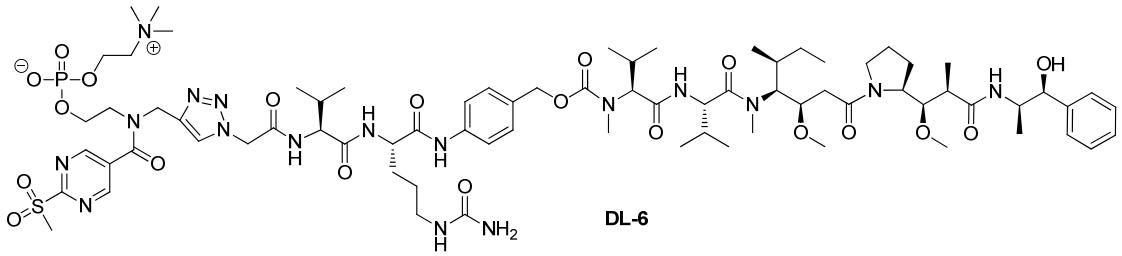

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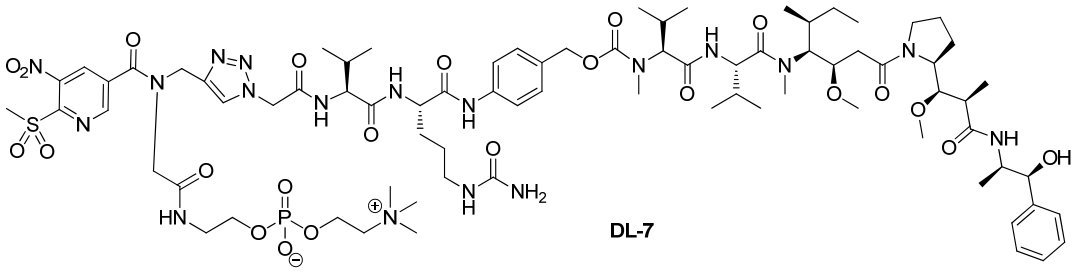

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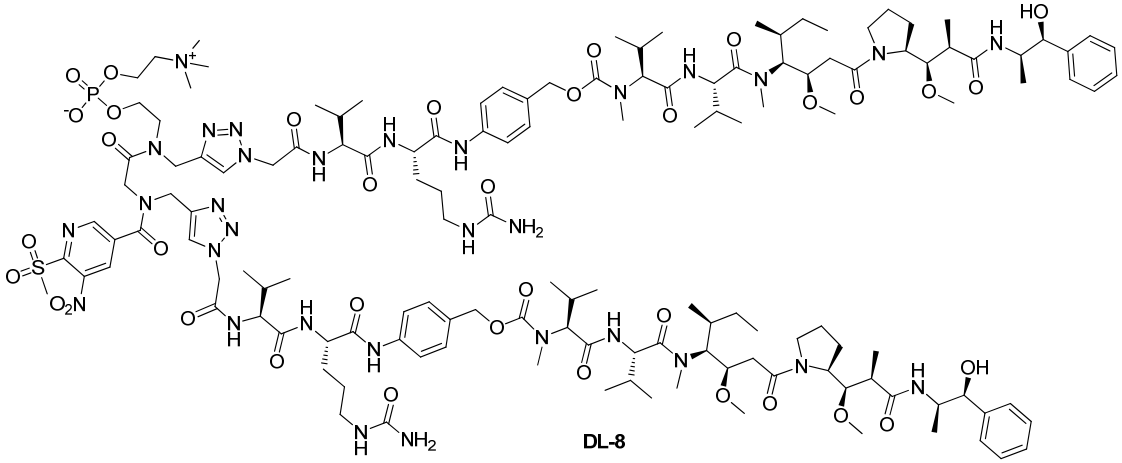

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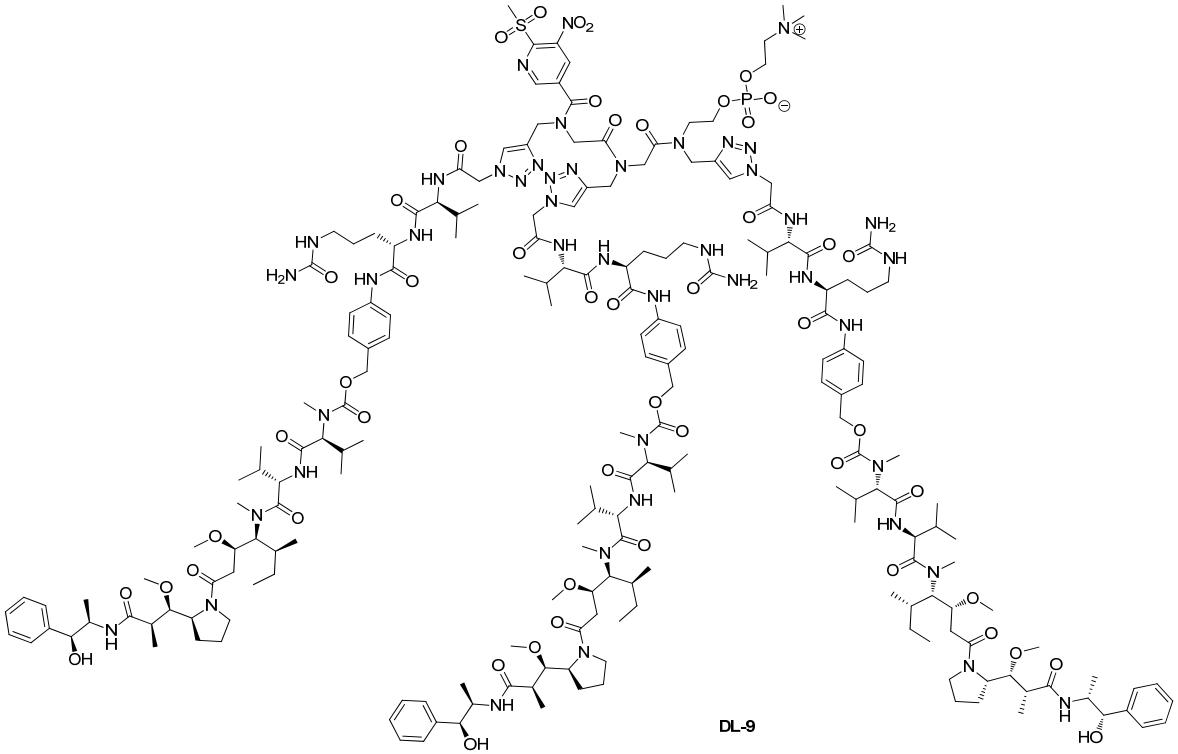

