CLAIMS

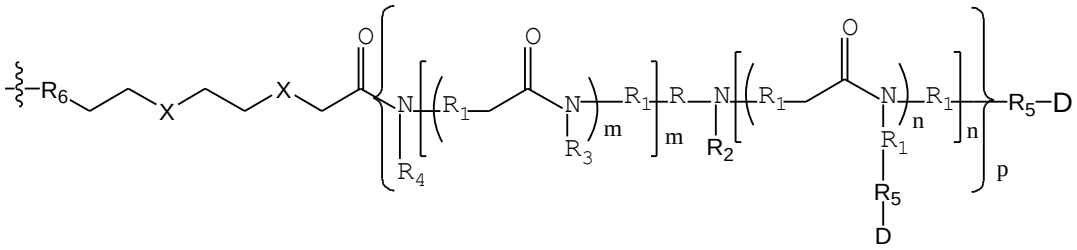
1. A conjugate compound or a pharmaceutically acceptable salt thereof, the conjugate compound having the following structure:

multi-ligand moiety—(linker—payload)$_q$,

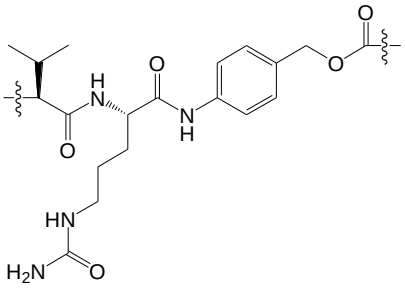
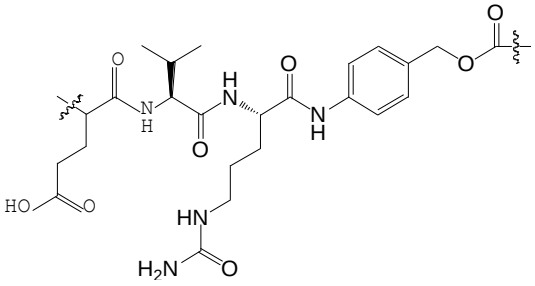
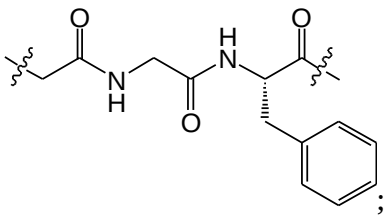
wherein:

the multi-ligand moiety comprises at least two ligands targeting different cell surface molecules,

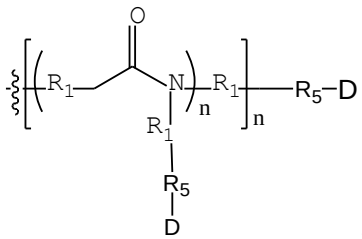
and the linker-payload moiety has the following structure:



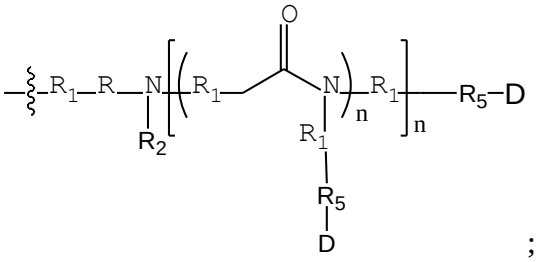
wherein:

R is selected from ,  and ;

each R_1 is independently selected from a bond and -$CH_2CH_2C(O)$-NH-;

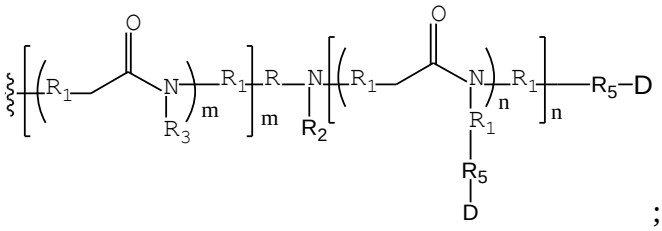
each R_2 is independently selected from hydrogen and ;

each R_3 is independently selected from hydrogen and



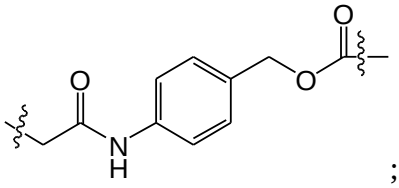
;

each R_4 is independently selected from hydrogen and

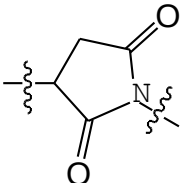


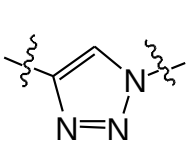
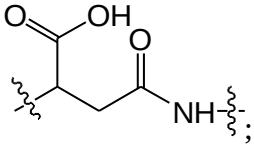
;

each R_5 is independently selected from a bond, $-(CH_2CH_2O)_3-CH_2CH_2-$, $-CH_2C(O)-NH-CH_2-$, $-CH_2C(O)-$, $-CH_2C(O)-NH-CH_2C(O)-$ and



;

each R_6 is independently selected from a bond, ,

 and ;

each X is independently selected from a bond, C and O;

each m is independently 0 or 1;

each n is independently 0 or 1;

p is 0 or 1;

q is an integer from 1 to 4;

and D is the payload.

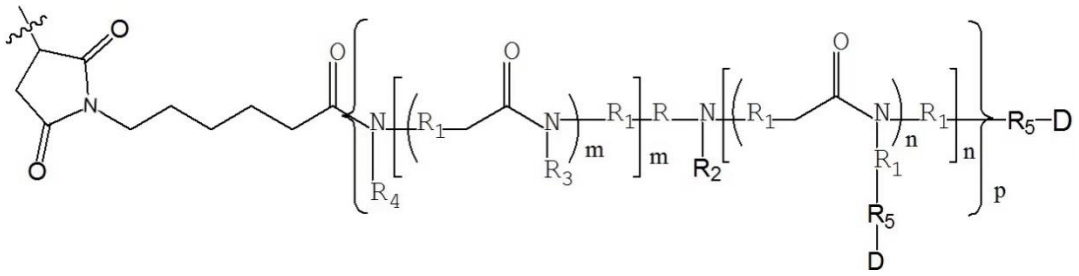
2. A conjugate compound or a pharmaceutically acceptable salt thereof, the conjugate compound having the following structure:

multi-ligand moiety—(linker—payload)$_q$,

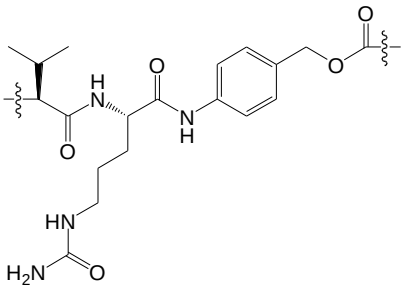
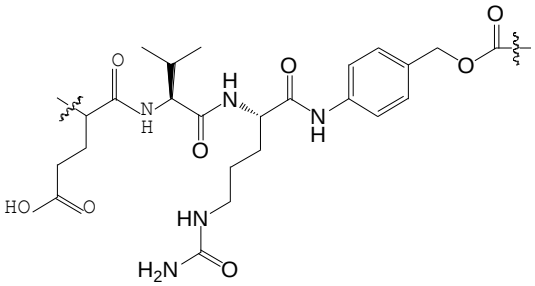
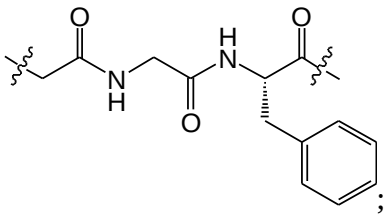
wherein:

the multi-ligand moiety comprises at least two ligands targeting different cell surface molecules,

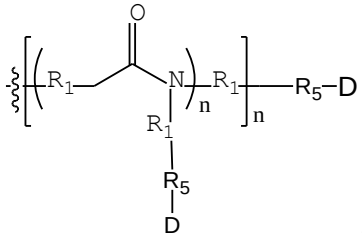
and the linker-payload moiety has the following structure:

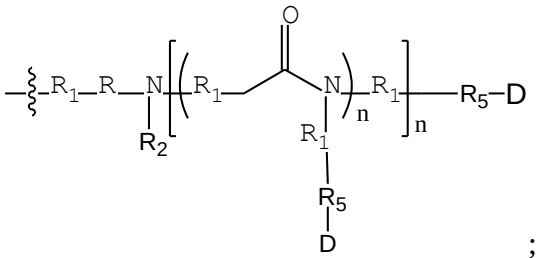


wherein:

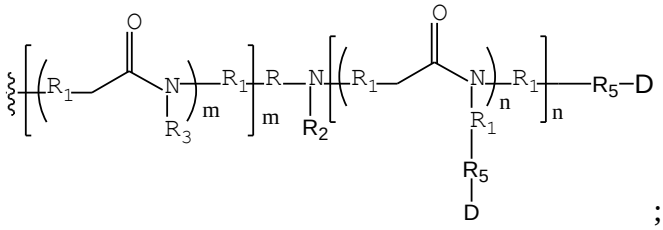
R is selected from ,  and ;

each R_1 is independently selected from a bond and -$CH_2CH_2C(O)$-NH-;

each R_2 is independently selected from hydrogen and ;

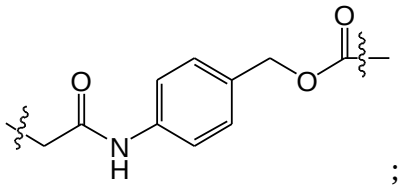
each R_3 is independently selected from hydrogen and ;

each R_4 is independently selected from hydrogen and



;

each R_5 is independently selected from a bond, $-(CH_2CH_2O)_3-CH_2CH_2-$, $-CH_2C(O)-NH-CH_2-$, $-CH_2C(O)-$, $-CH_2C(O)-NH-CH_2C(O)-$ and



;

each m is independently 0 or 1;

each n is independently 0 or 1;

p is 0 or 1;

q is an integer from 1 to 4;

and D is the payload.

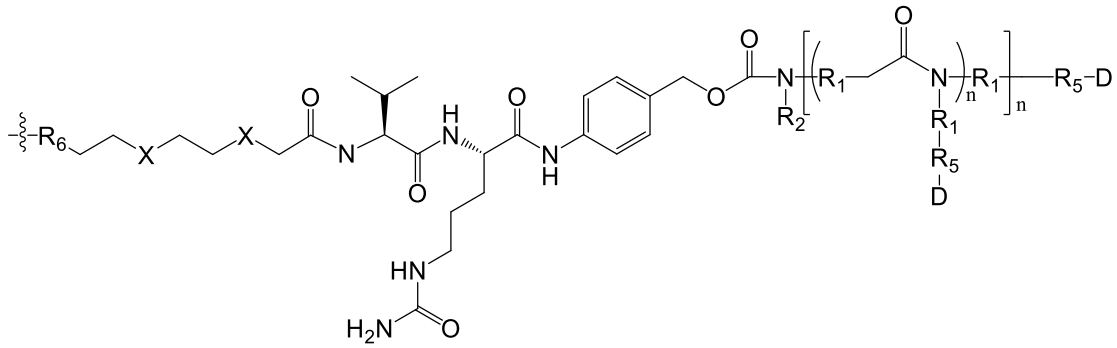
3. A conjugate compound or a pharmaceutically acceptable salt thereof, the conjugate compound having the following structure:

multi-ligand moiety—(linker—payload)$_q$,

wherein:

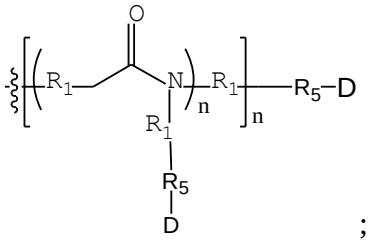
the multi-ligand moiety comprises at least two ligands targeting different cell surface molecules,

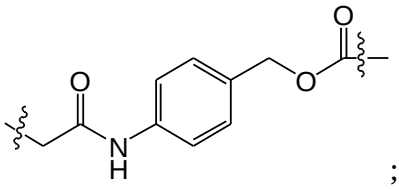
and the linker-payload moiety has the following structure:

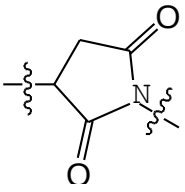
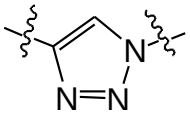
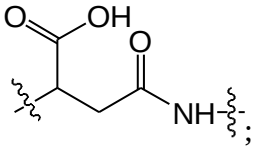


wherein:

each R_1 is independently selected from a bond and $-CH_2CH_2C(O)-NH-$;

each R_2 is independently selected from hydrogen and ;

each R_5 is independently selected from a bond, $-(CH_2CH_2O)_3-CH_2CH_2-$, $-CH_2C(O)-NH-CH_2-$, $-CH_2C(O)-$, $-CH_2C(O)-NH-CH_2C(O)-$ and ;

each R_6 is independently selected from a bond, ,  and ;

each X is independently selected from a bond, C and O;

each n is independently 0 or 1;

q is an integer from 1 to 4;

and D is the payload.

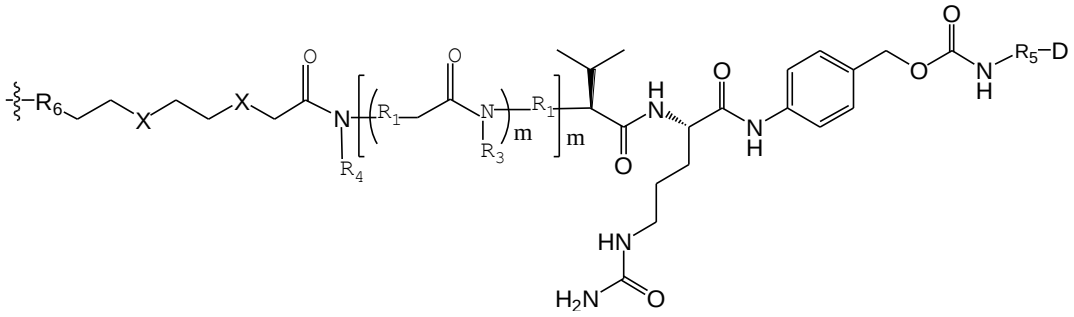
4. A conjugate compound or a pharmaceutically acceptable salt thereof, the conjugate compound having the following structure:

multi-ligand moiety—(linker—payload)$_q$,

wherein:

the multi-ligand moiety comprises at least two ligands targeting different cell surface molecules,

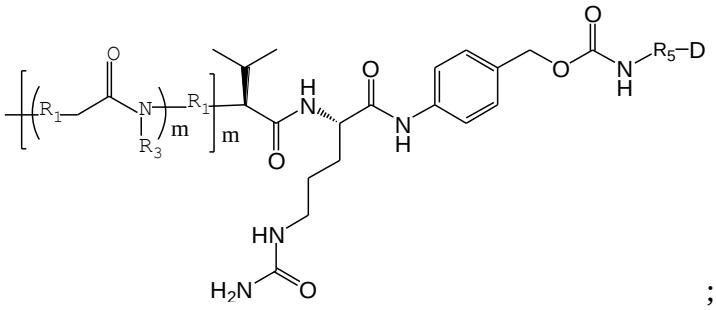
and the linker-payload moiety has the following structure:



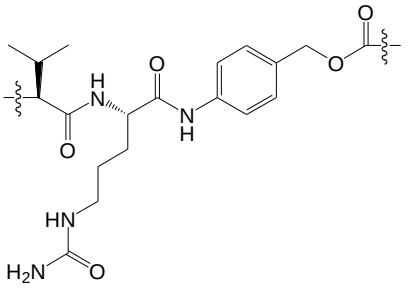
wherein:

each R_1 is independently selected from a bond and -$CH_2CH_2C(O)$-NH-;

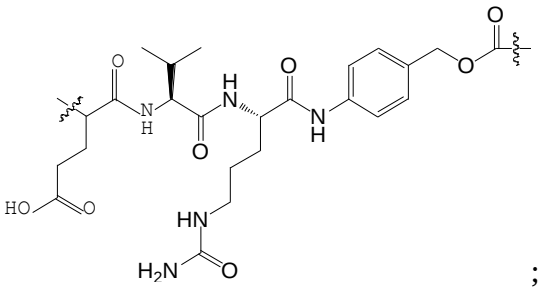
each R_3 is independently selected from hydrogen and -R_1-R-NH-R_5-D;



R_4 is hydrogen or ;

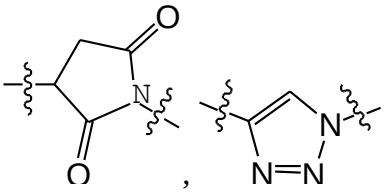
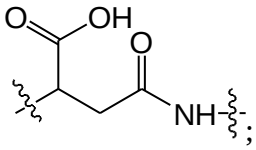


R is selected from and



;

each R_5 is independently selected from a bond, -$(CH_2CH_2O)_3$-CH_2CH_2-, -$CH_2C(O)$-NH-CH_2-, -$CH_2C(O)$-NH-$CH_2C(O)$- and -$CH_2C(O)$-;

each R_6 is independently selected from a bond, , ; and

each X is independently selected from a bond, C and O;

each m is independently 0 or 1;

q is an integer from 1 to 4;

and D is the payload.

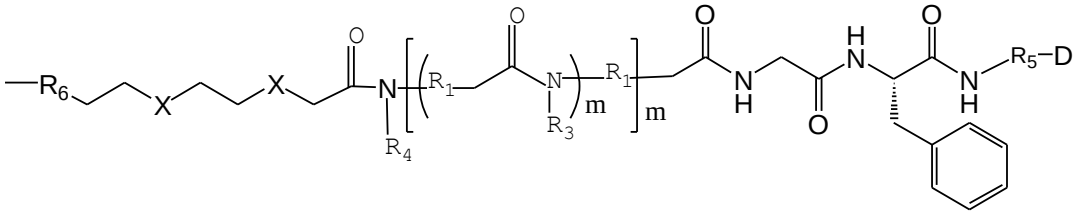
5. A conjugate compound or a pharmaceutically acceptable salt thereof, the conjugate compound having the following structure:

multi-ligand moiety—(linker—payload)$_q$,

wherein:

the multi-ligand moiety comprises at least two ligands targeting different cell surface molecules,

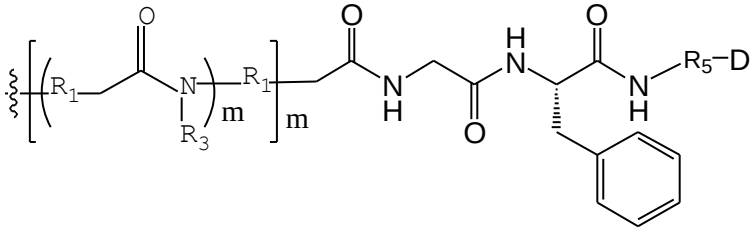
and the linker-payload moiety has the following structure:



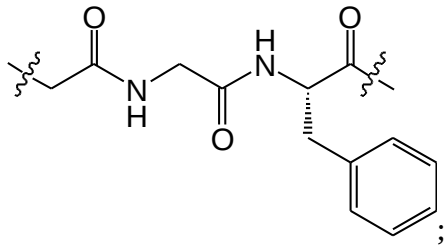
wherein:

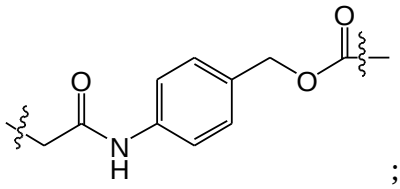
each R_1 is independently selected from a bond and -$CH_2CH_2C(O)$-NH-;

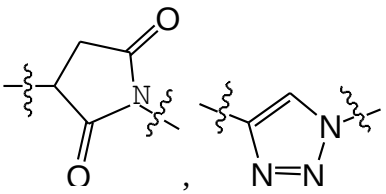
each R_3 is independently selected from hydrogen and -R_1-R-NH-R_5-D;

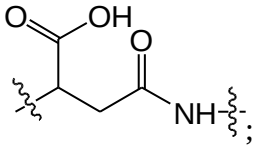


R_4 is hydrogen or ;

R is ;

each R_5 is independently selected from a bond, $-(CH_2CH_2O)_3-CH_2CH_2-$, $-CH_2C(O)-NH-CH_2-$, $-CH_2C(O)-NH-CH_2C(O)-$, $-CH_2C(O)-$ and ;

each R_6 is independently selected from a bond, ,

and ;

each X is independently selected from a bond, C and O;

each m is independently 0 or 1;

q is an integer from 1 to 4;

and D is the payload.

6. The conjugate compound or the pharmaceutically acceptable salt thereof according to any one of claims 1-5, wherein R_5 is not $-CH_2C(O)-NH-CH_2-$.