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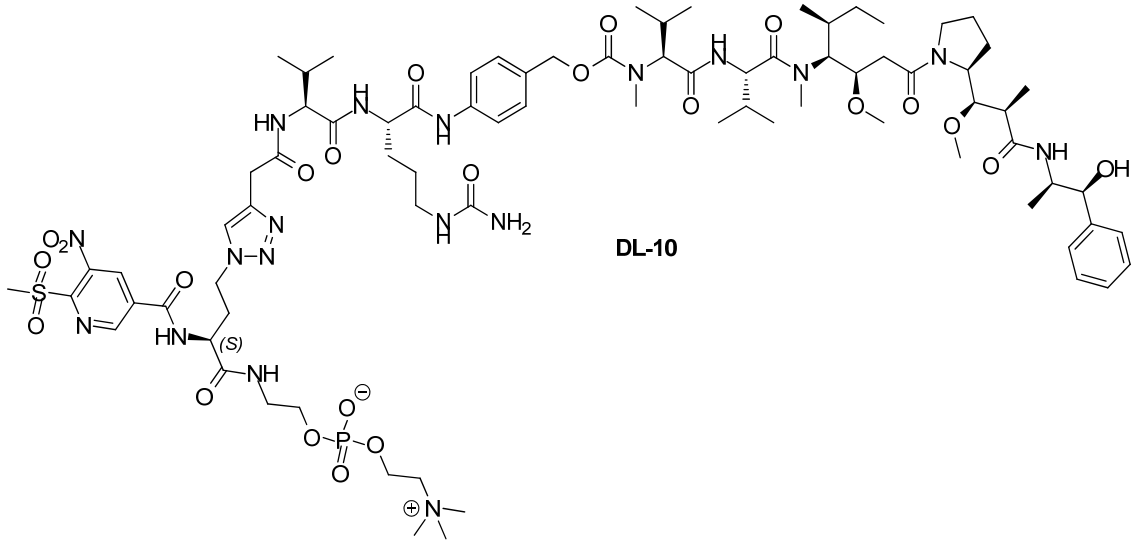

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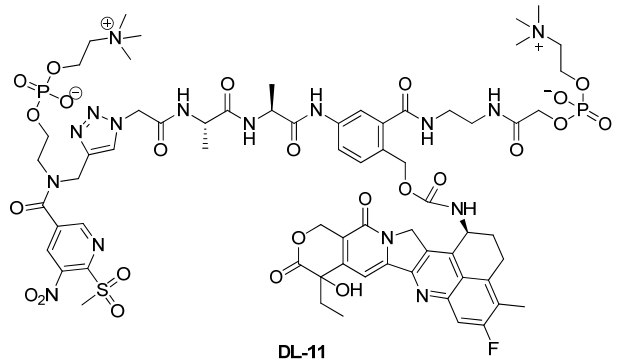

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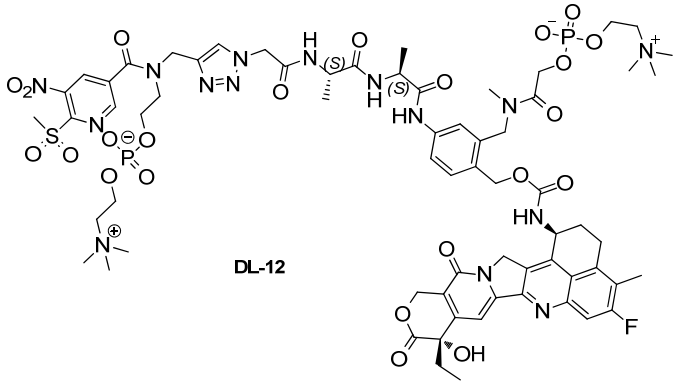

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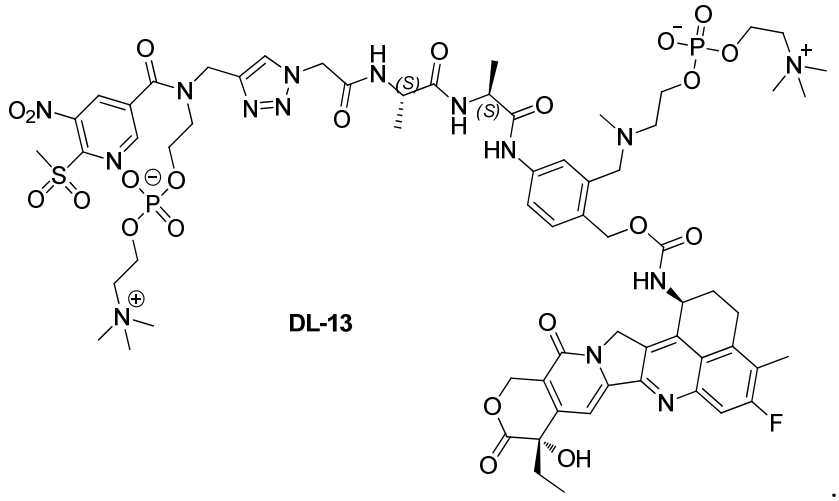

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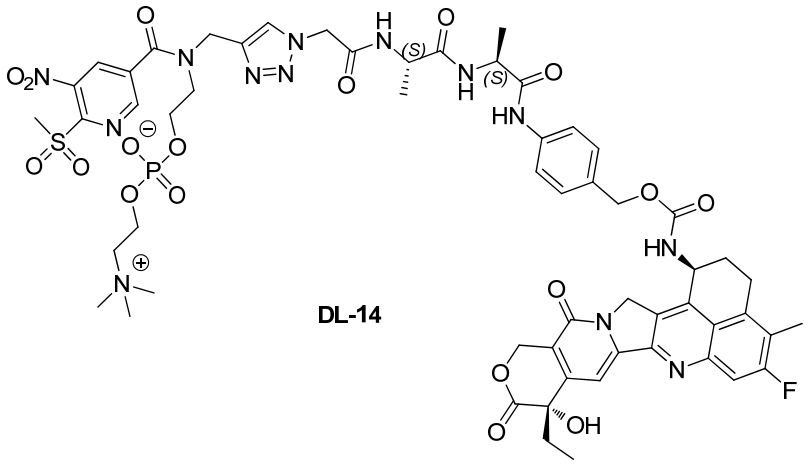

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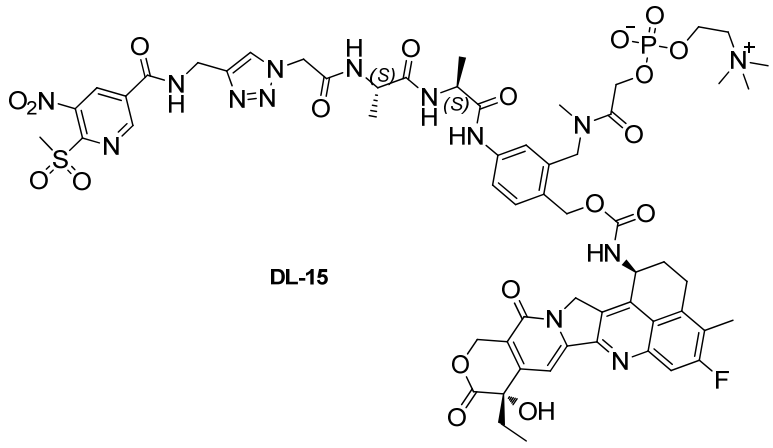

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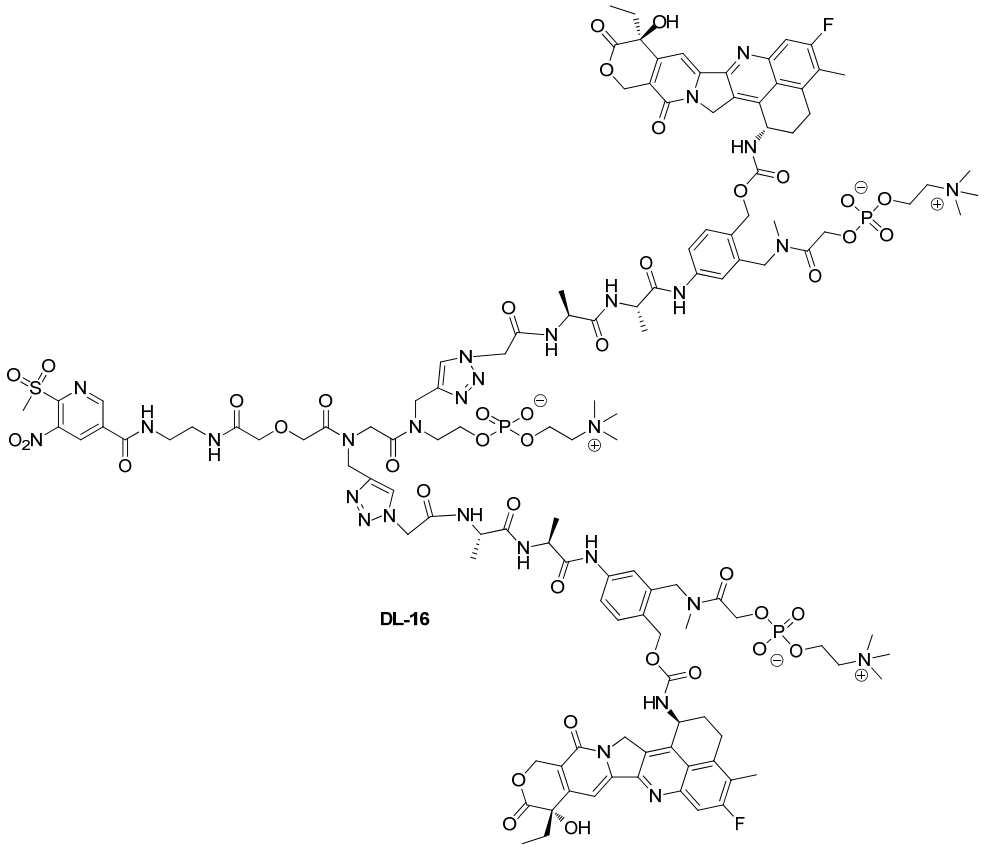

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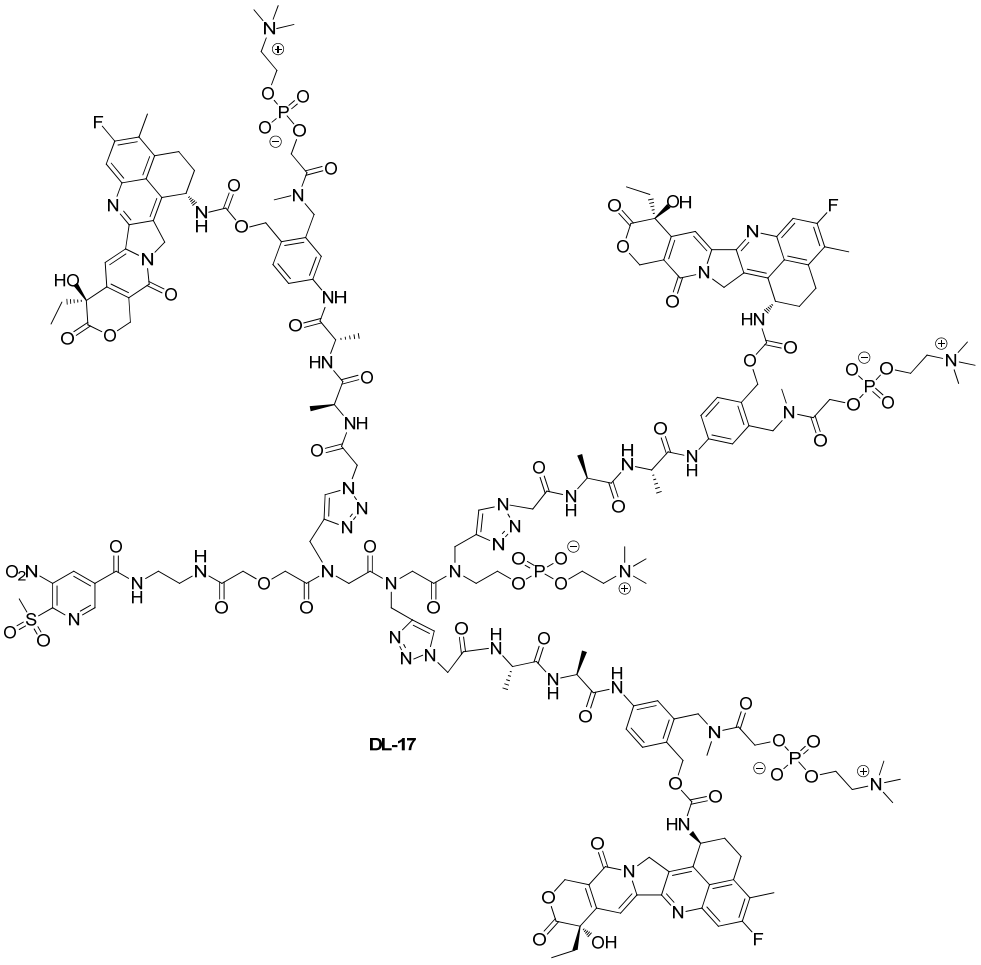

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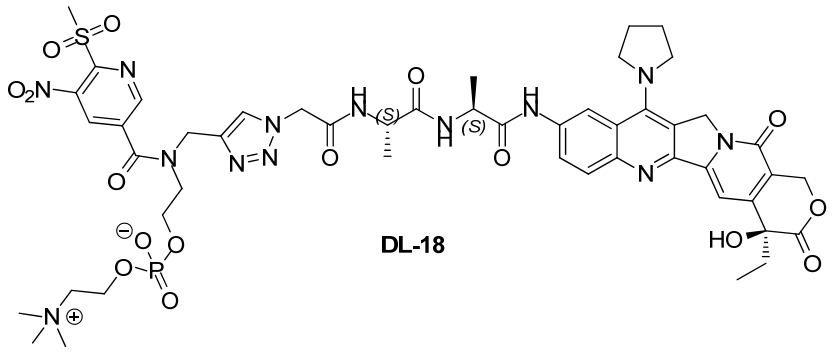

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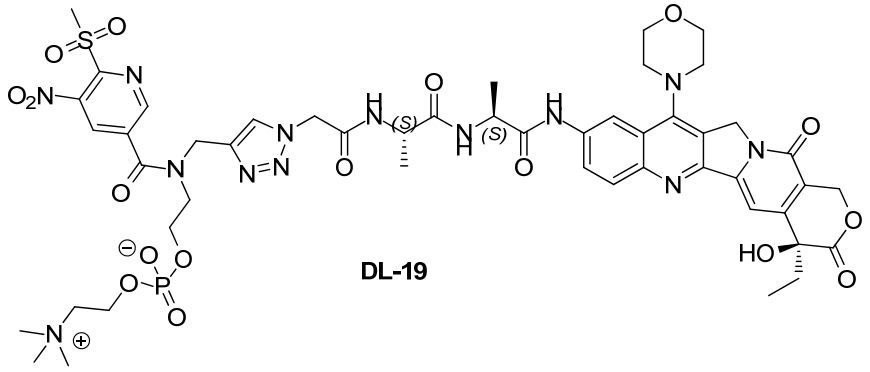