7. The conjugate compound or the pharmaceutically acceptable salt thereof according to any one of claims 1-6, wherein:

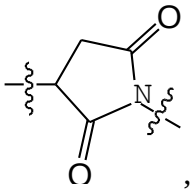
i) each m is independently 0 or 1, and n is 0;

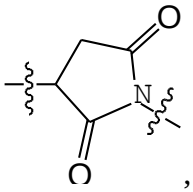
ii) m is 0, and each n is independently 0 or 1;

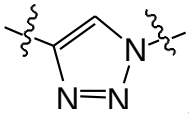
iii) m is 0, and n is 0; or

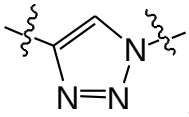
iv) m is 0, n is 0, and R_5 is not $-CH_2C(O)-NH-CH_2-$.

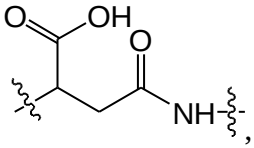
8. The conjugate compound or the pharmaceutically acceptable salt thereof according to any one of claims 1 or 3-7, wherein:

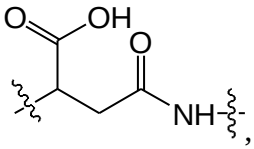
i) R_6 is , and X is a bond;

ii) R_6 is , and X is O;

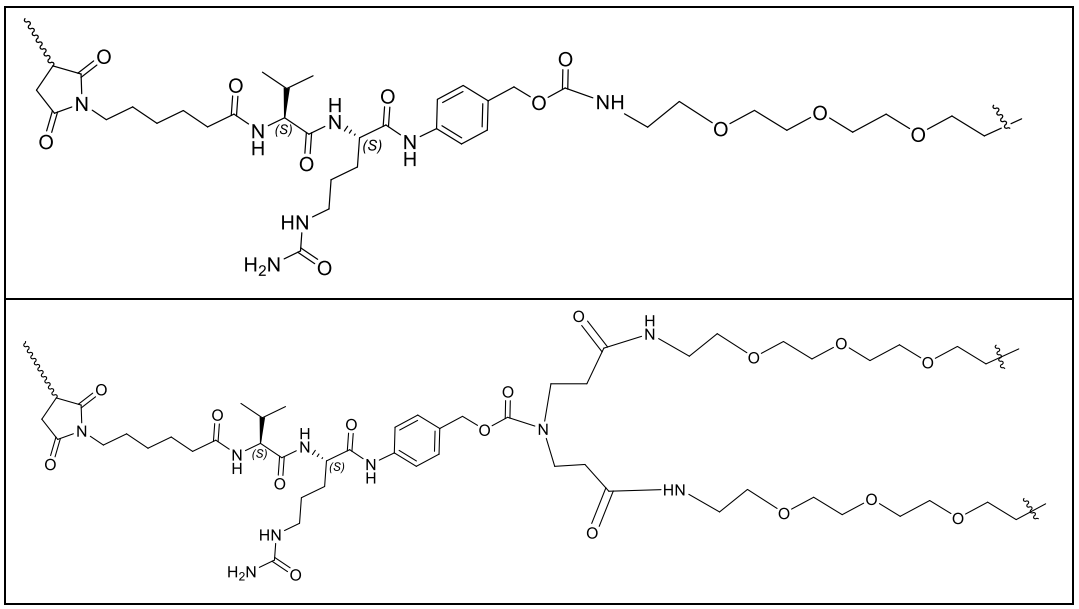
iii) R_6 is , and X is a bond;

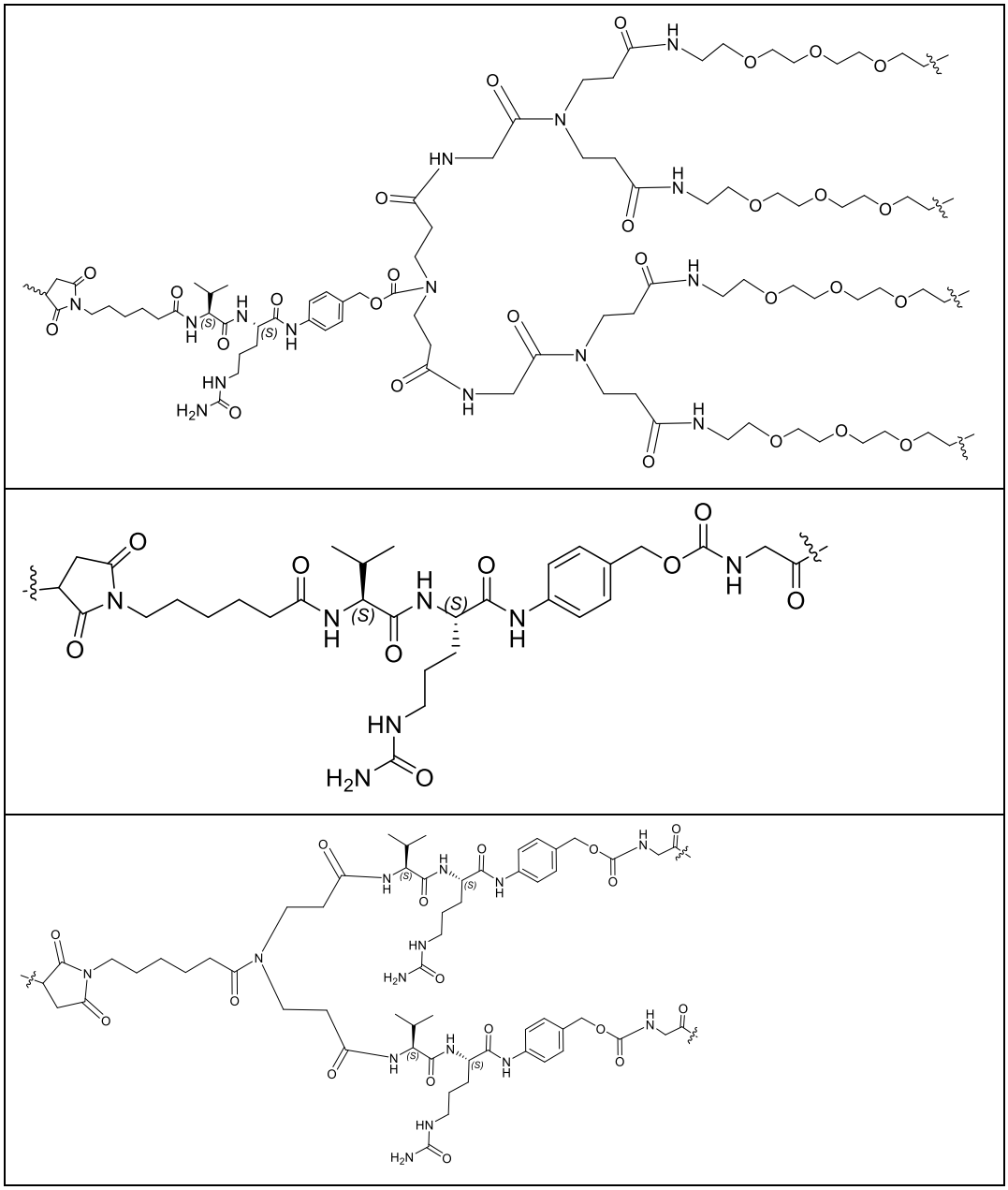
iv) R_6 is , and X is O;

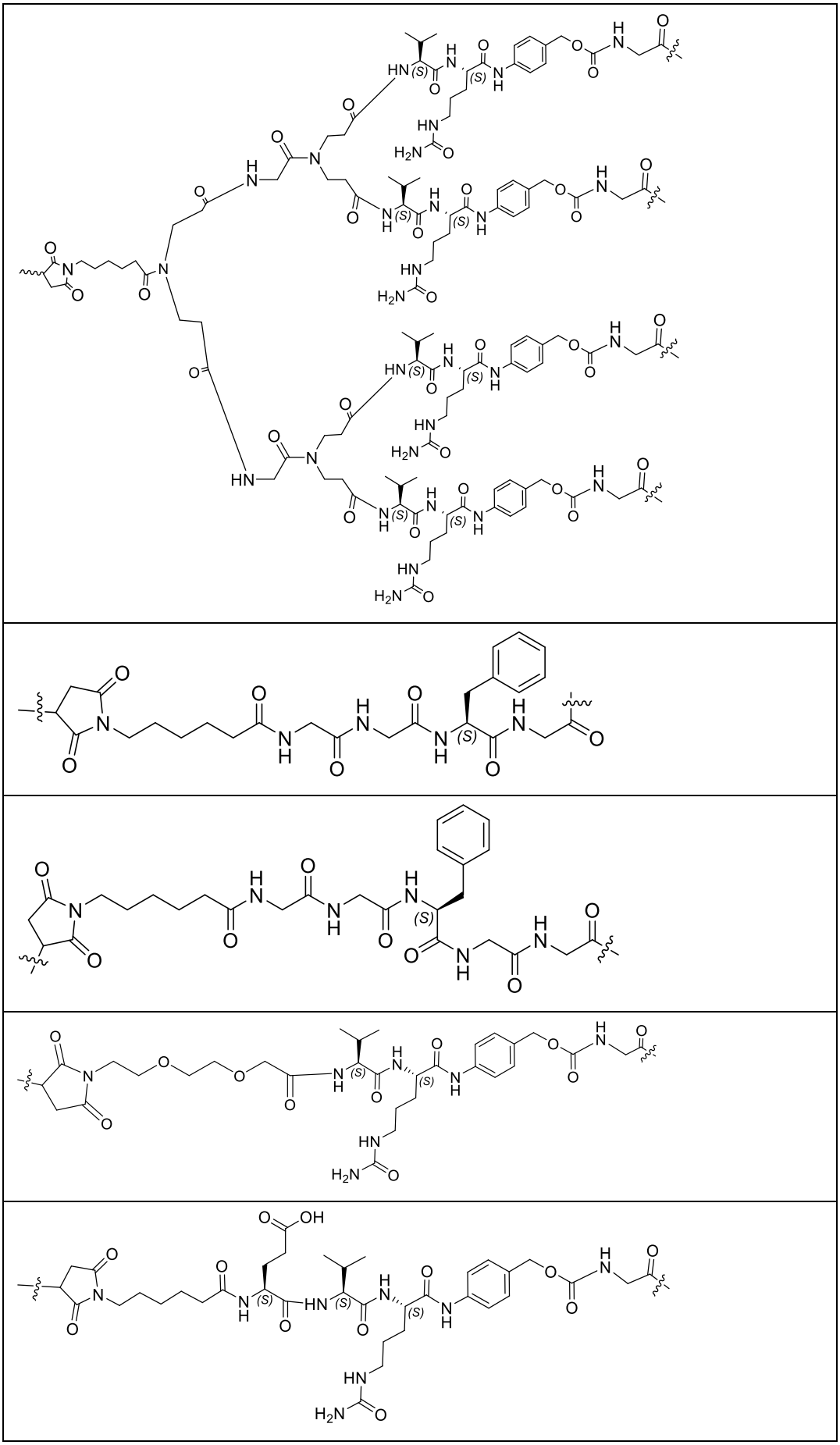
v) R_6 is , and X is a bond; or

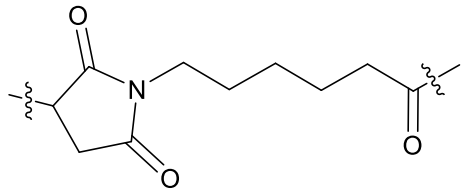
vi) R_6 is , and X is O.

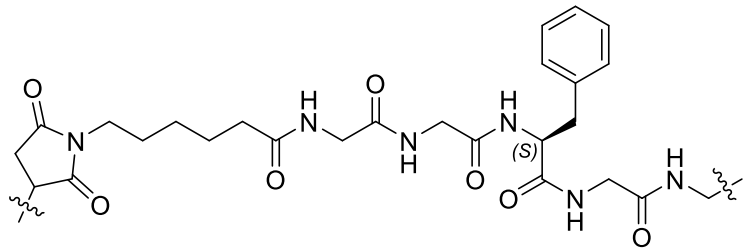
9. The conjugate compound or the pharmaceutically acceptable salt thereof according to any one of claims 1-5, wherein the linker has a structure selected from the group of:

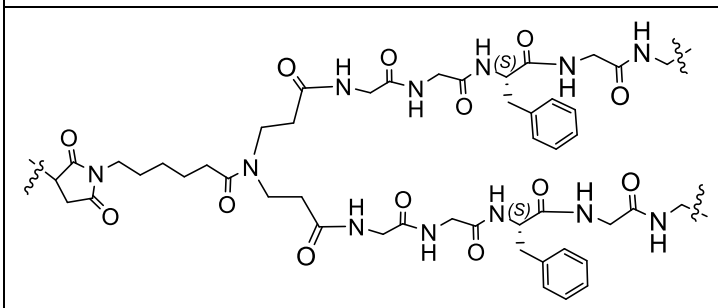


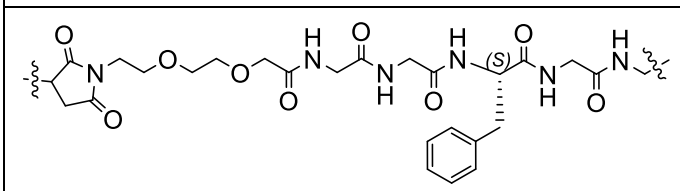


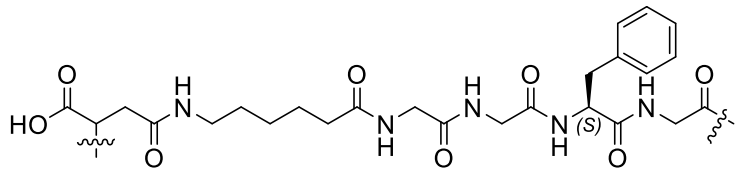


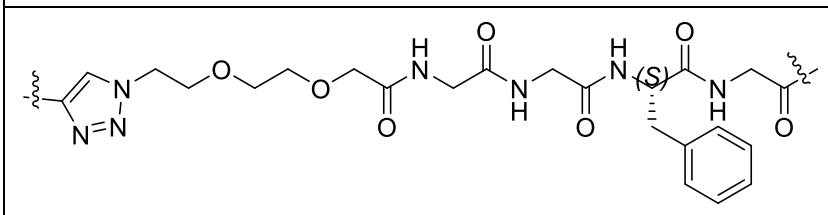


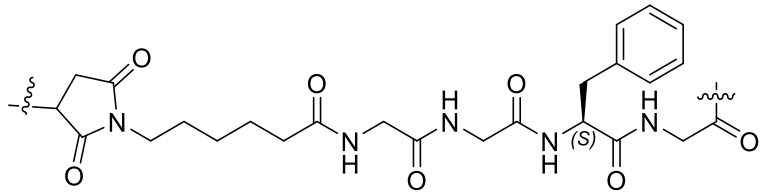


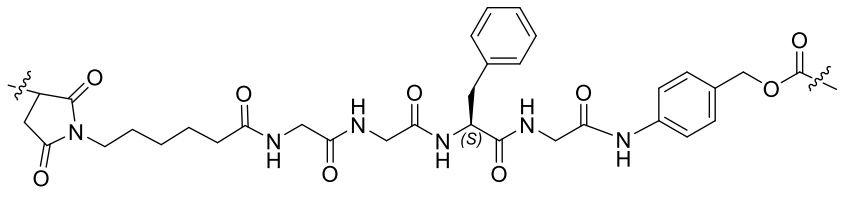






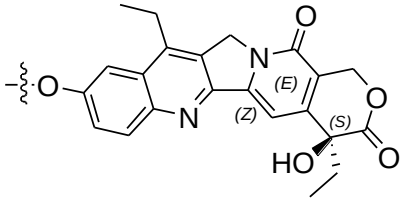
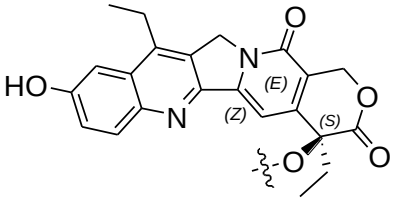
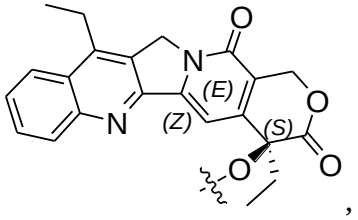
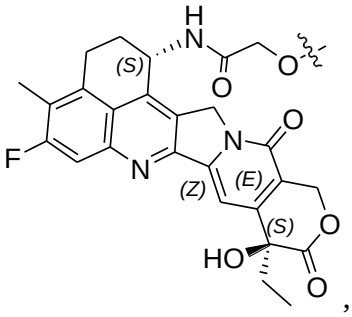
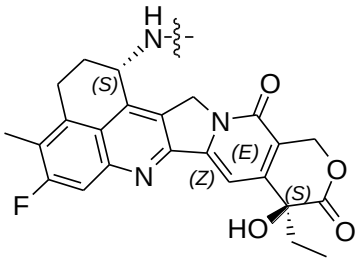
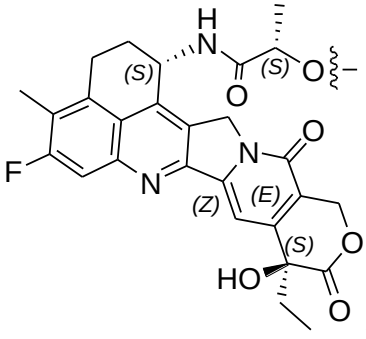






.

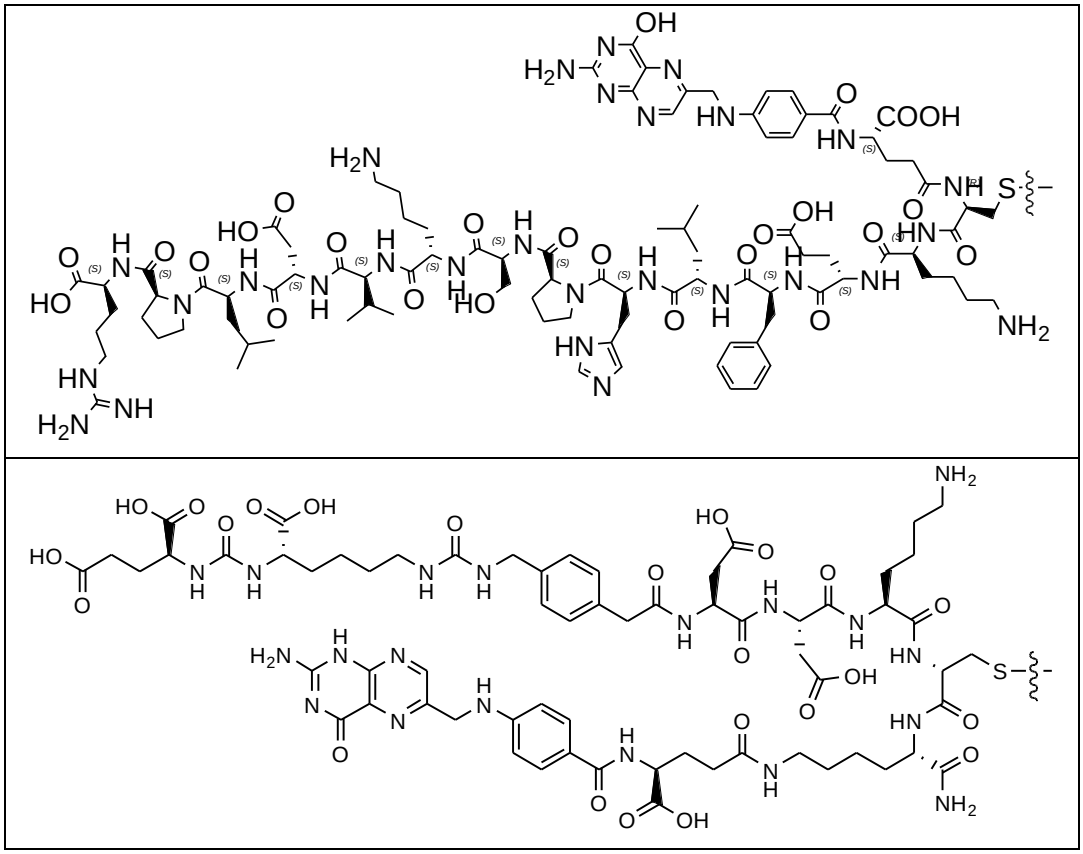
10. The conjugate compound or the pharmaceutically acceptable salt thereof according to any one of claims 1-9, wherein the payload is selected from the group consisting of: a small molecule compound, a nucleotide and a peptide, and preferably, the payload is a small molecule compound.