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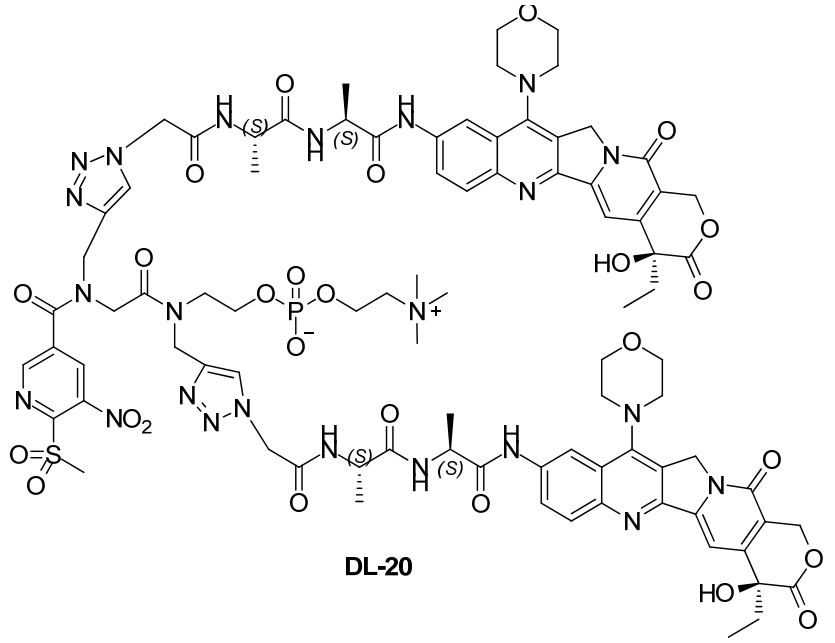

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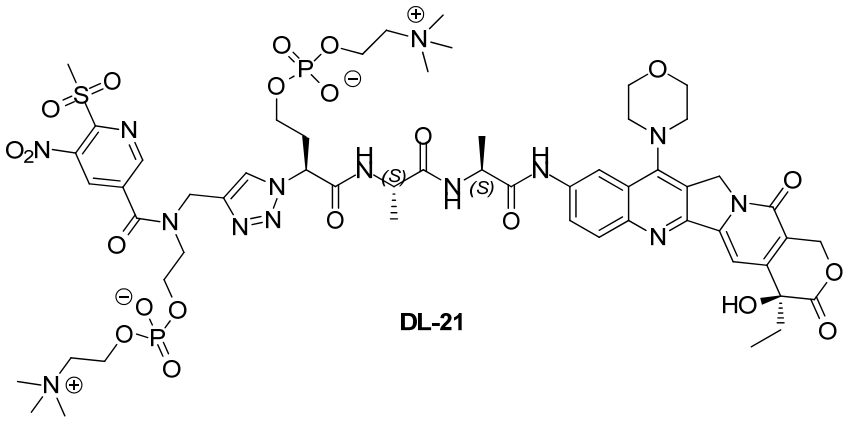

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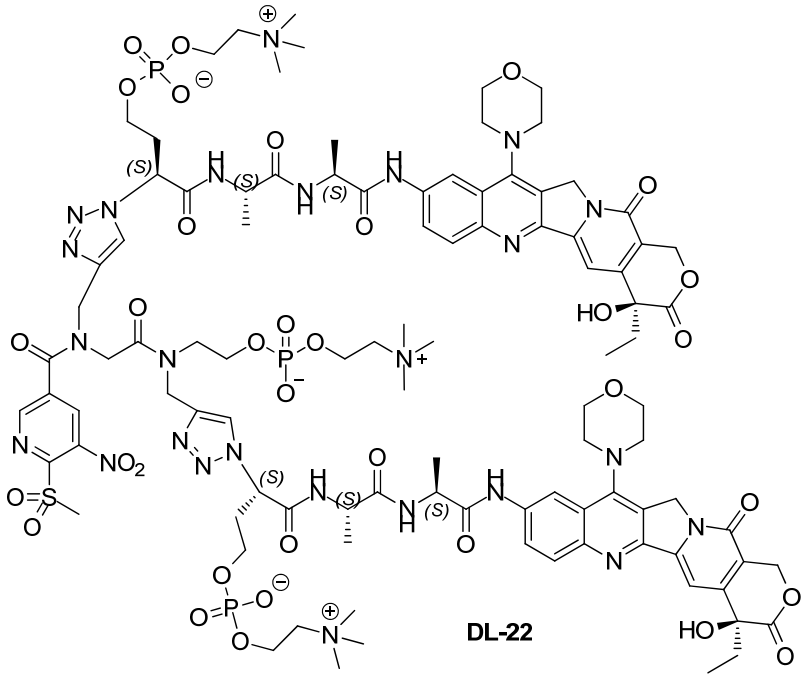

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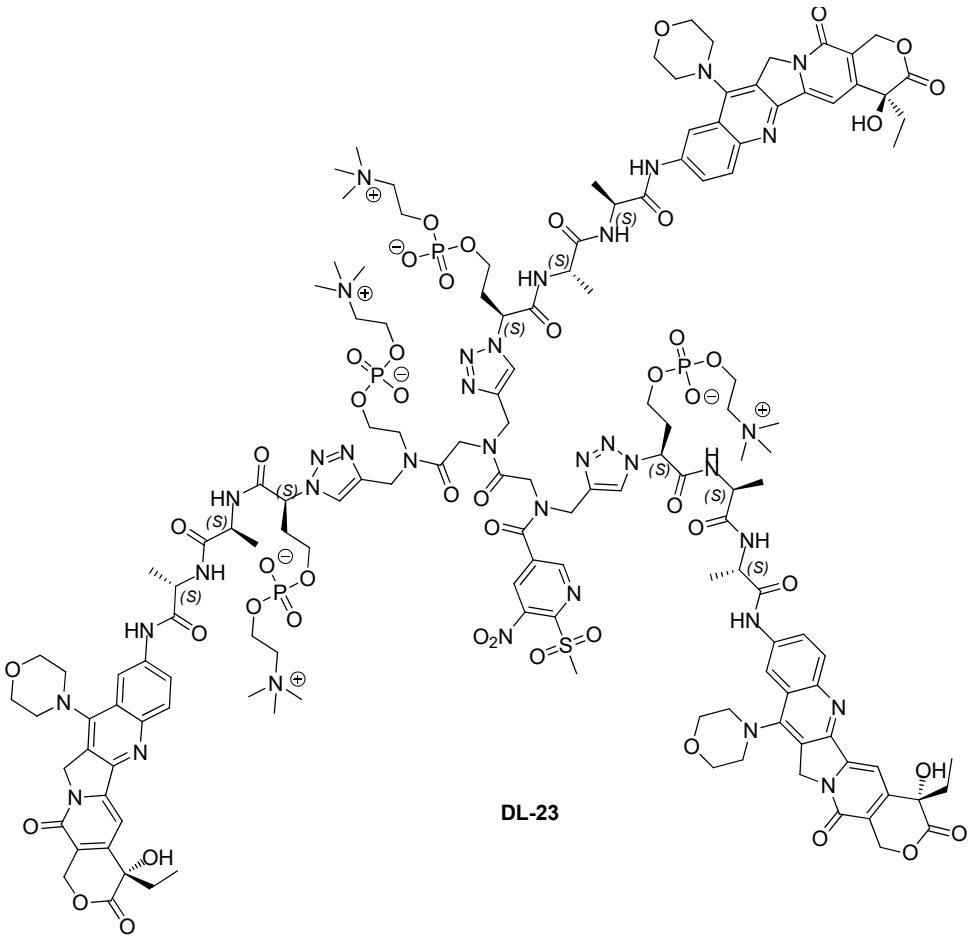