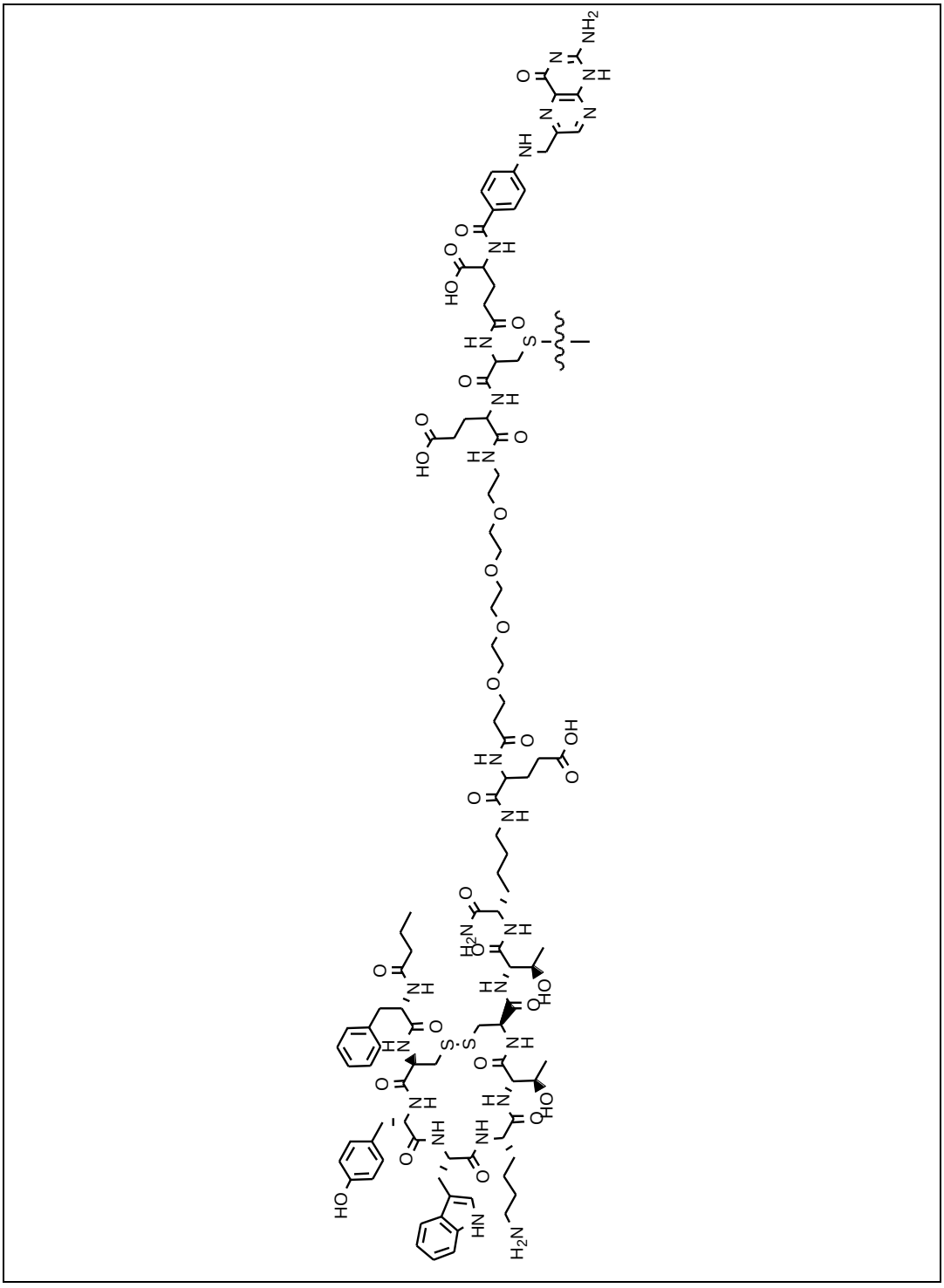
11. The conjugate compound or the pharmaceutically acceptable salt thereof according to any one of claims 1-10, wherein each D is independently selected from , , , , ,  and .

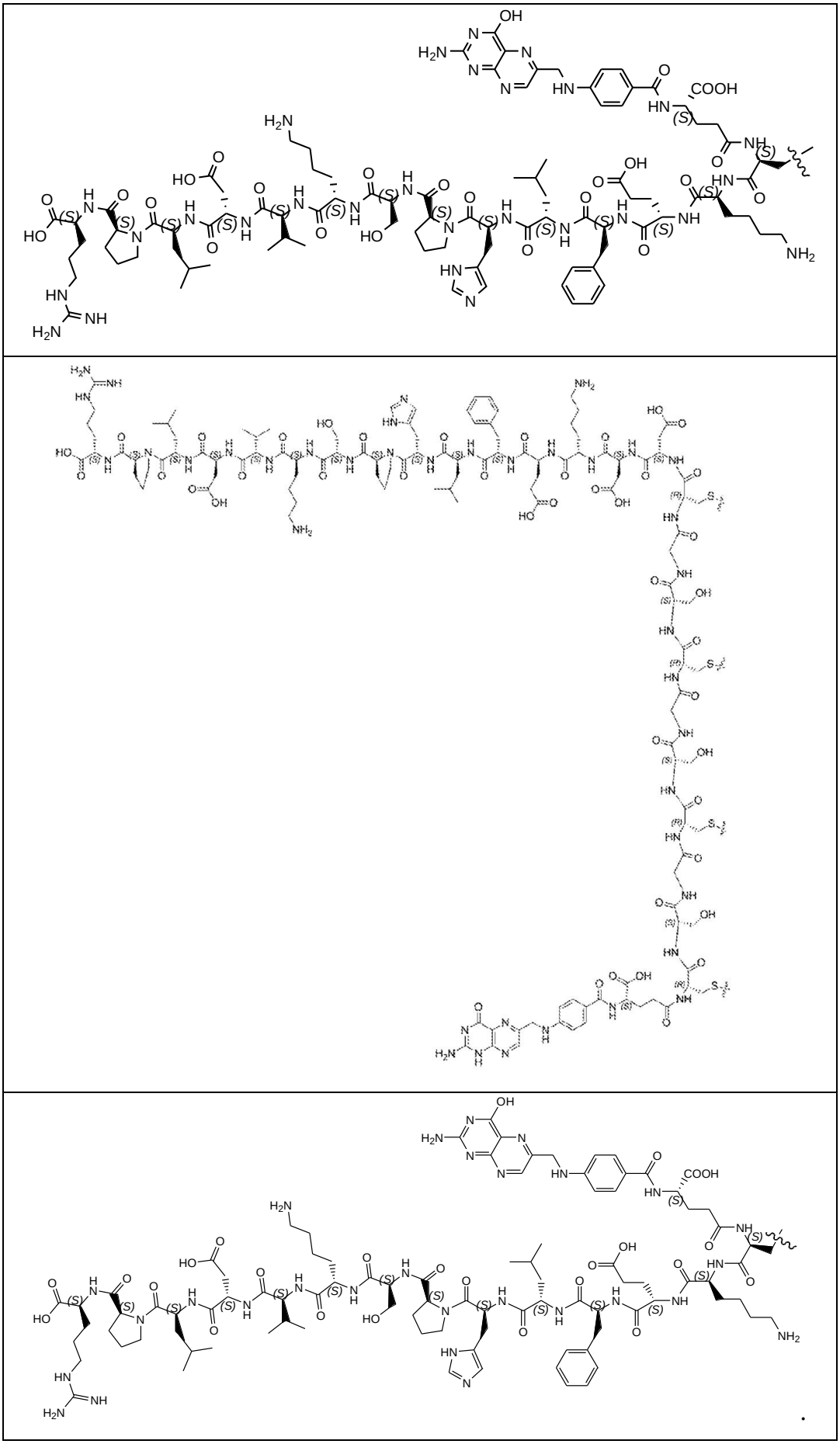
12. The conjugate compound or the pharmaceutically acceptable salt thereof according to any one of claims 1-11, wherein the cell surface molecule is independently selected from TRPV6, FOLR1, PSMA and SSTR2.

13. The conjugate compound or the pharmaceutically acceptable salt thereof according to any one of claims 1-12, wherein the cell surface molecules are TRPV6 and FOLR1, PSMA and FOLR1, or SSTR2 and FOLR1, respectively.

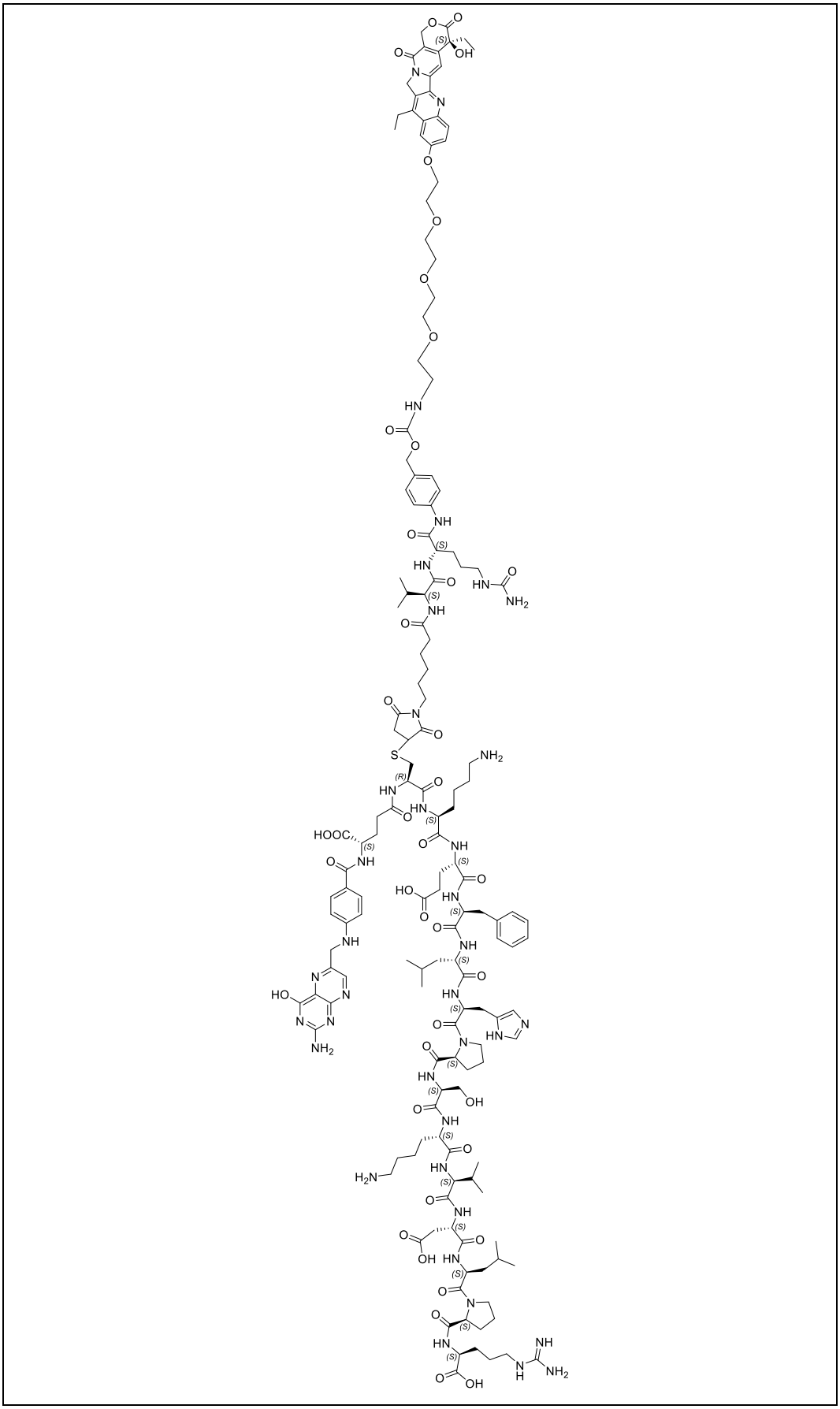
14. The conjugate compound or the pharmaceutically acceptable salt thereof according to any one of claims 1-13, wherein the ligand moiety has the following structure:

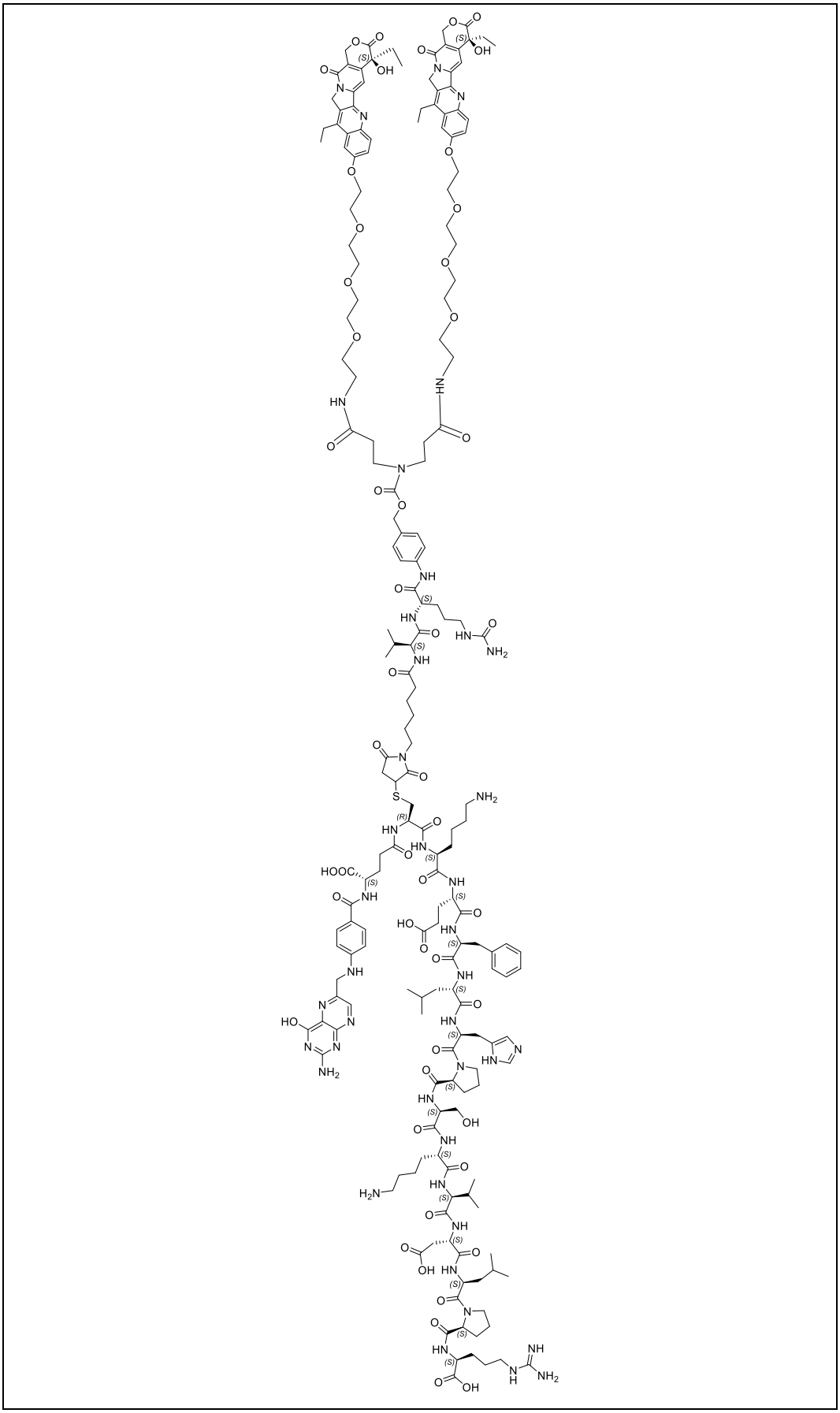


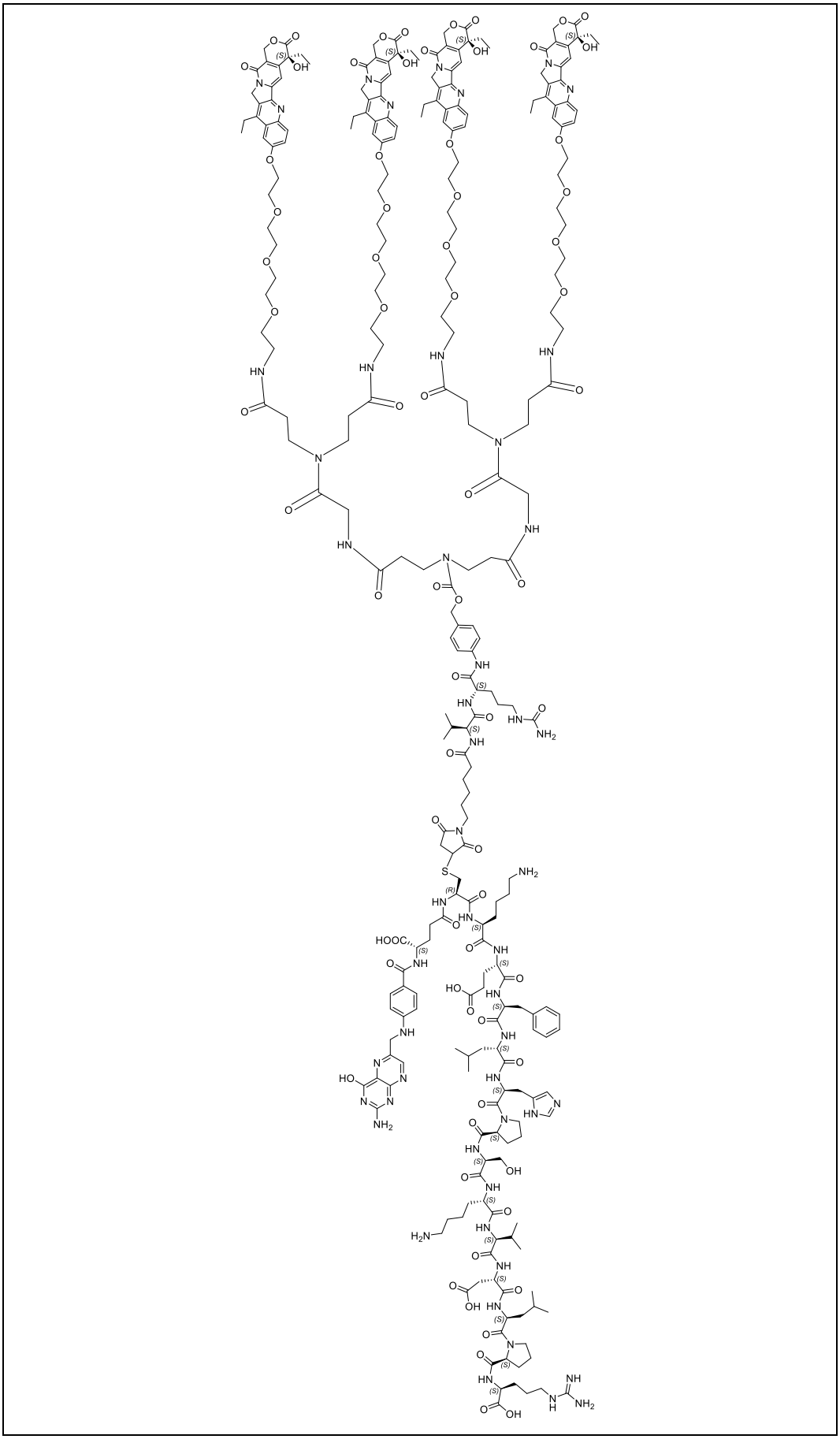


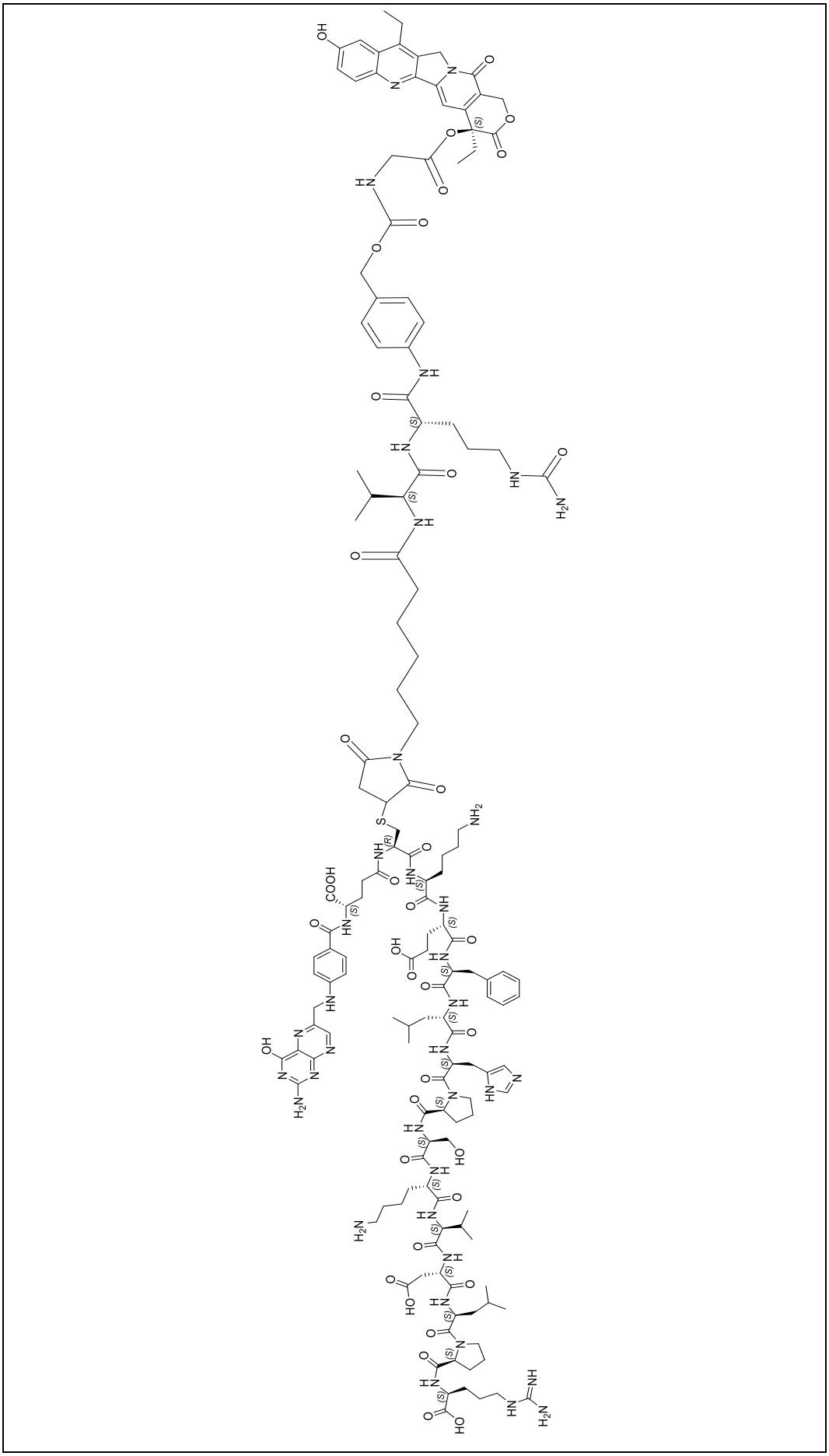


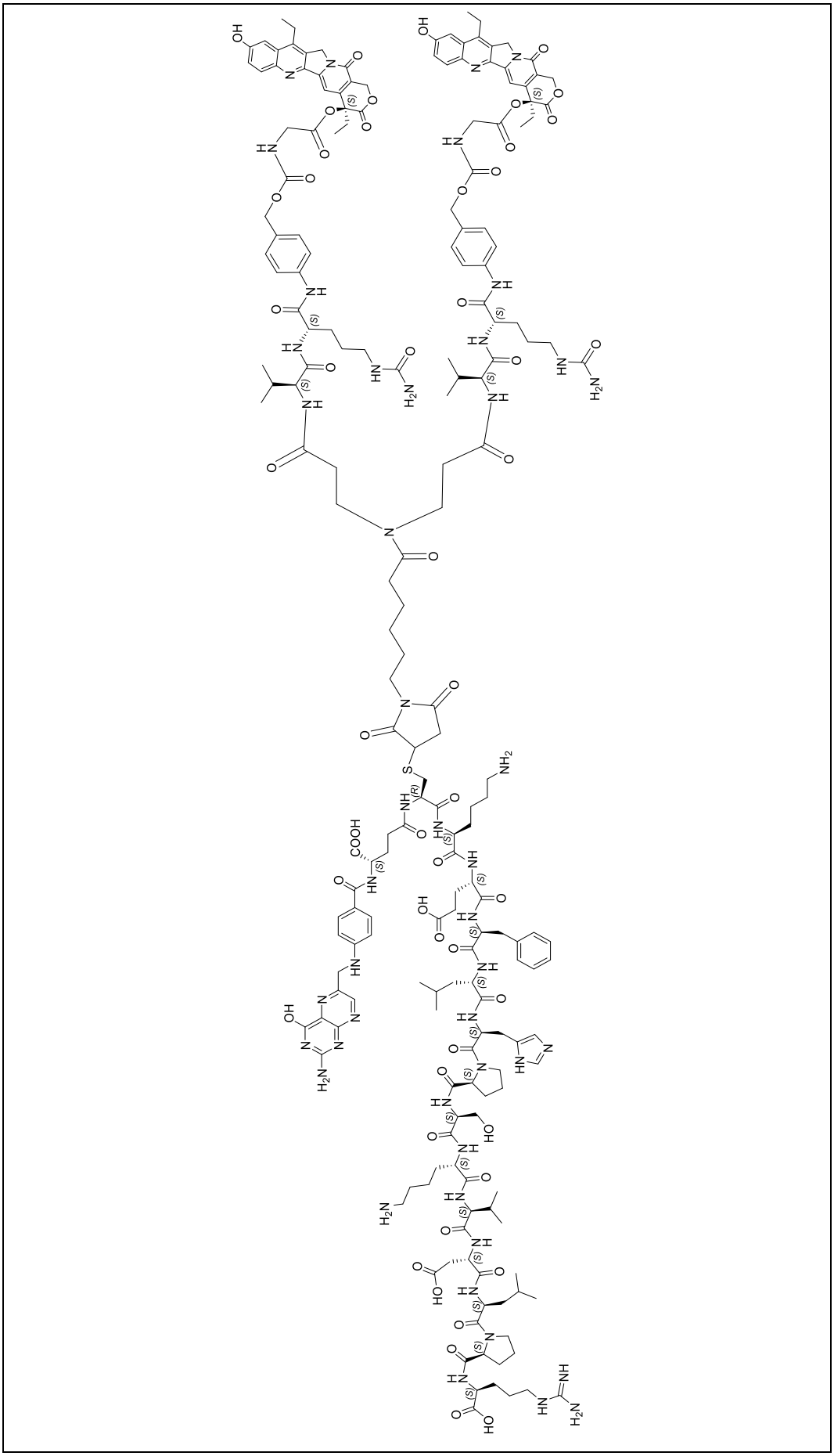
15. A conjugate compound or a pharmaceutically acceptable salt thereof, wherein the conjugate compound is selected from:

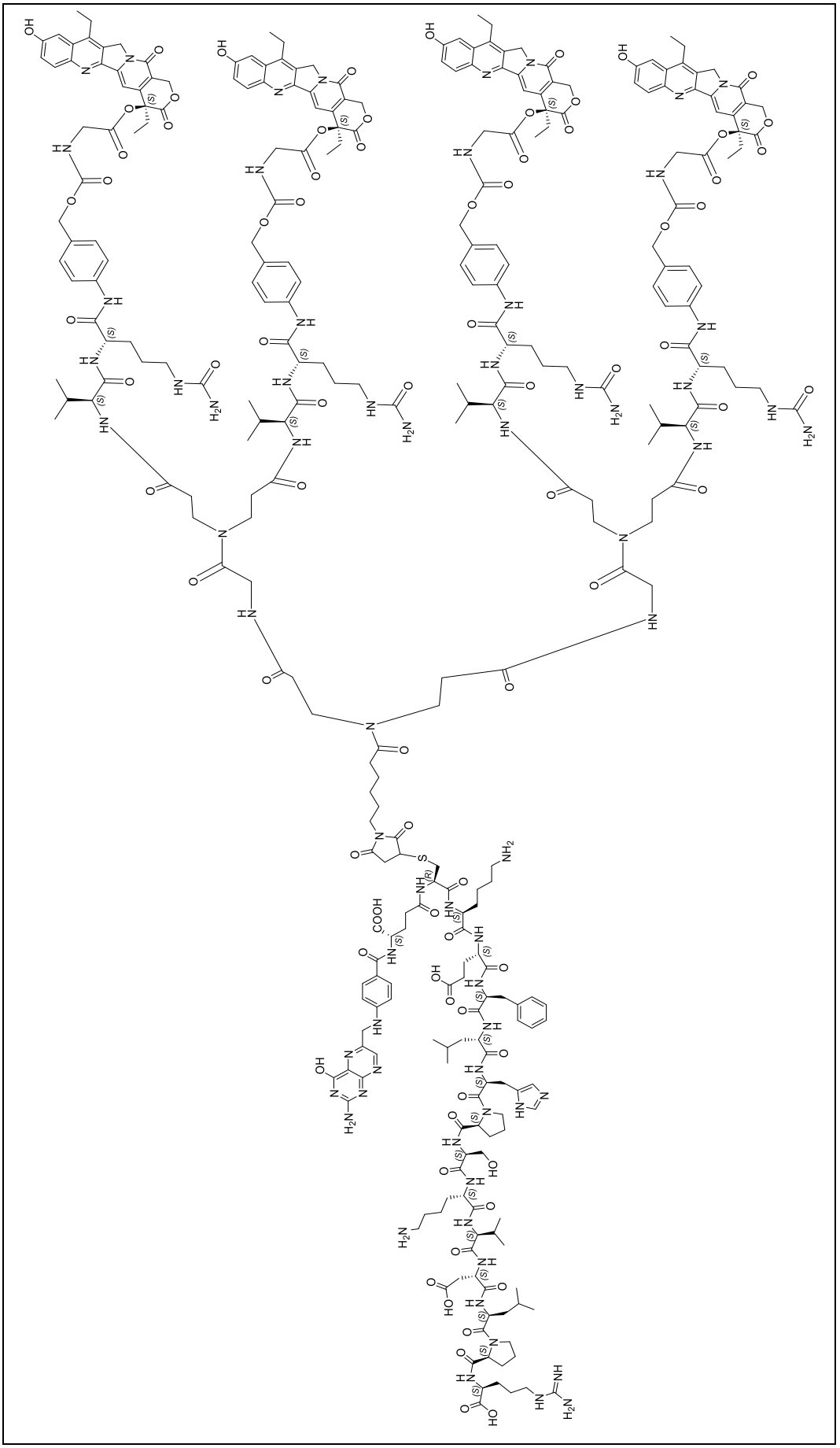


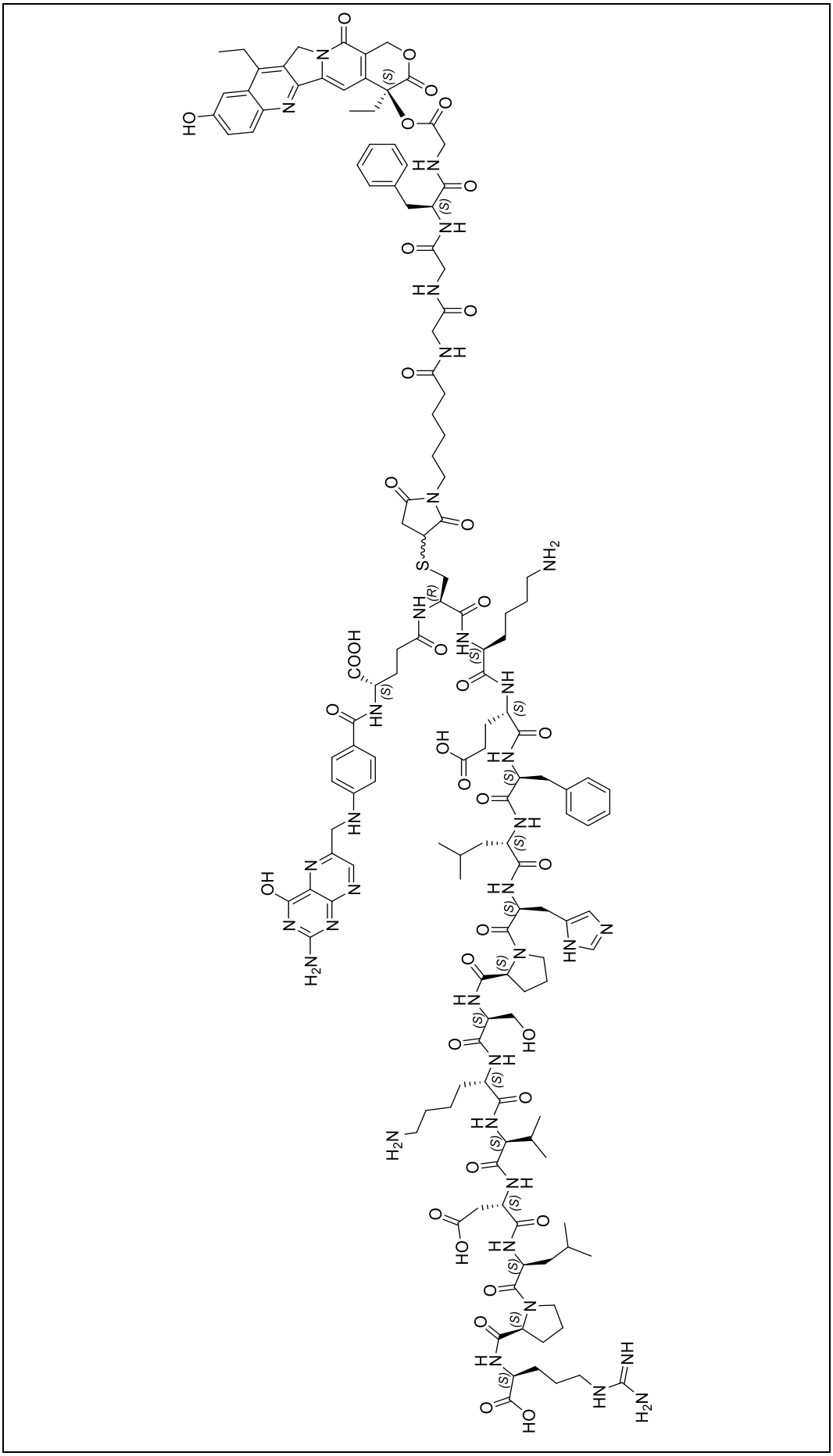


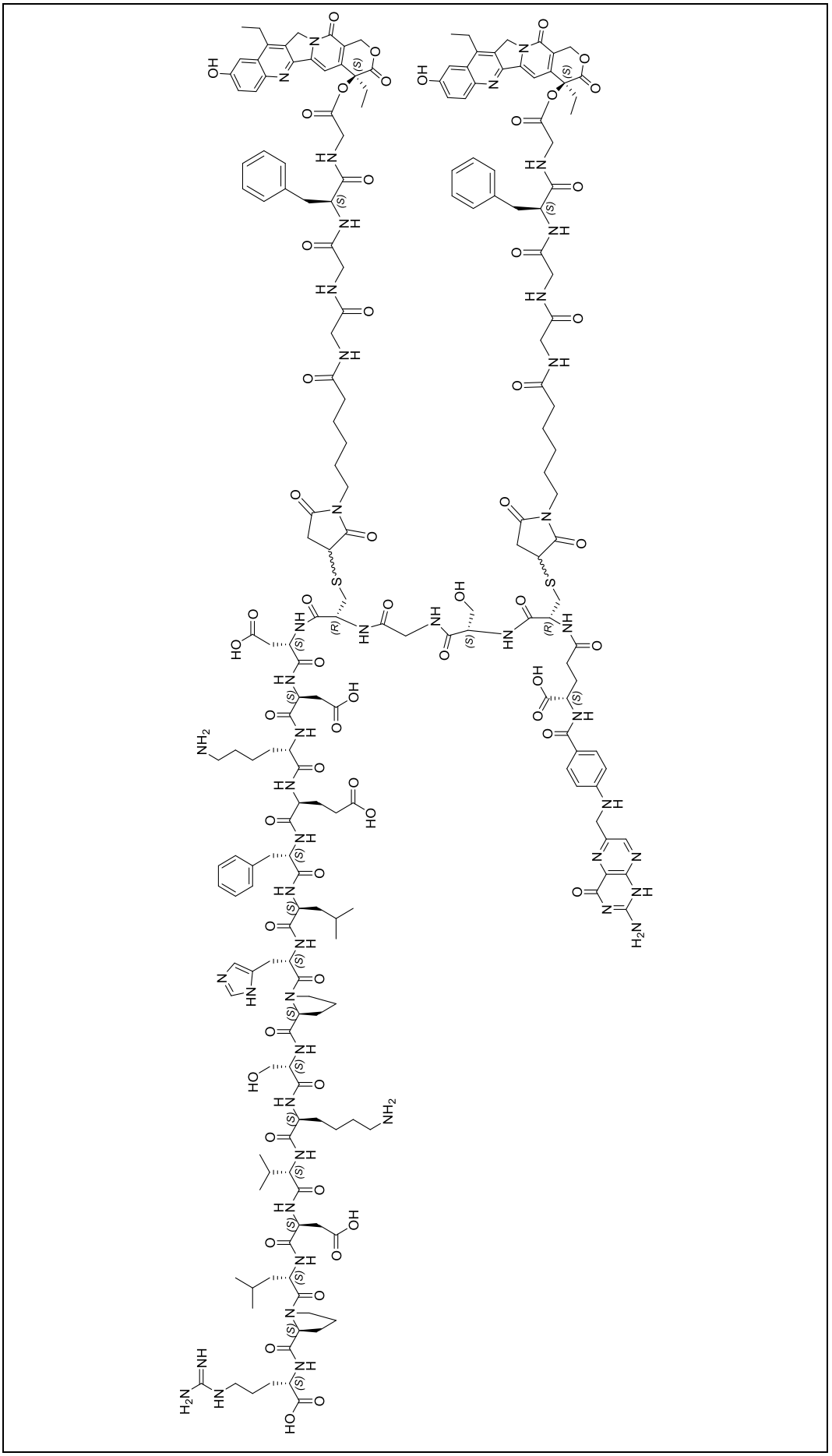


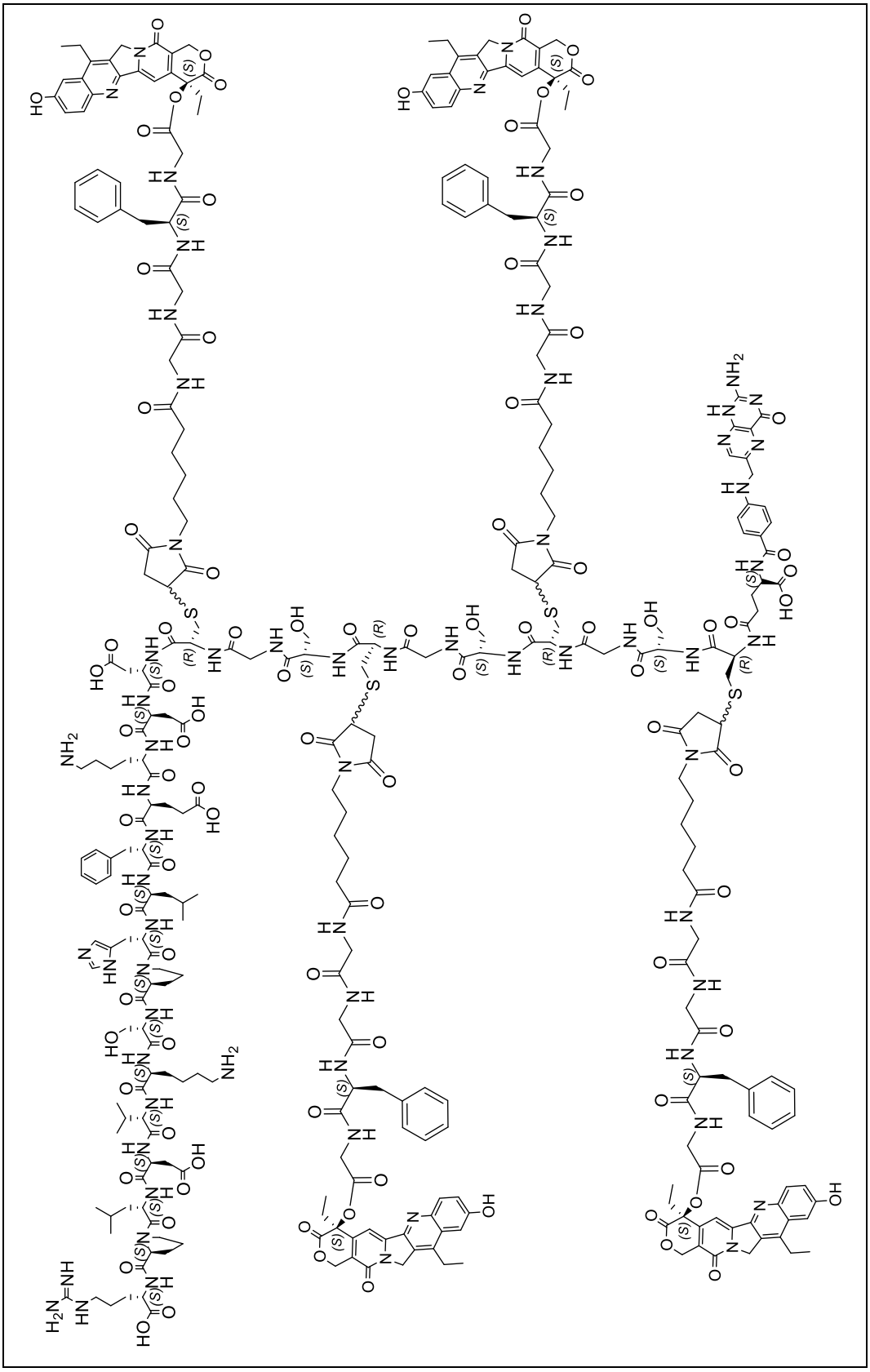


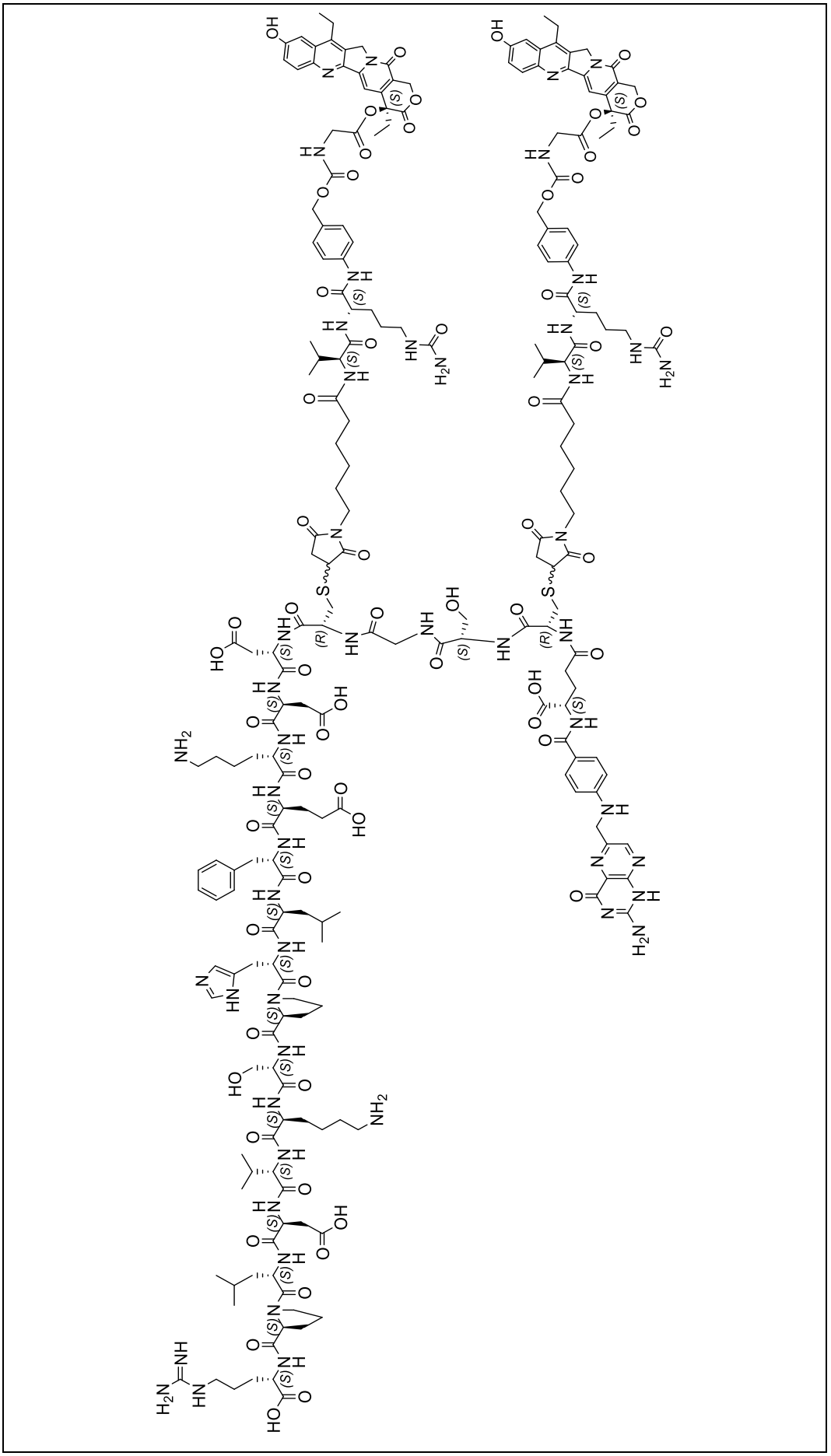


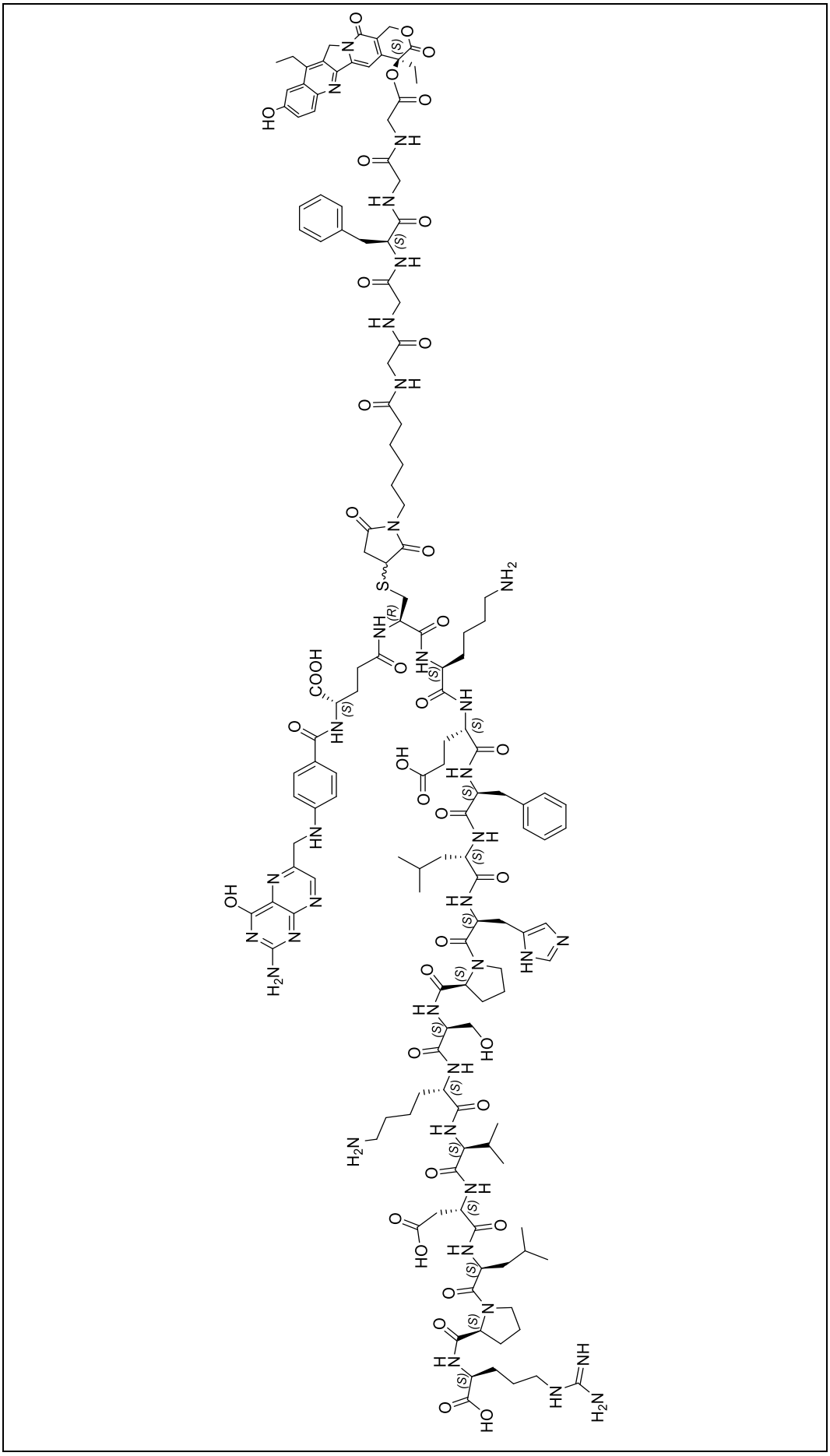