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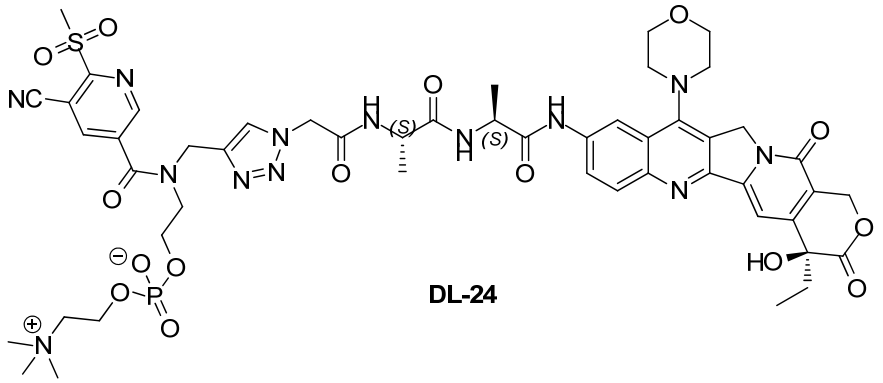
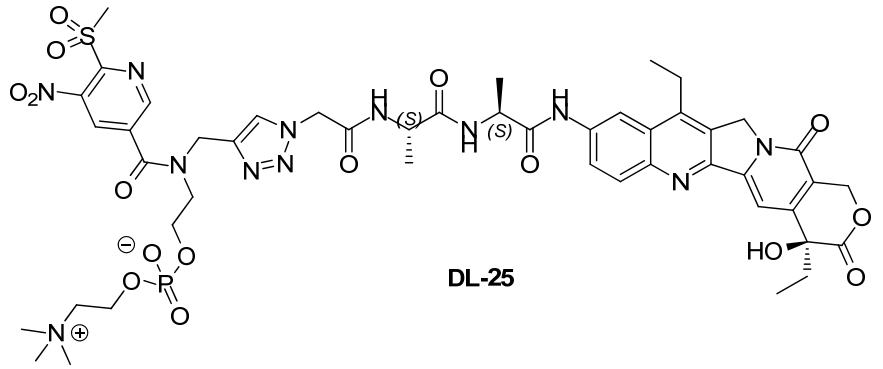
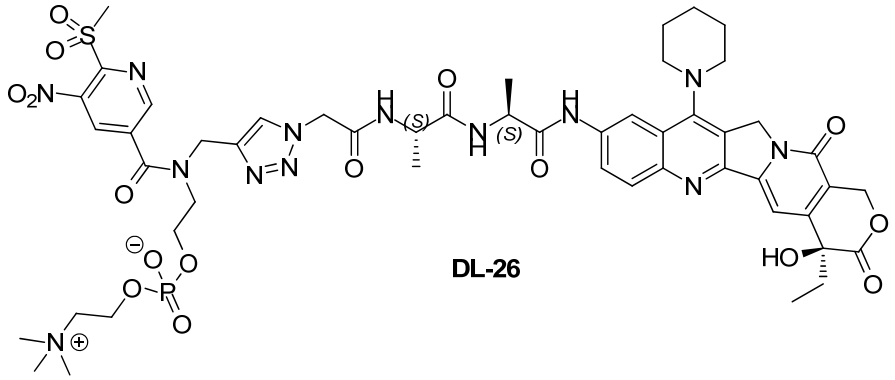


DL-24



DL-25



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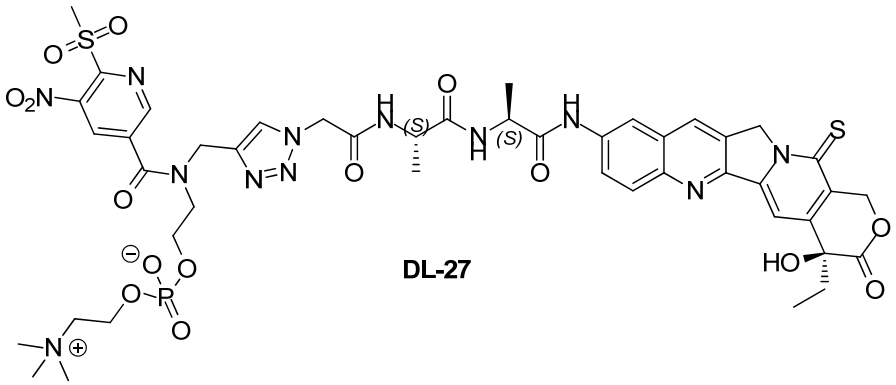

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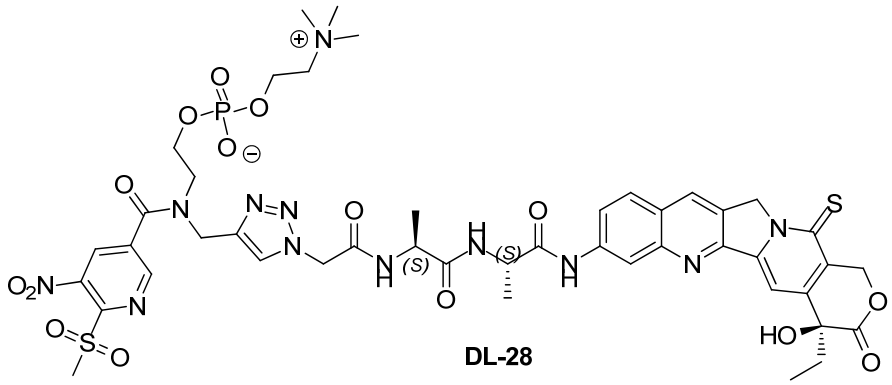

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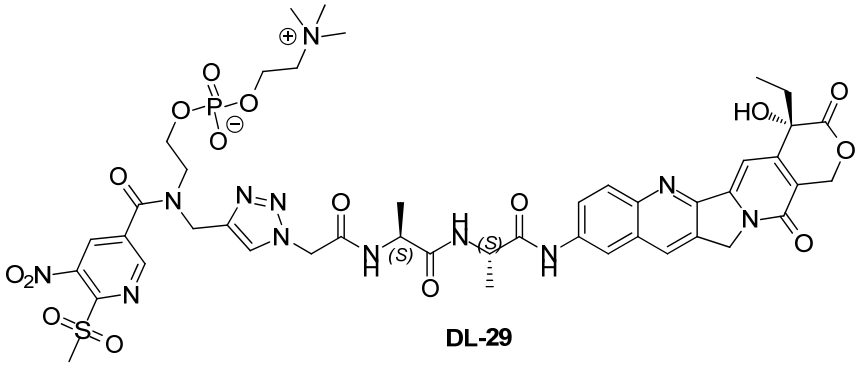