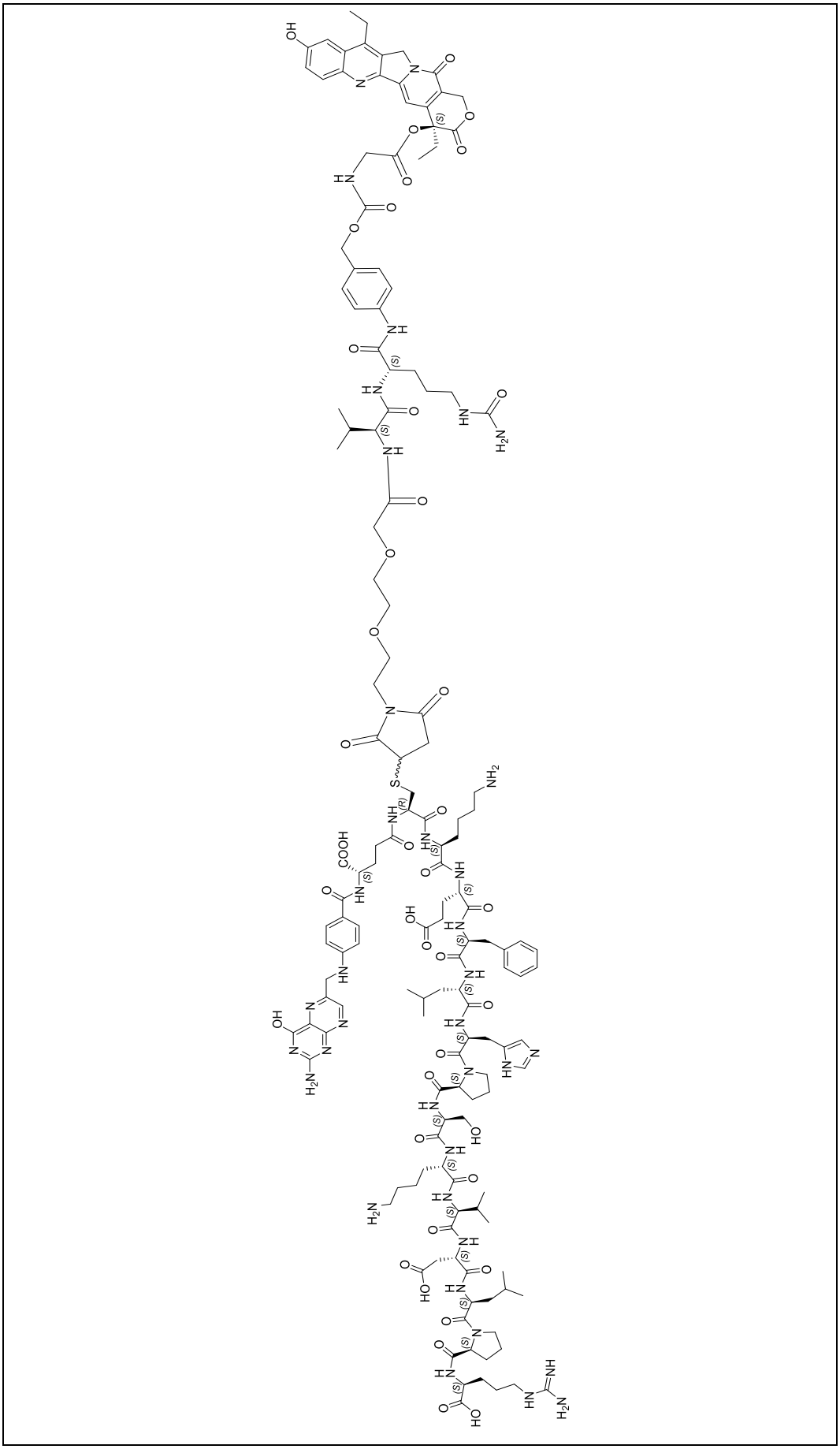


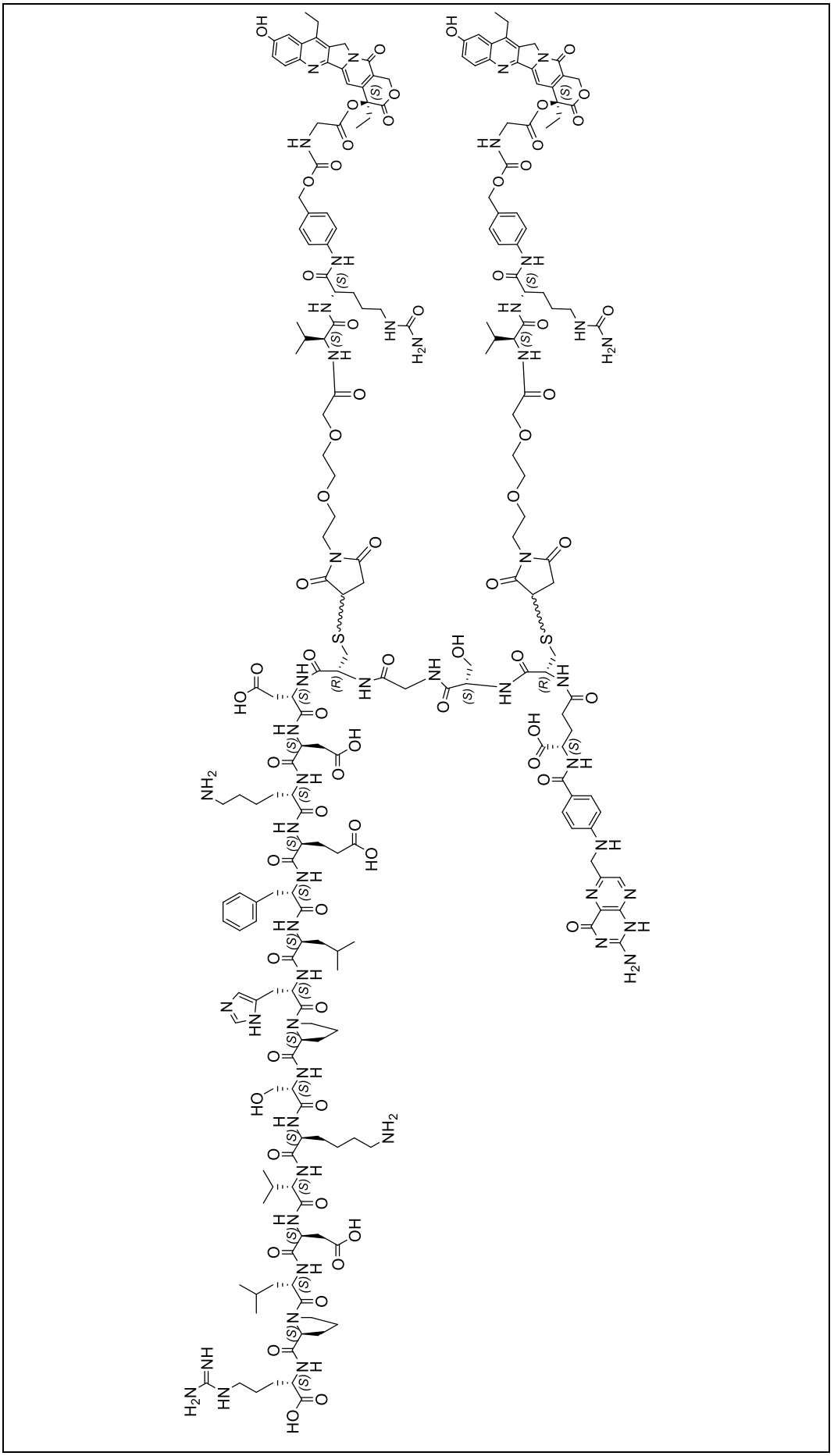


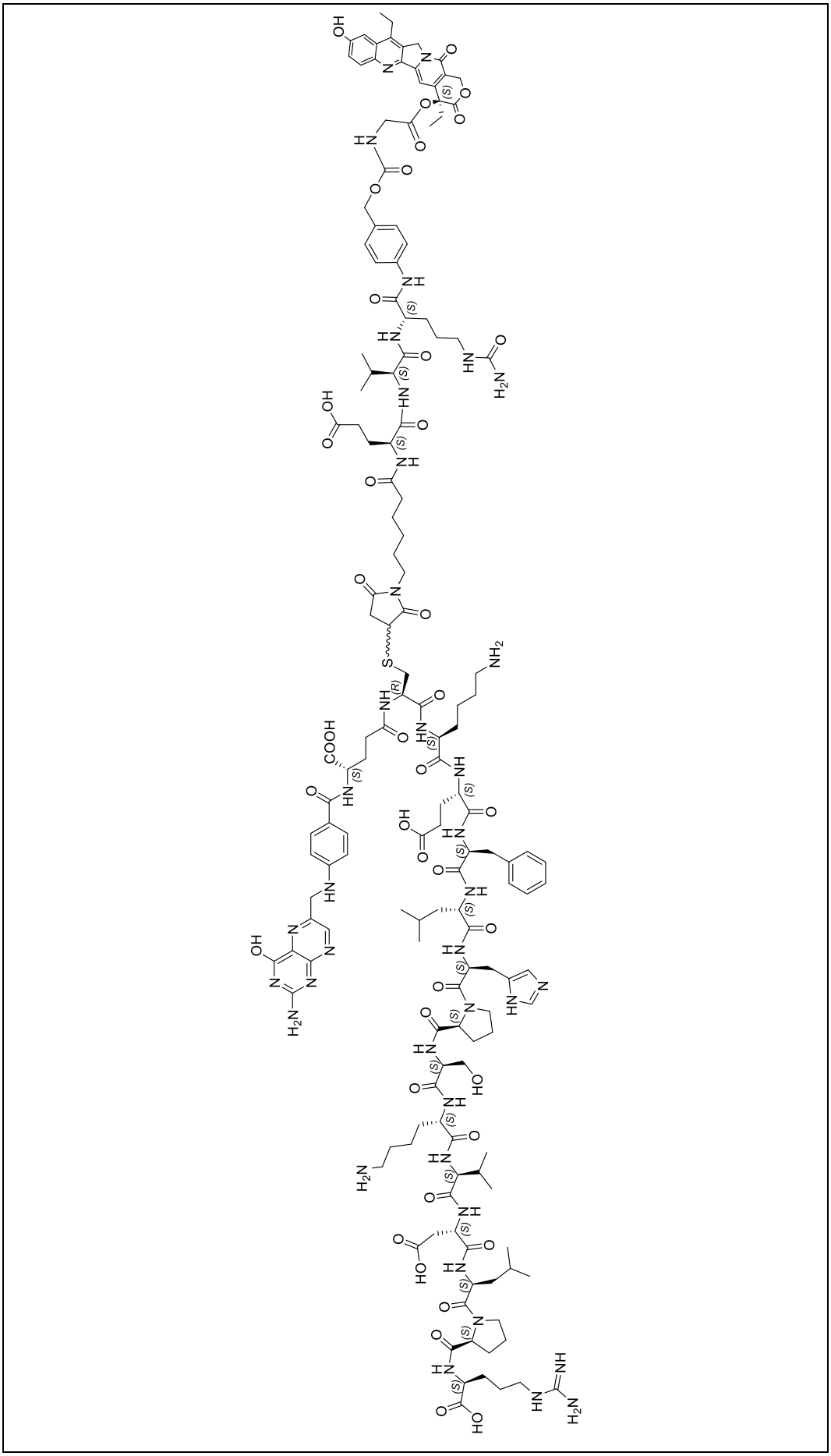


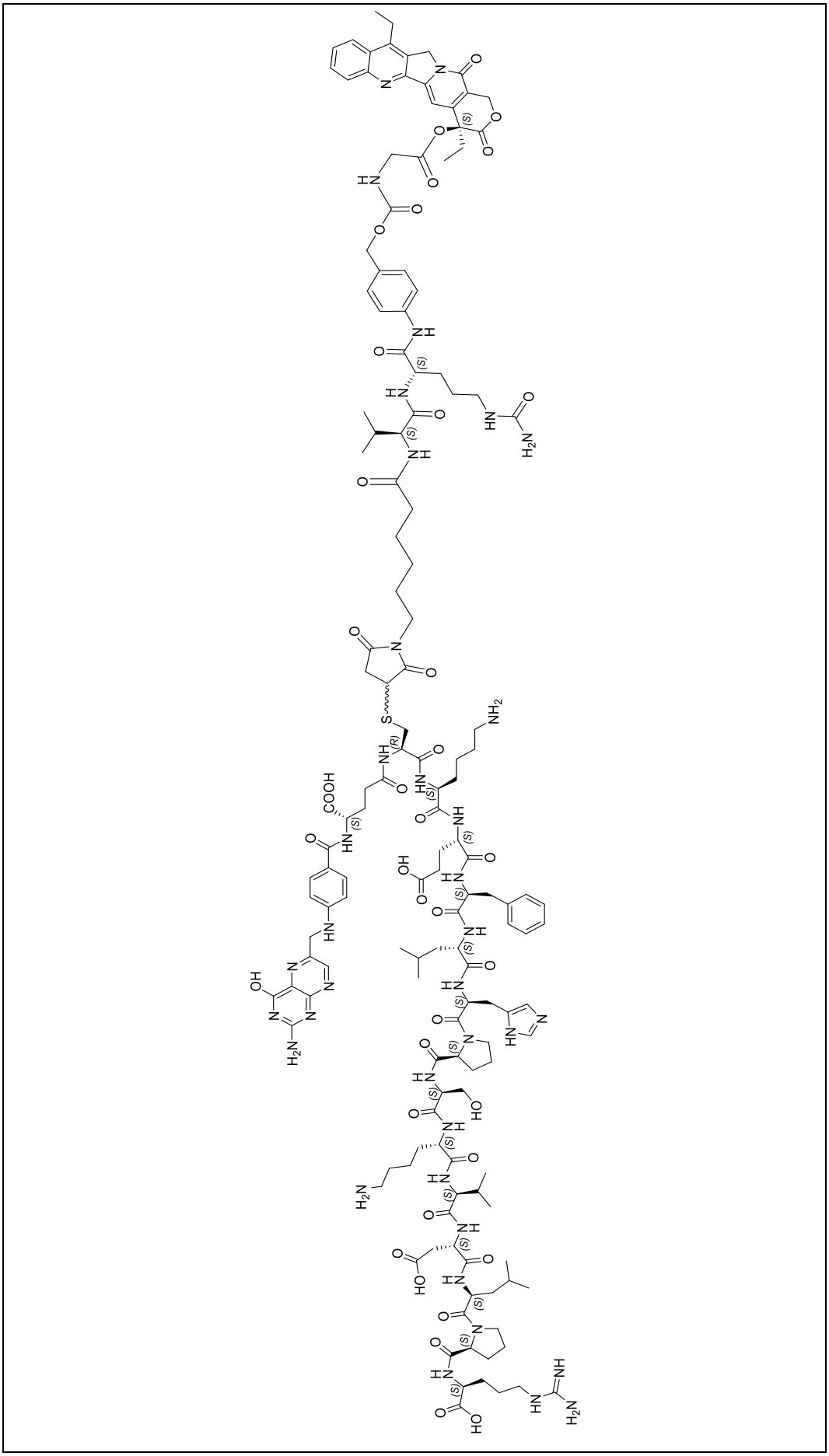


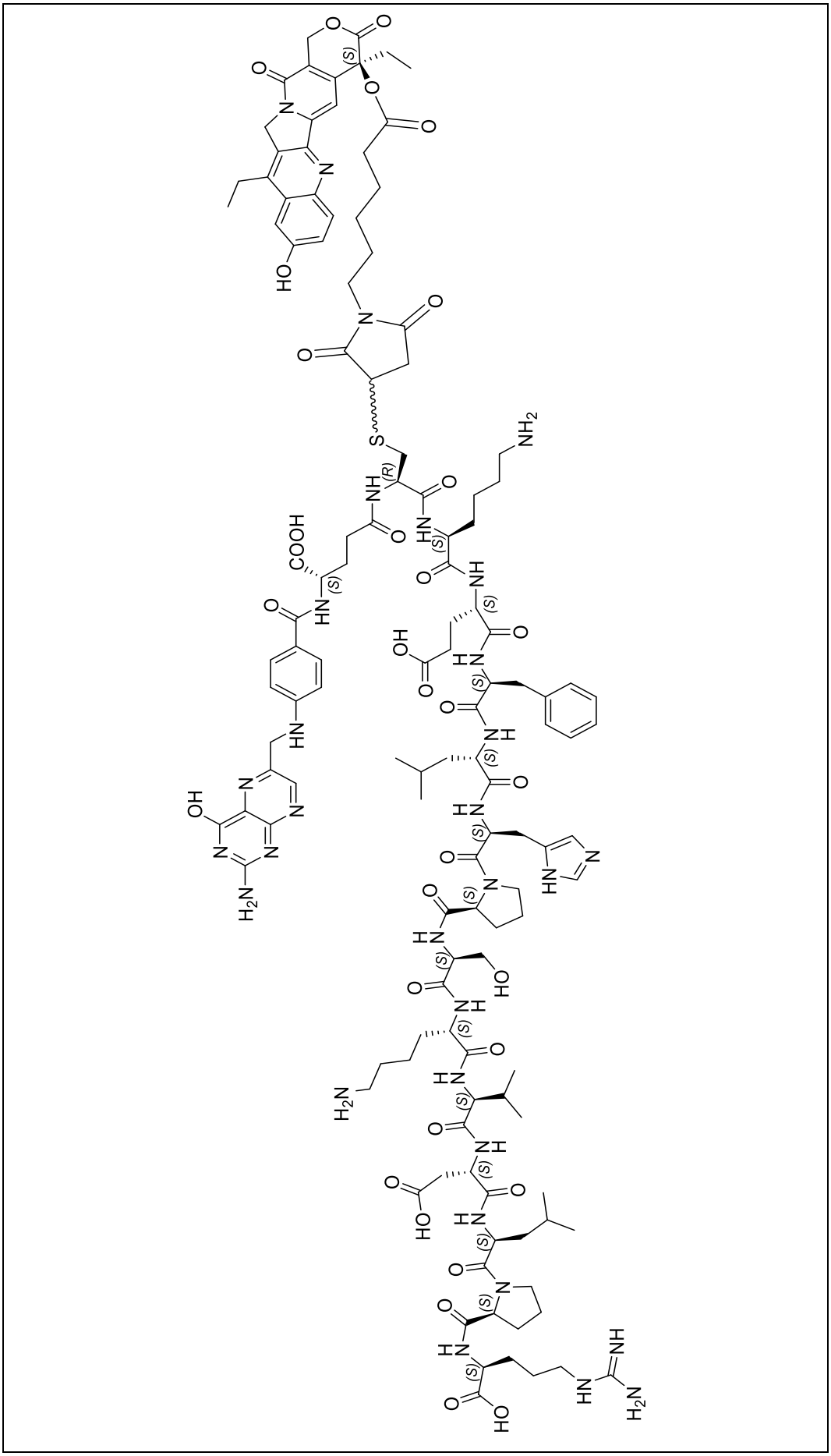


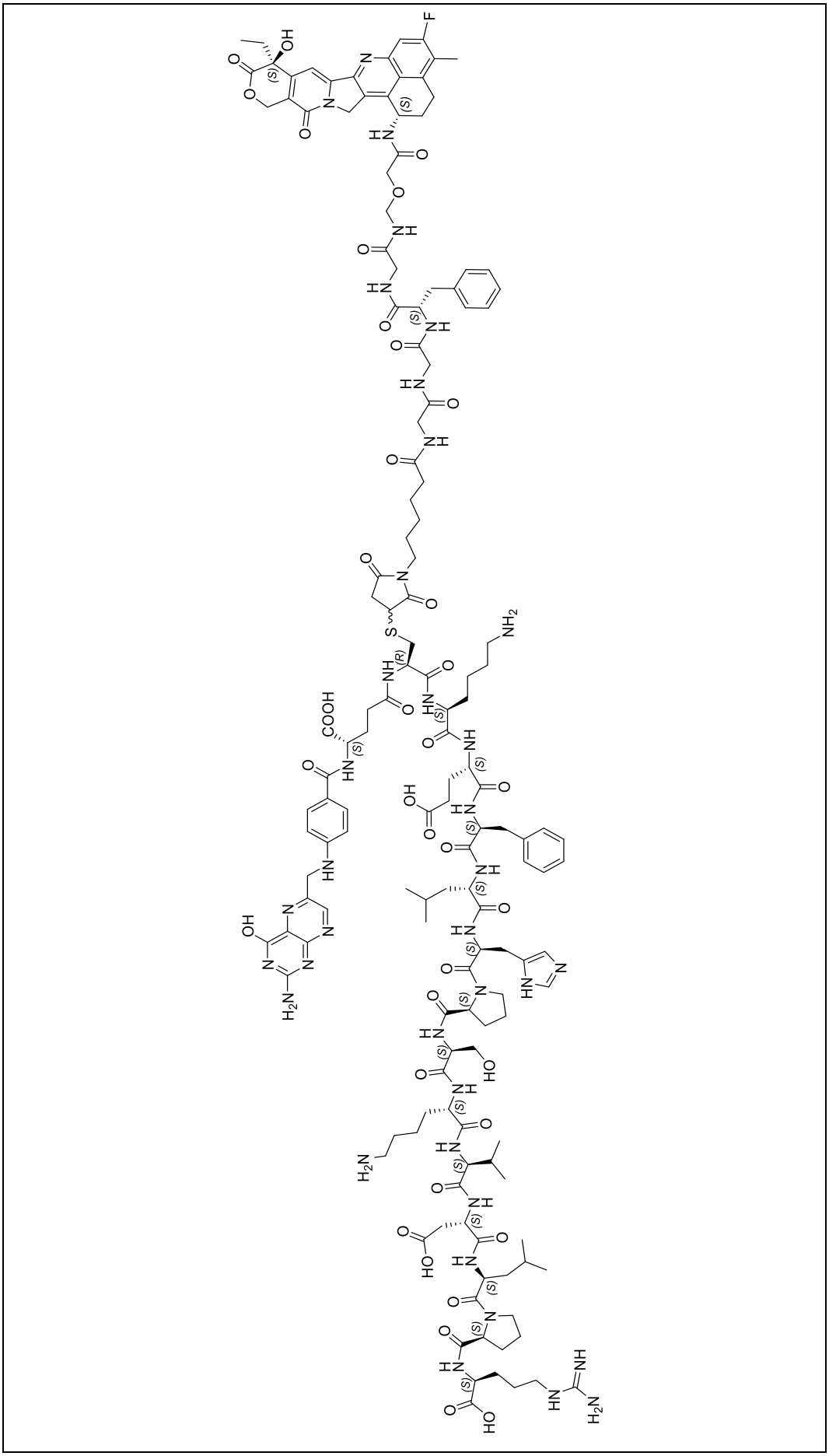


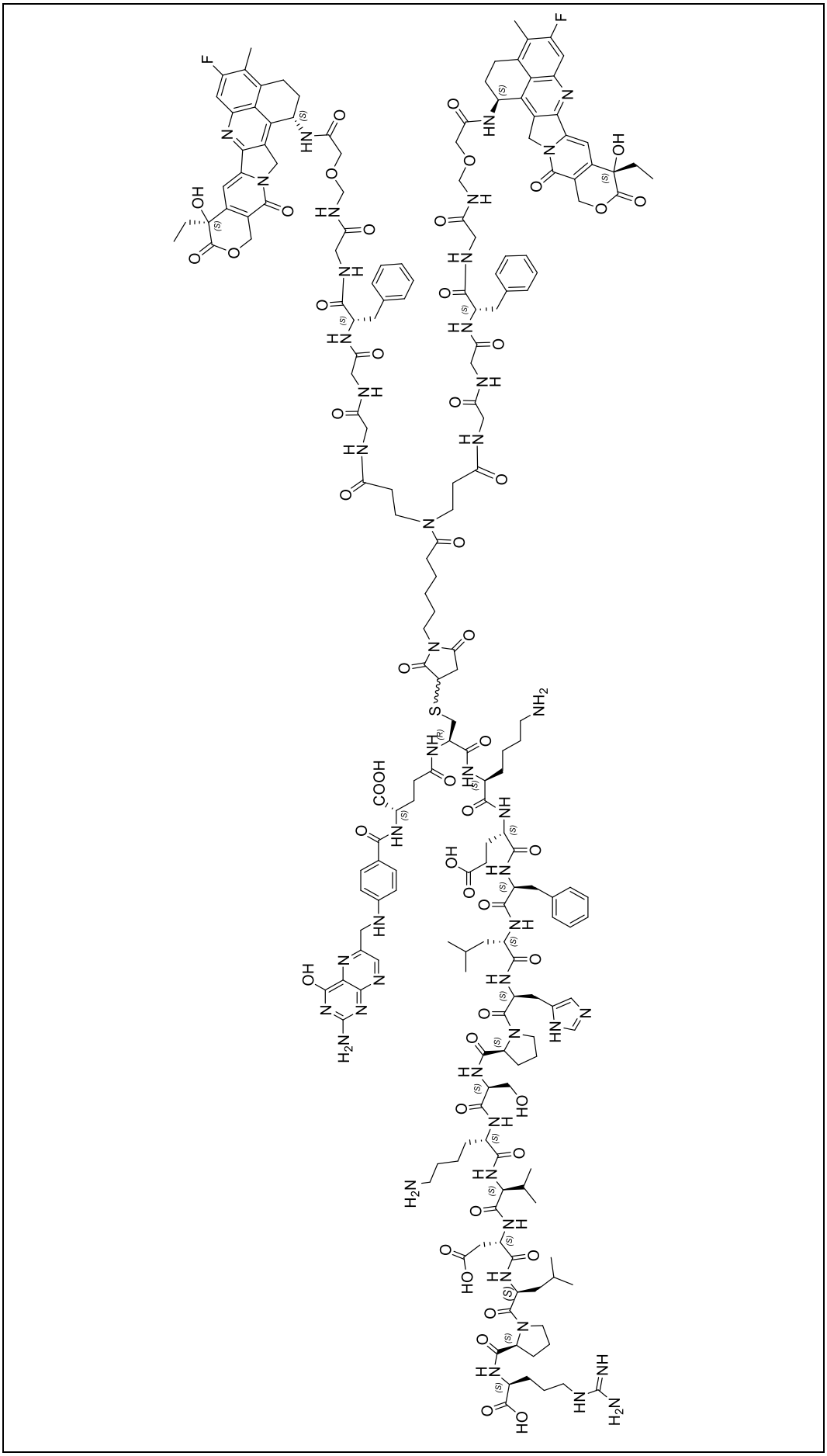


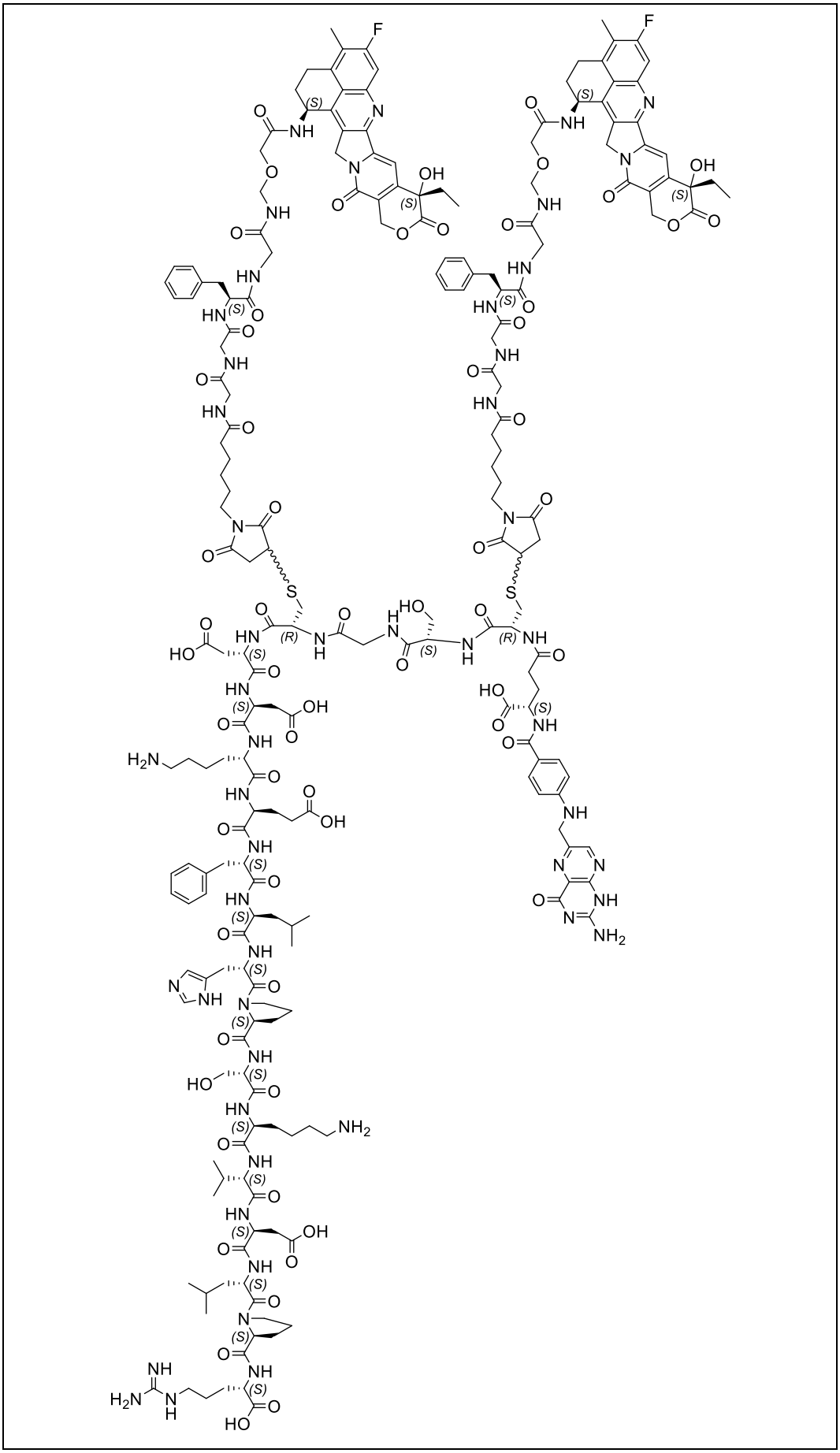


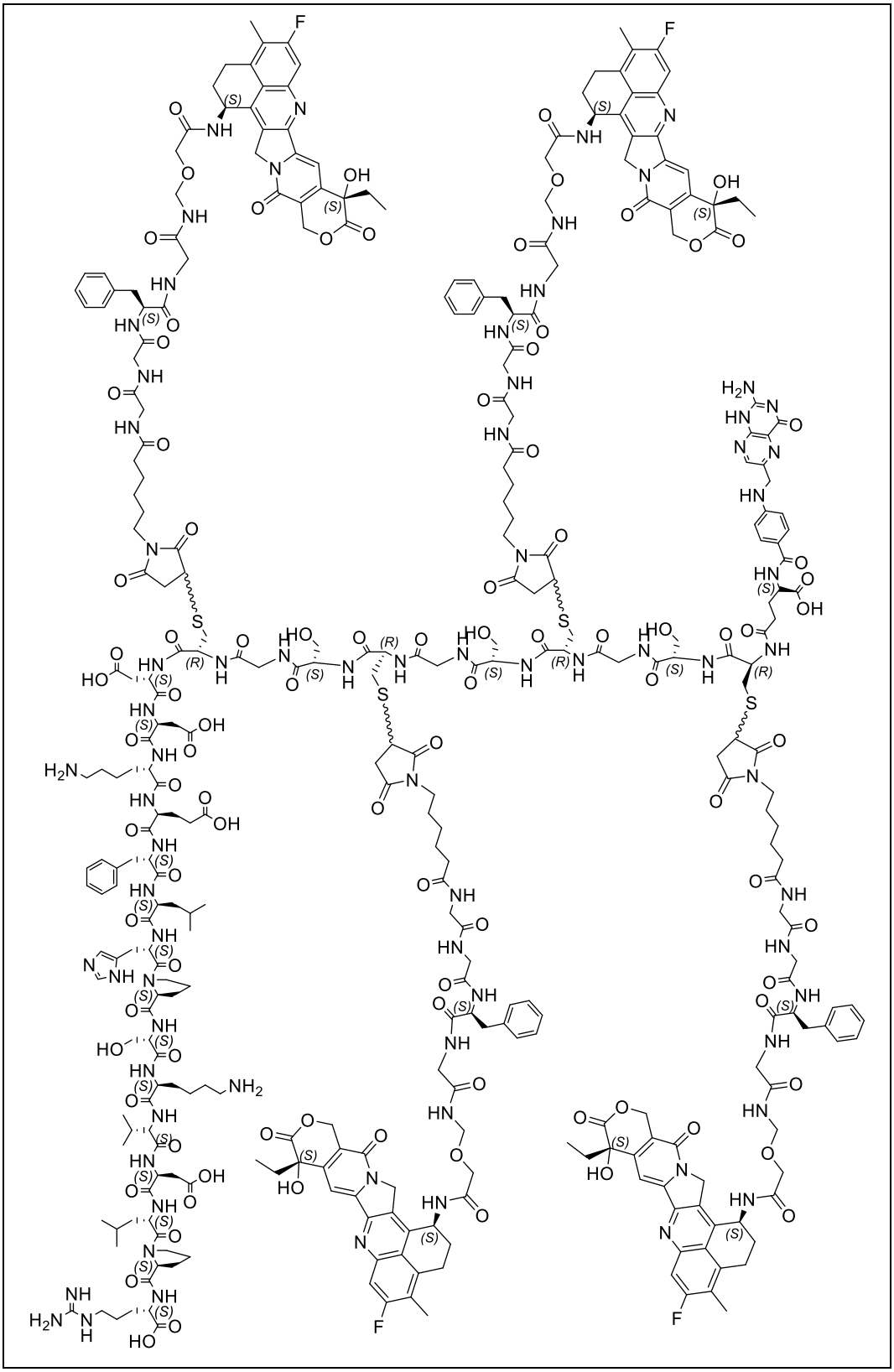


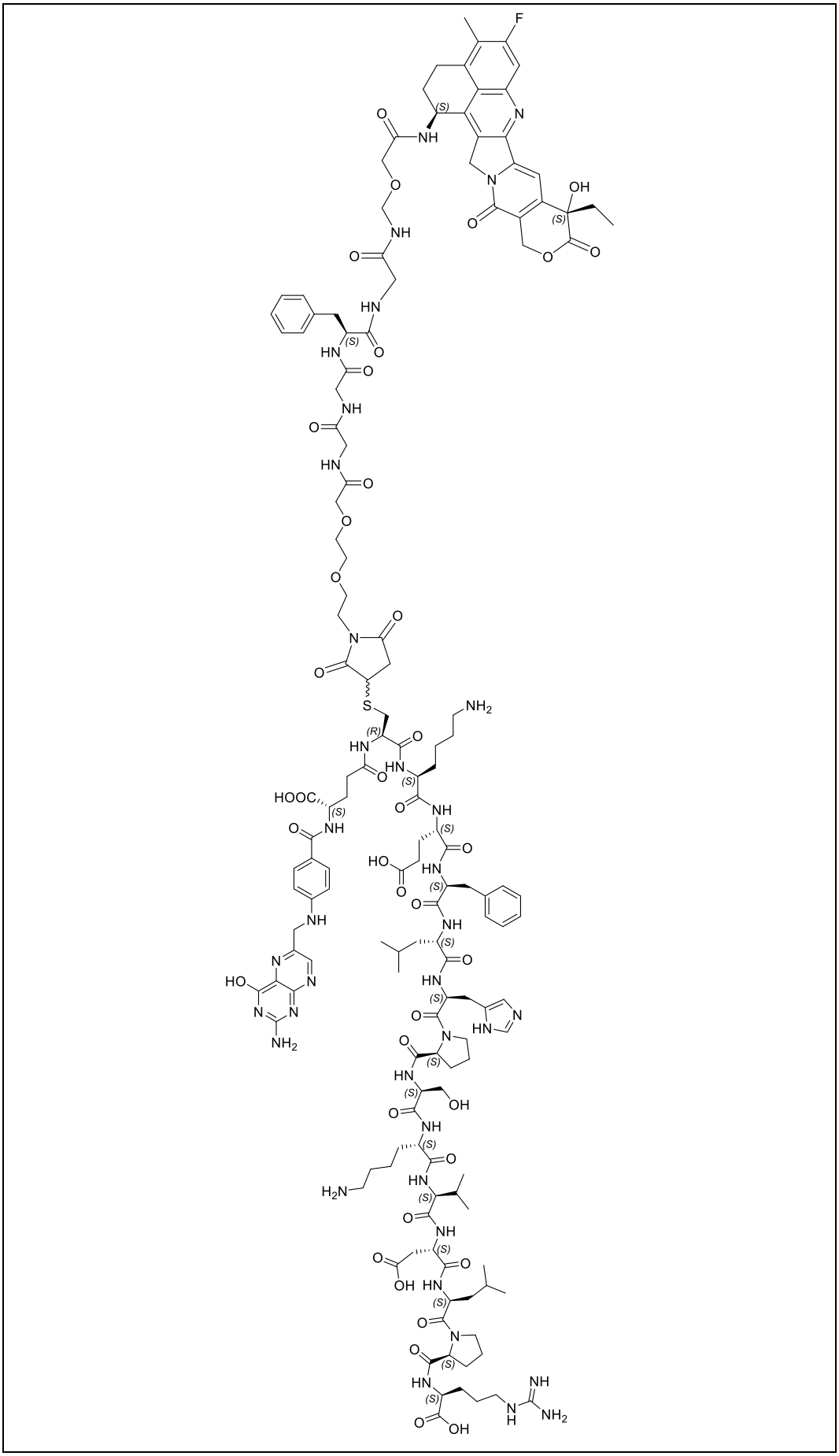


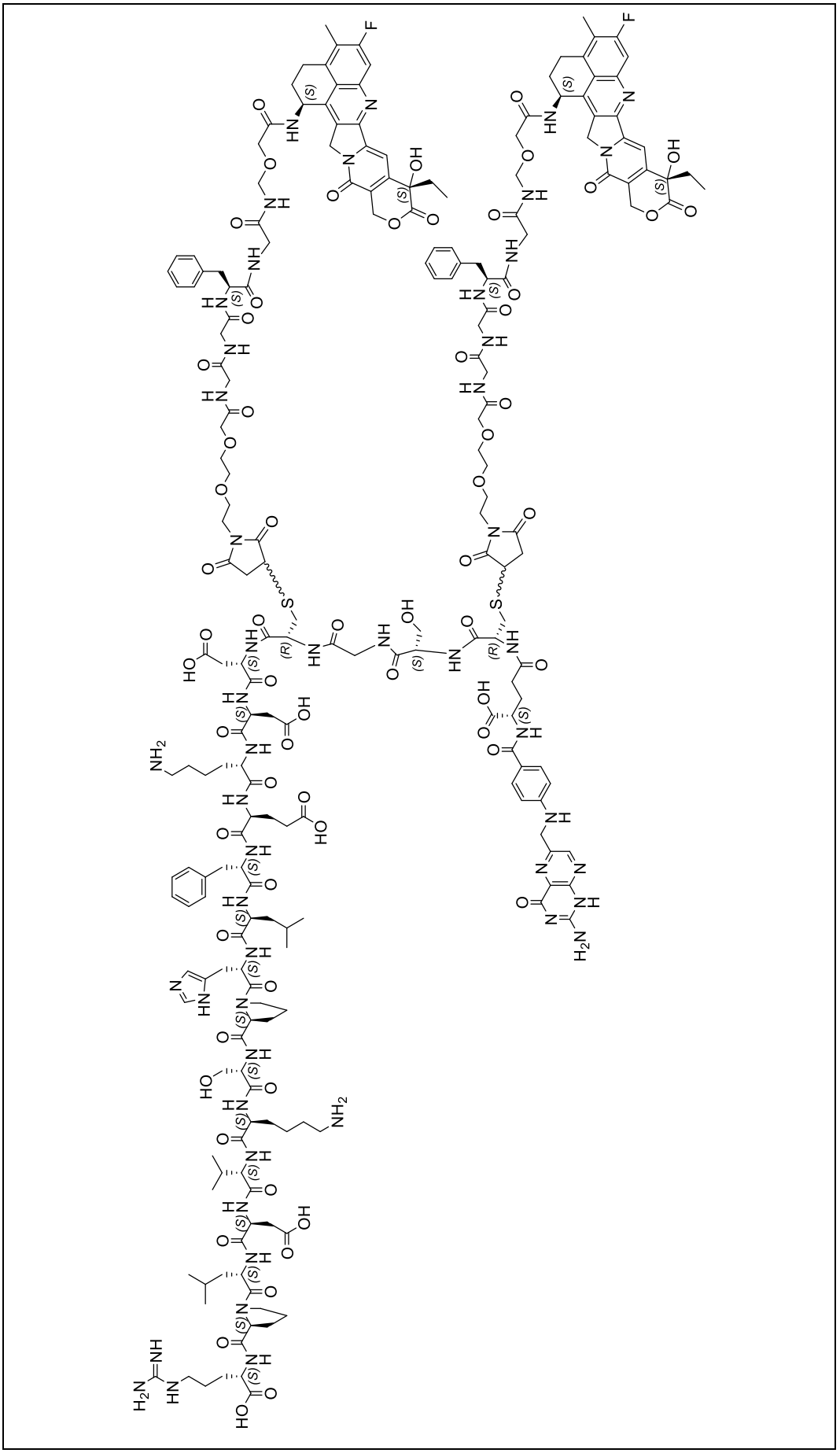


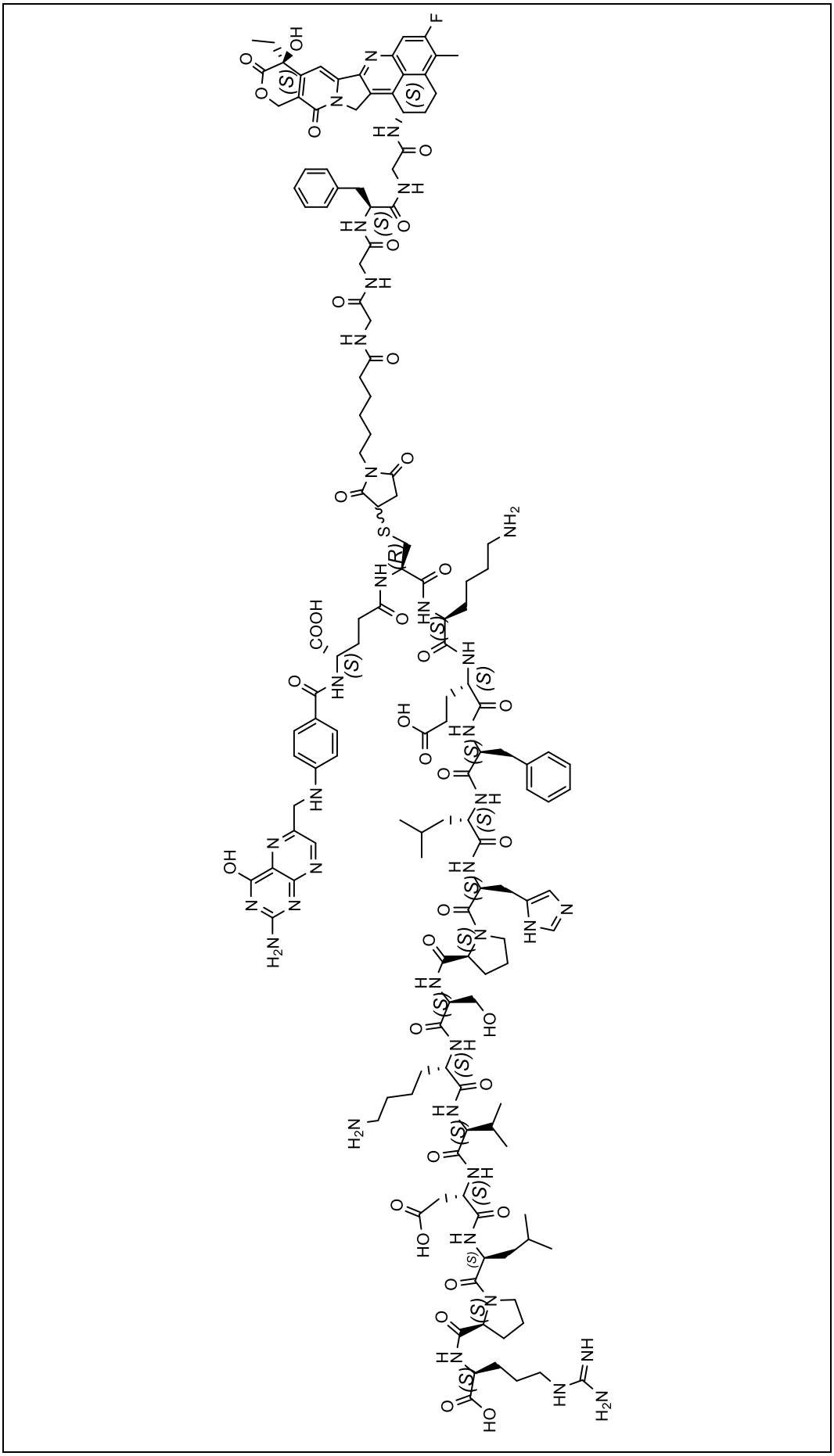


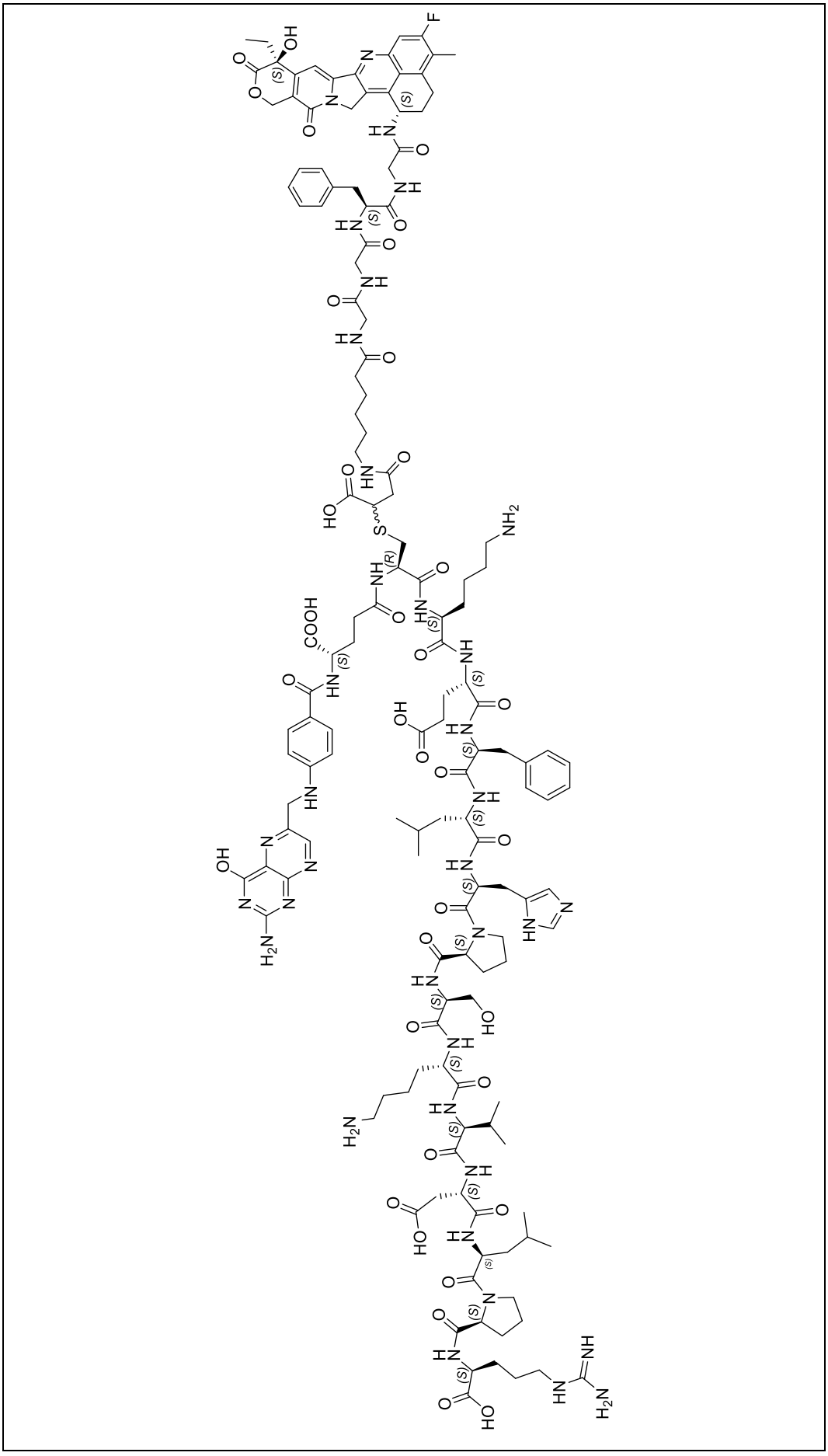