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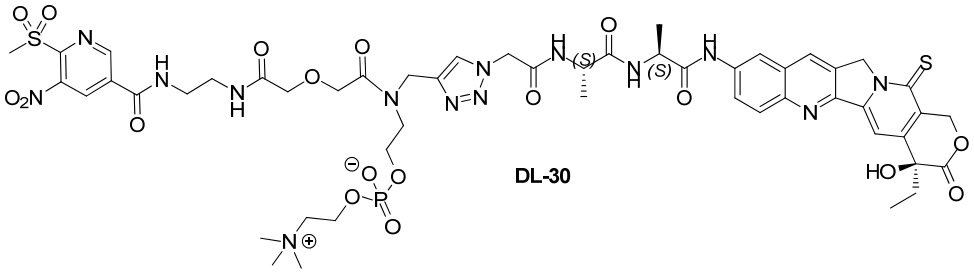
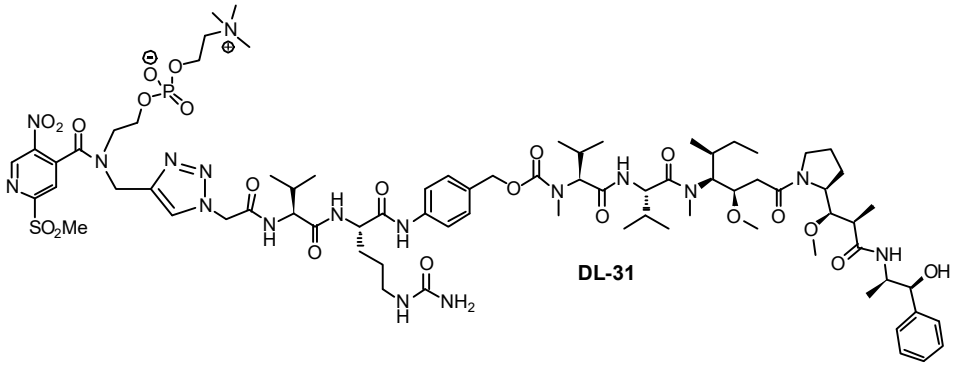


DL-30

38. A compound selected from:



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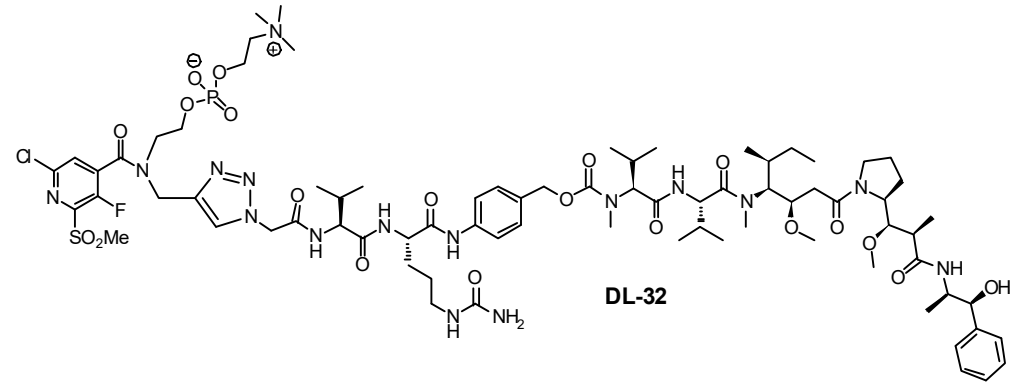

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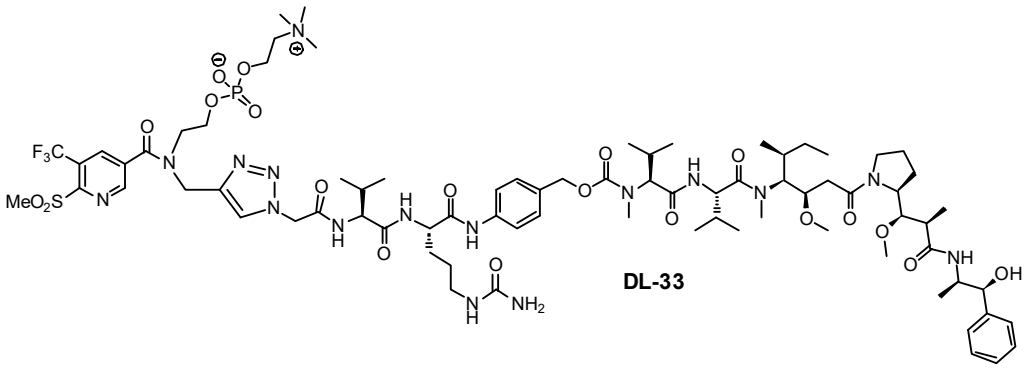
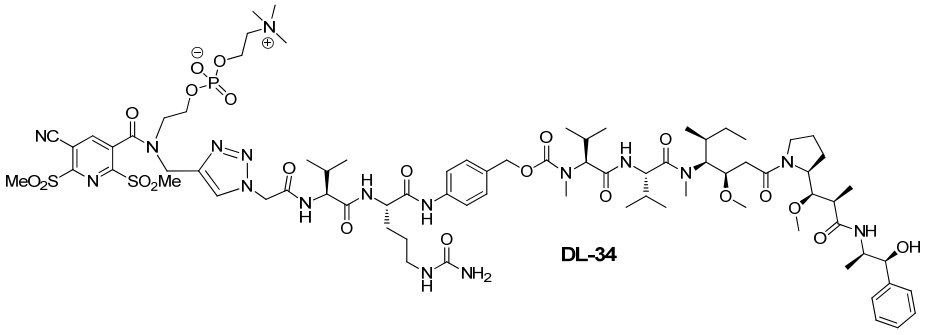


DL-33



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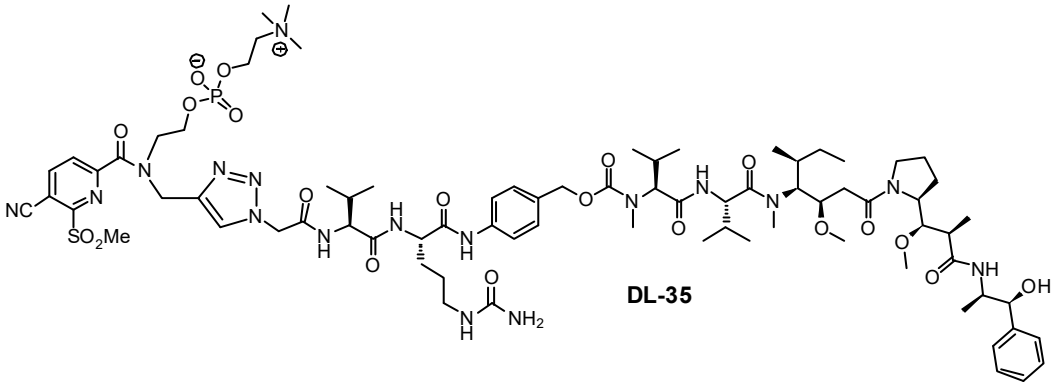
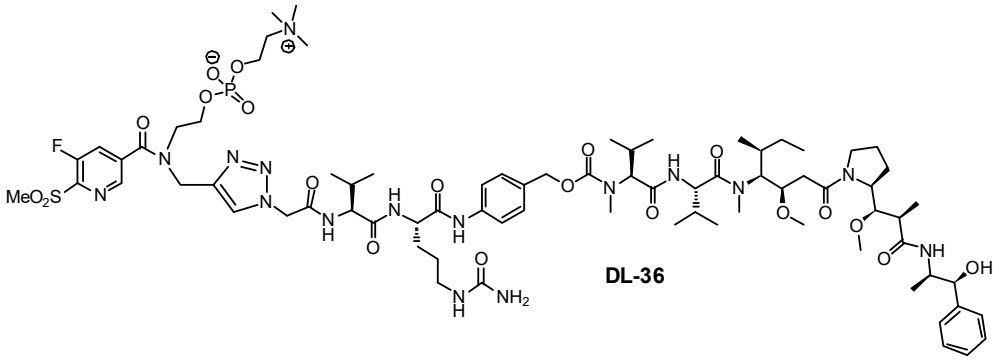
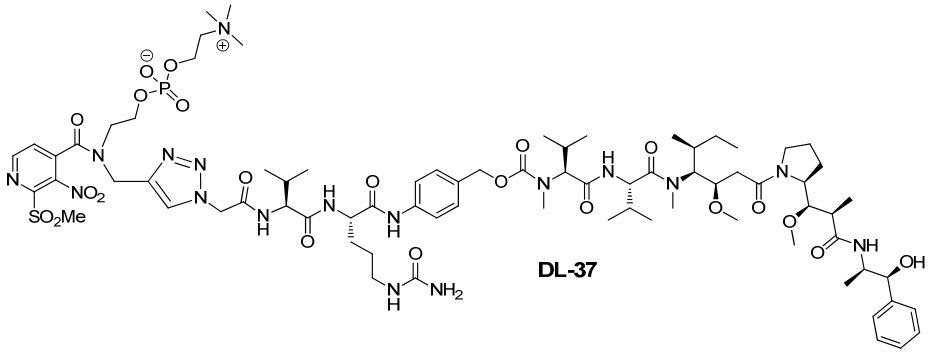


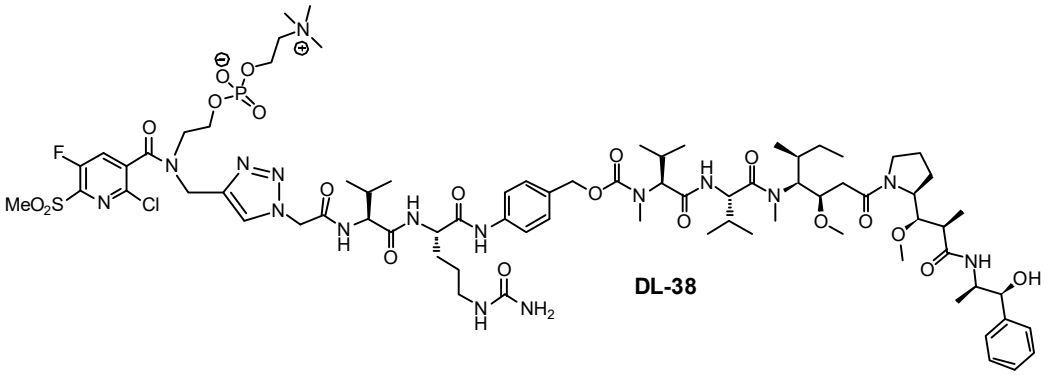
DL-35



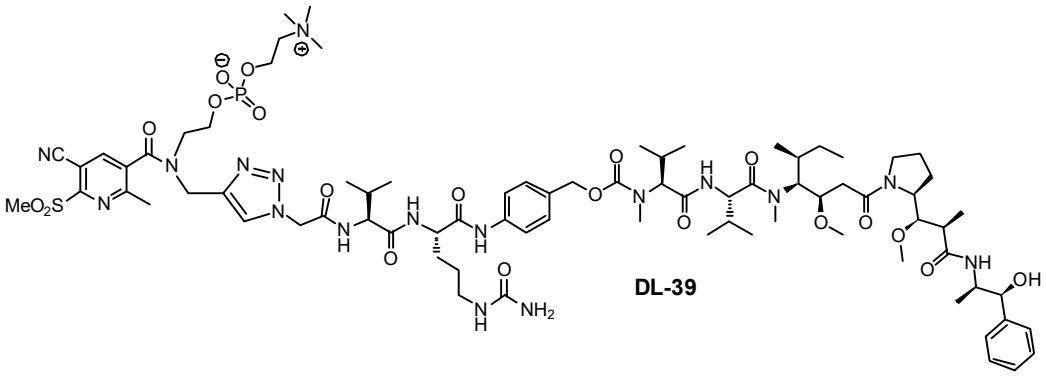
DL-36



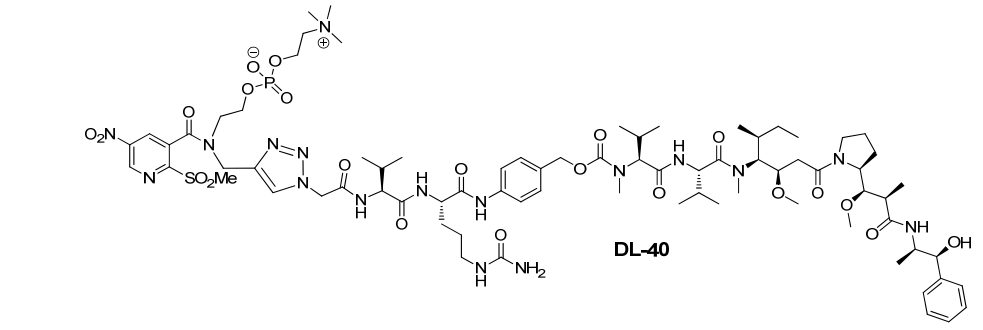
DL-37



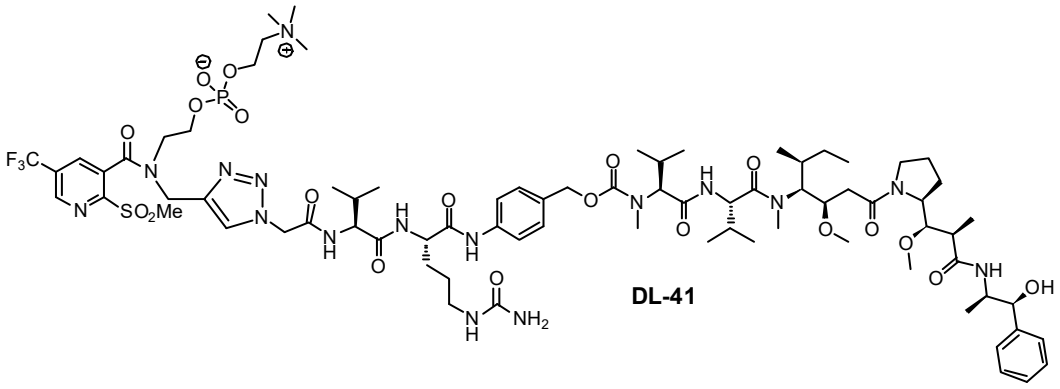
DL-38



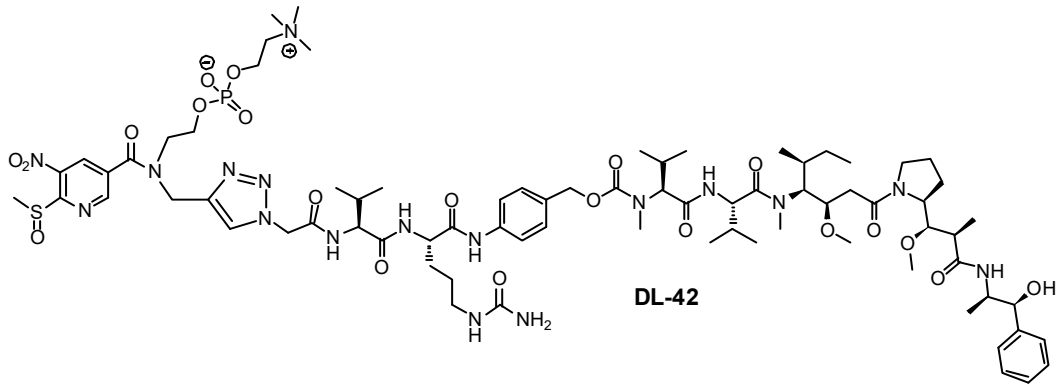
DL-39



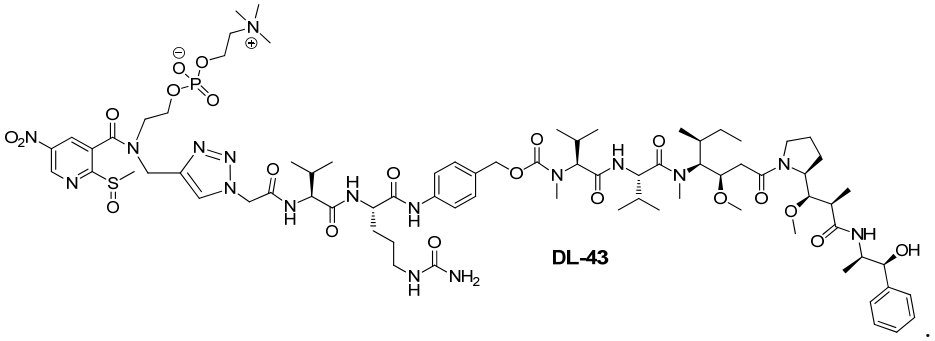
DL-40



DL-41



DL-42



DL-43

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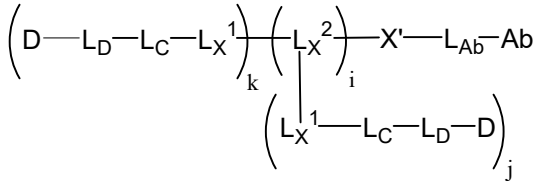
39. An immunoconjugate comprising a drug-linker conjugate or a building block, or a moiety or derivative thereof, according to any one of claims 1-38.

40. An immunoconjugate having the structural formula (IV)



(IV)

or a pharmaceutically acceptable salt thereof,

wherein

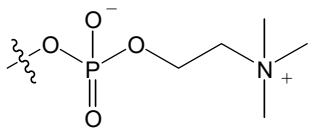
Ab represents an antigen binding moiety;

each D is independently a drug moiety;

X' is a single bond or a conjugation group;

each L_C is independently a moiety formed by a click chemistry reaction between an alkyne and an azide;

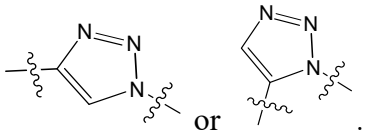
each of L_{Ab}, L_D, L_X^1 and L_X^2 is independently a linker or spacer moiety, wherein at least one of L_D, L_X^1 and L_X^2 comprises a phosphoryl choline (PC) group


; and

i is an integer selected from 0-8; and

each of *j* and *k* is independently 0 or 1, provided that *j* and *k* are not both 0.

41. The immunoconjugate of claim 40, wherein each L_C is


or

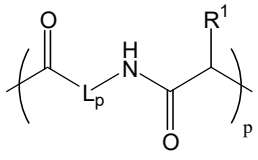
.

42. The immunoconjugate of claim 40 or 41, wherein X' is a single bond.

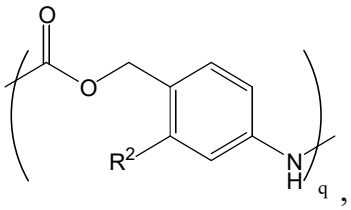
43. The immunoconjugate of any of claims 40-42, wherein $-L_D-$ is $-L_D^2-L_D^1-$,

wherein

L_D^1 is


; and

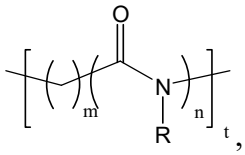
L_D^2 is



wherein

L_p is a di-, tri- or tetra peptide linker;

each of R^1 and R^2 is H, C_{1-3} alkyl, or L_{PC}-(PC), wherein L_{PC} is



each *p* and *q* is independently 0 or 1, provided that *p* and *q* are not both 0;

R is H or C_{1-3} alkyl;

m is 0, 1, 2 or 3;

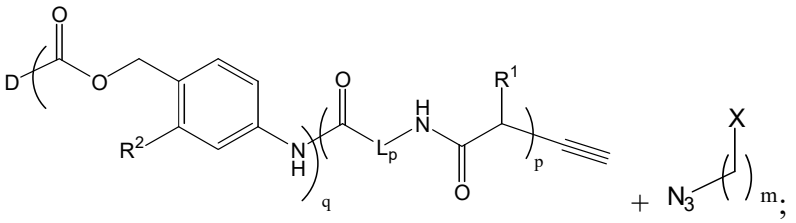
n is 0 or 1, and

t is 0 or 1.

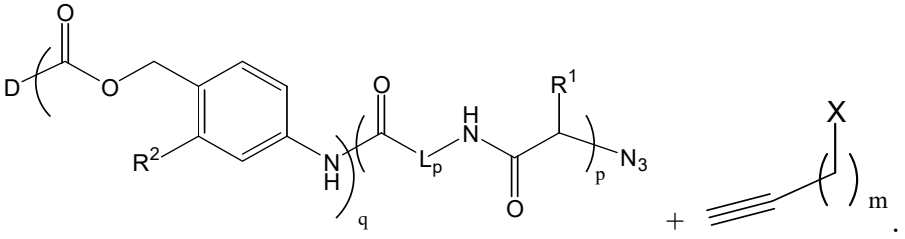
44. The immunoconjugate of claim 43, wherein each of R^1 and R^2 is H, C_{1-3} alkyl, or L_{PC}-(PC).

45. A pharmaceutical composition comprising the immunoconjugate of any of claims 39-44 and a pharmaceutically acceptable excipient, carrier or diluent.

46. A method of preparing a linker-drug conjugate comprising reacting a compound of claim 26 with a compound of claim 28 under suitable conditions for click chemistry:

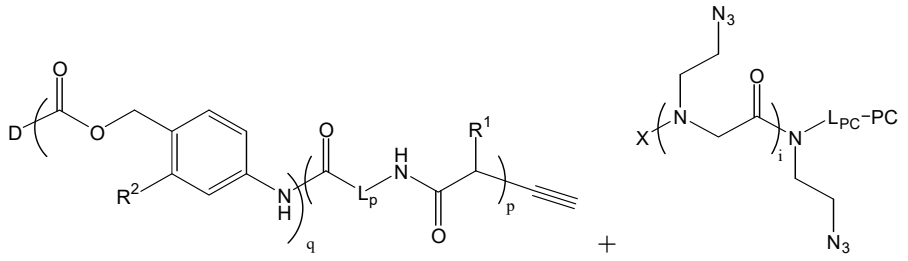


or

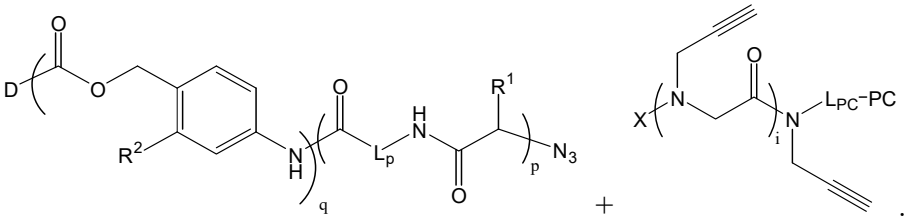


47. A method of preparing a linker-drug conjugate comprising reacting a compound of claim

26 with a compound of claim 33 under suitable conditions for click chemistry:



or



48. Use of an immunoconjugate of any one of claims 38-44 in the manufacture of a medicament- for treating cancer.

49. An immunoconjugate of any one of claims 39-44 for use as a medicament.