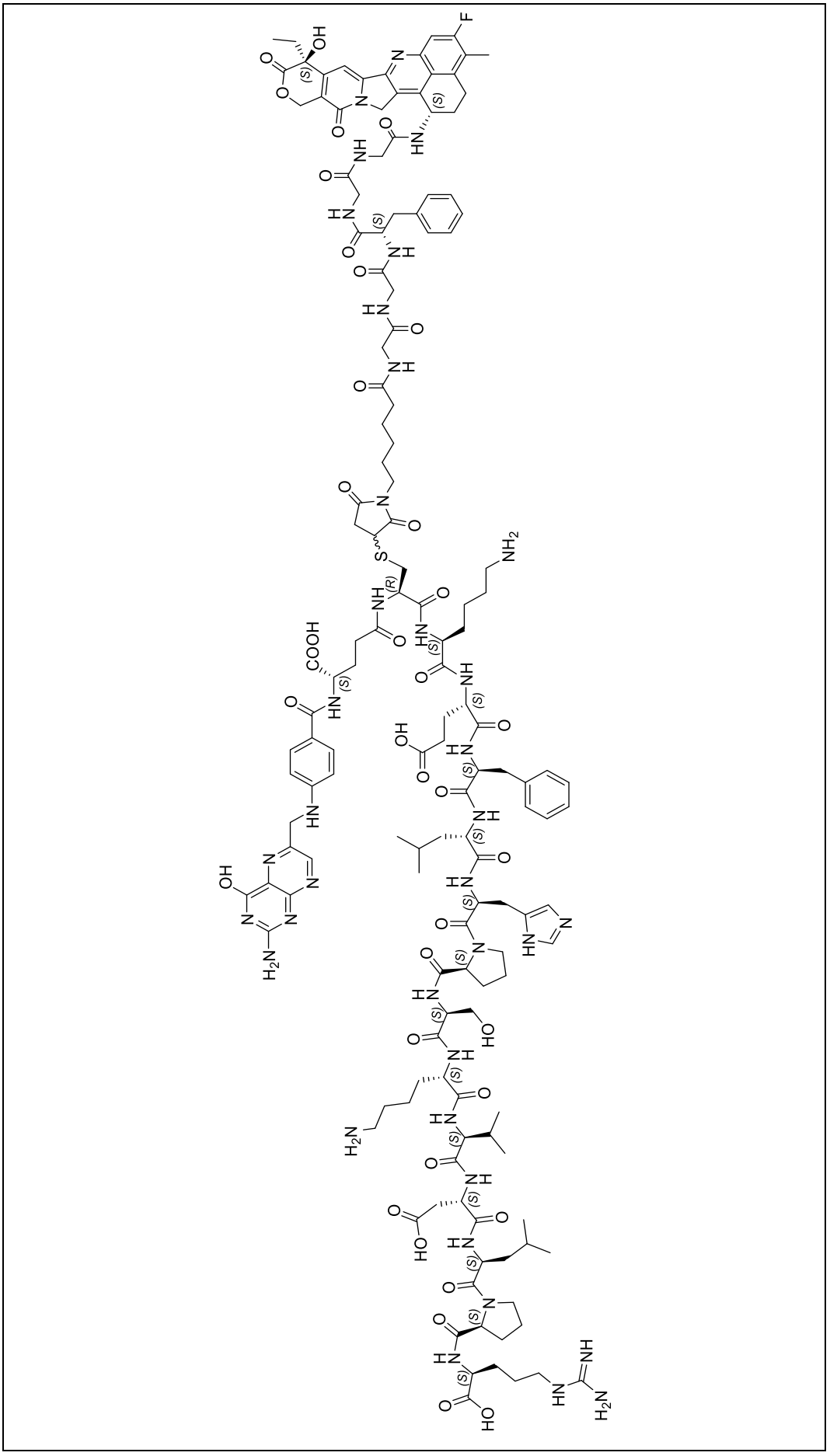


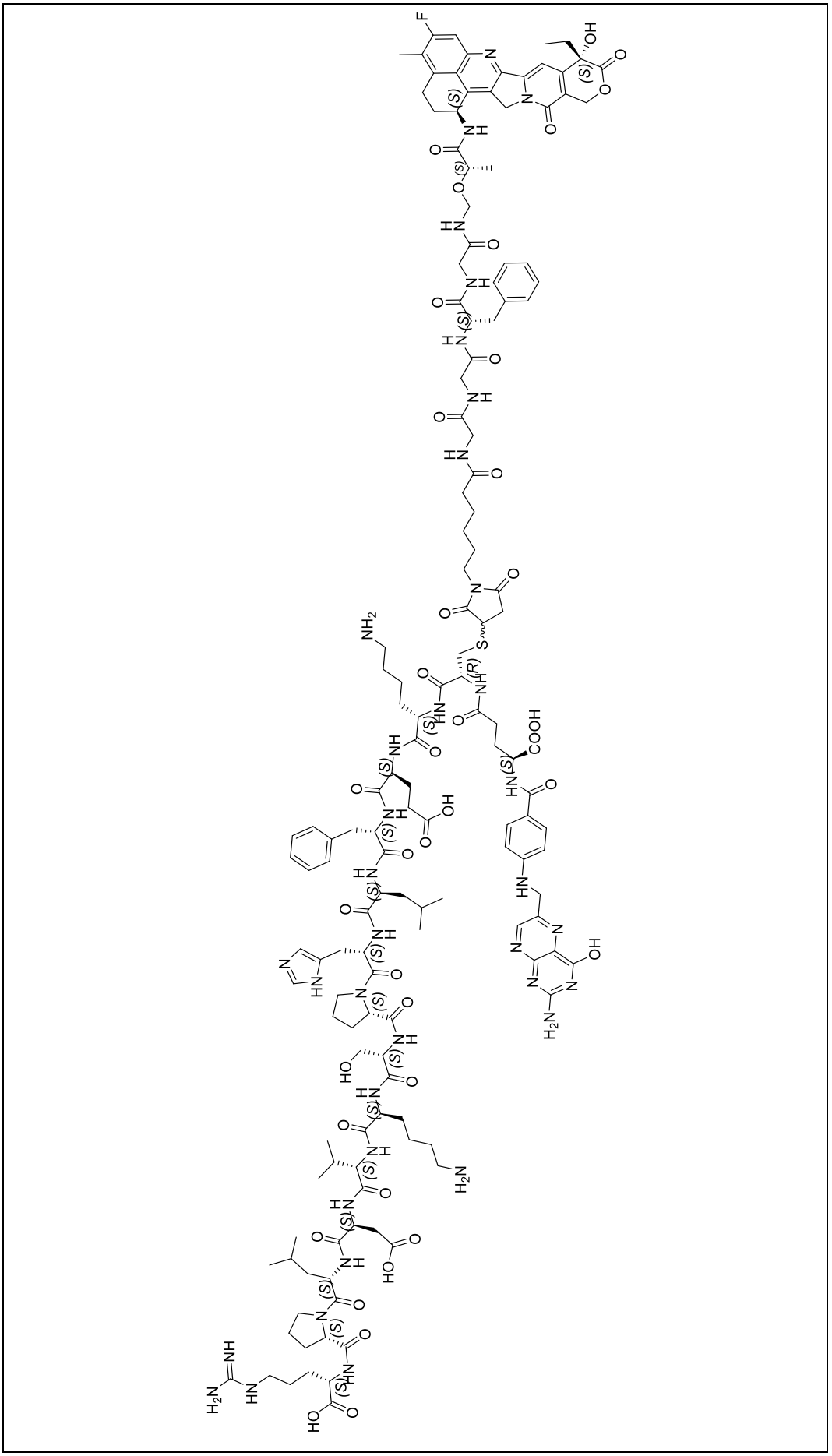


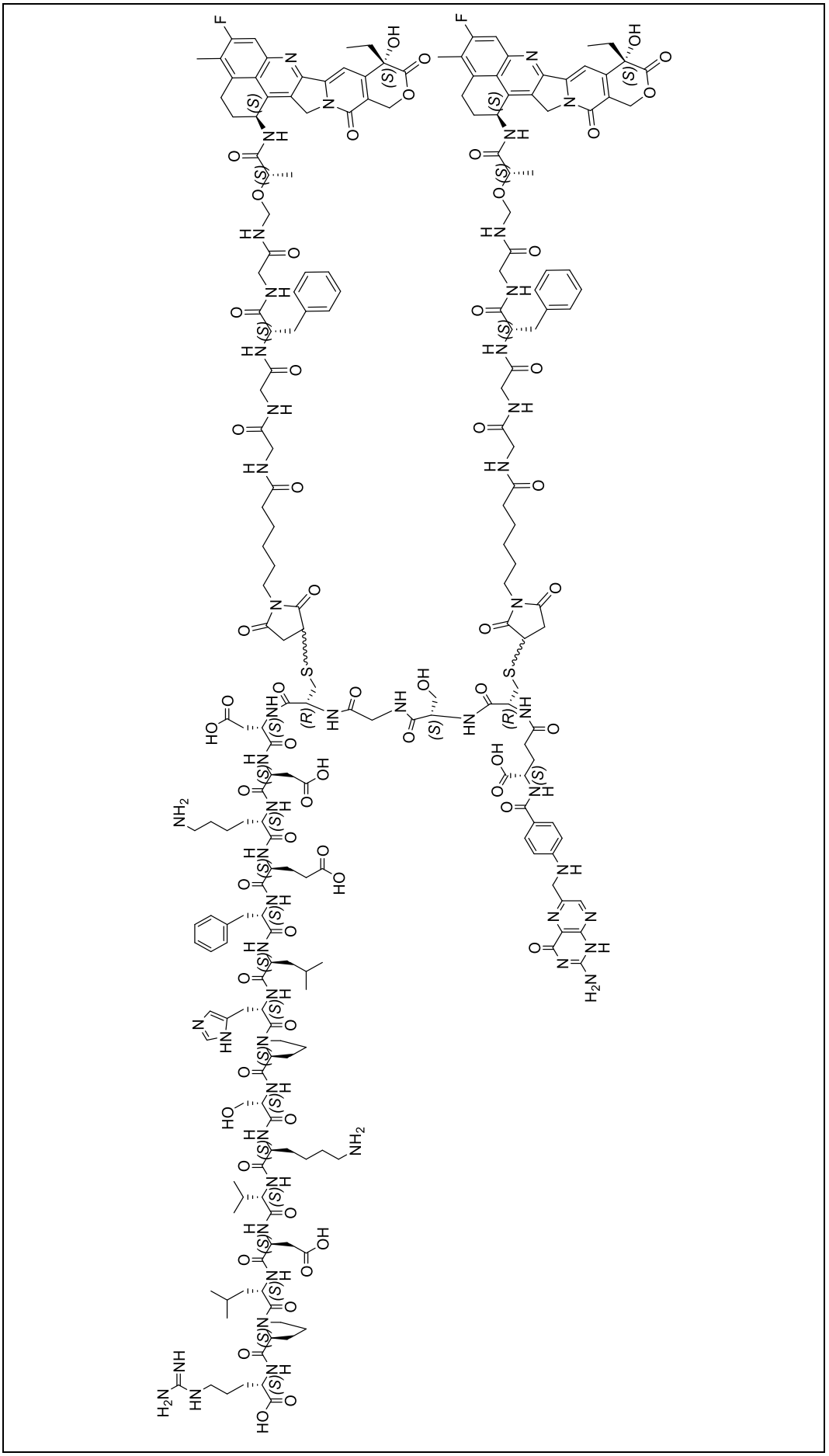


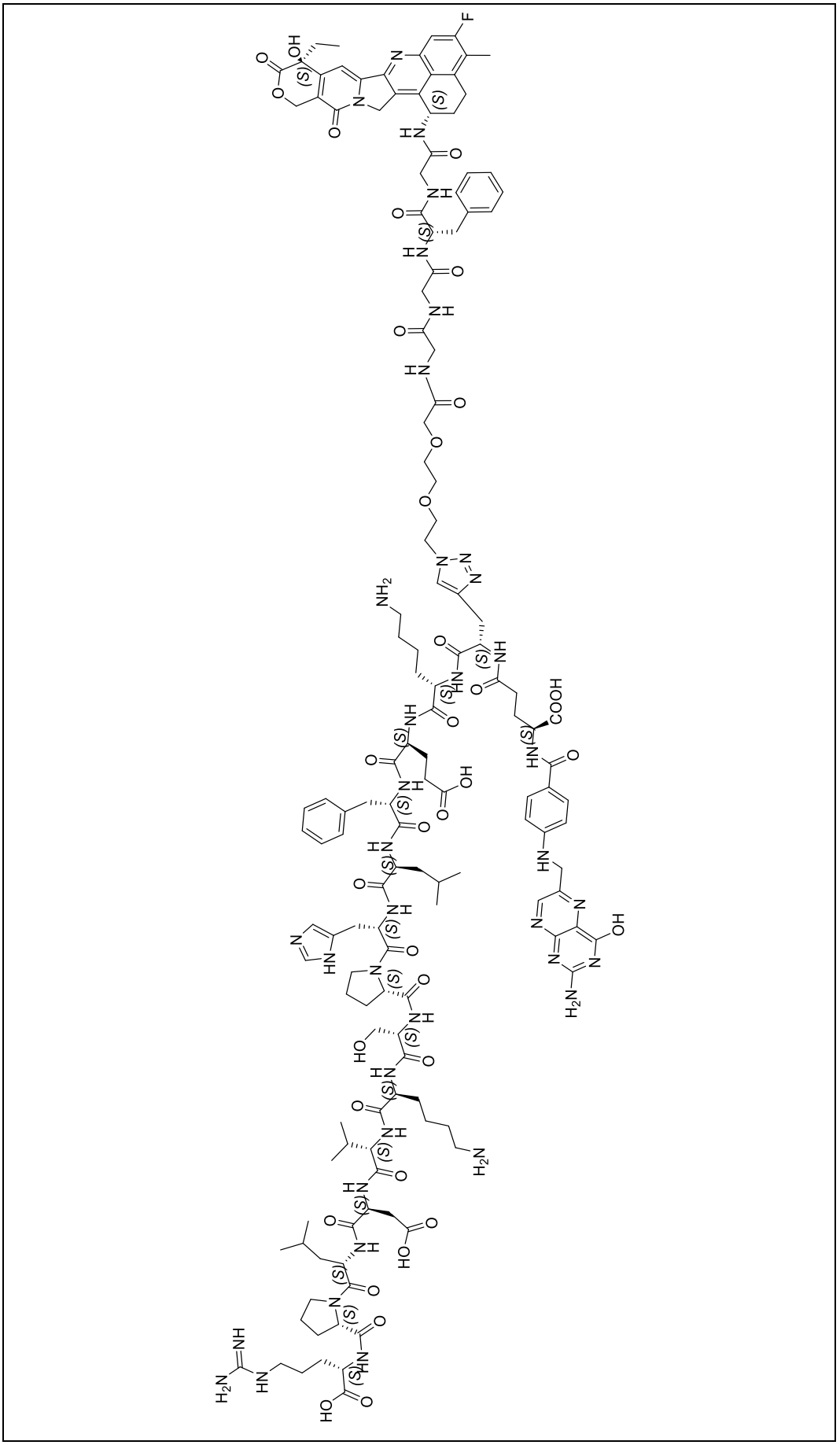


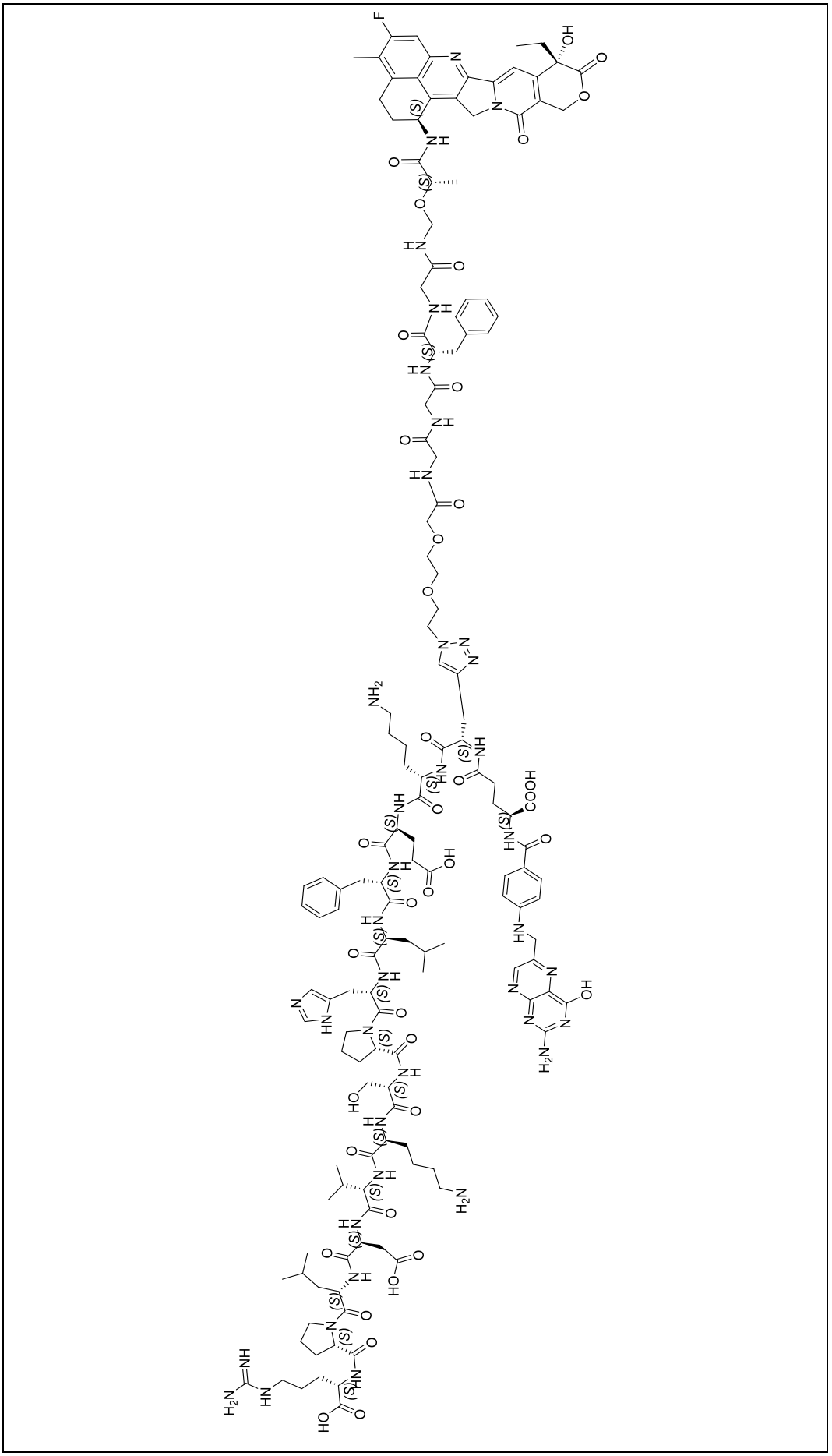


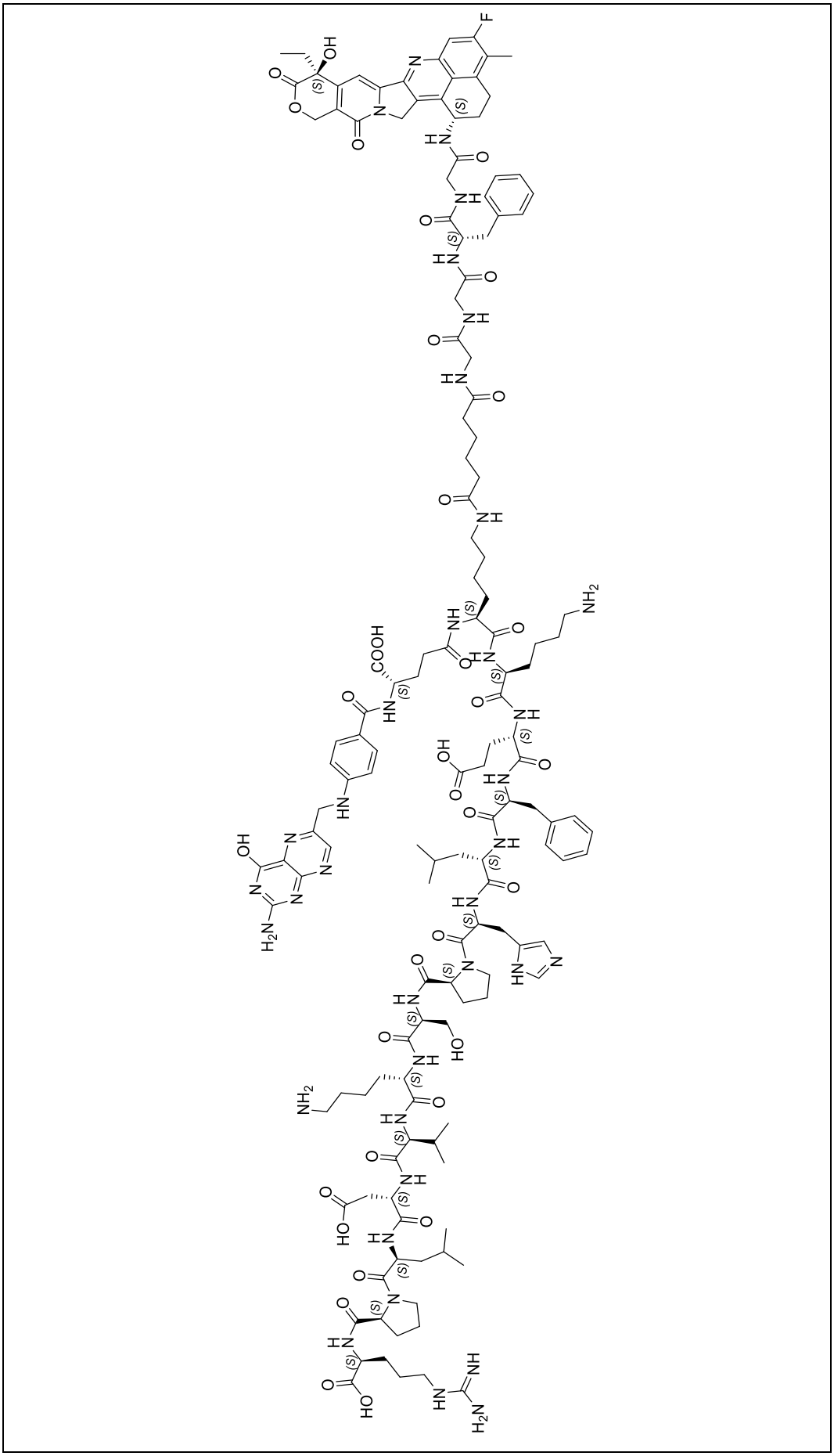


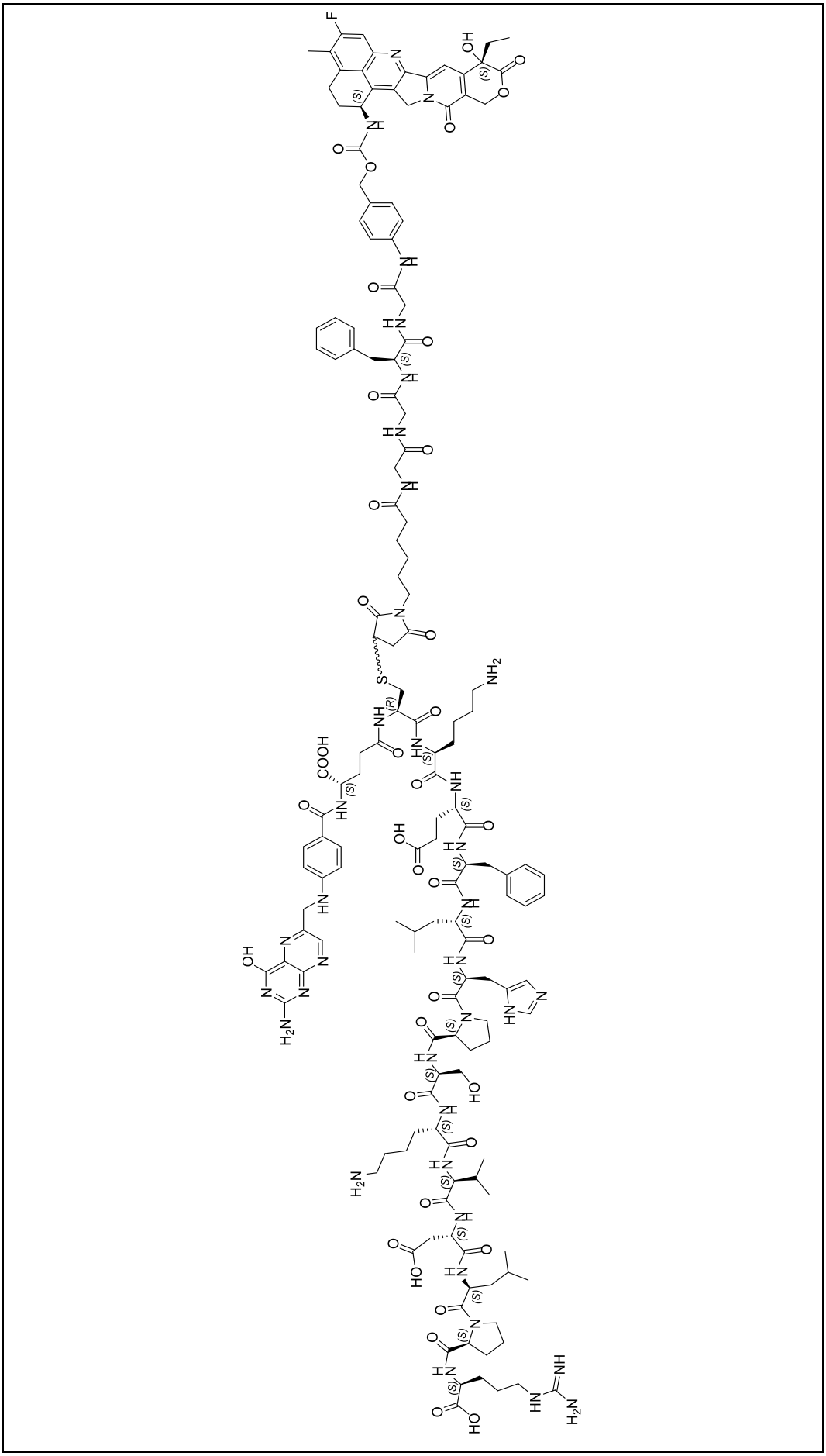


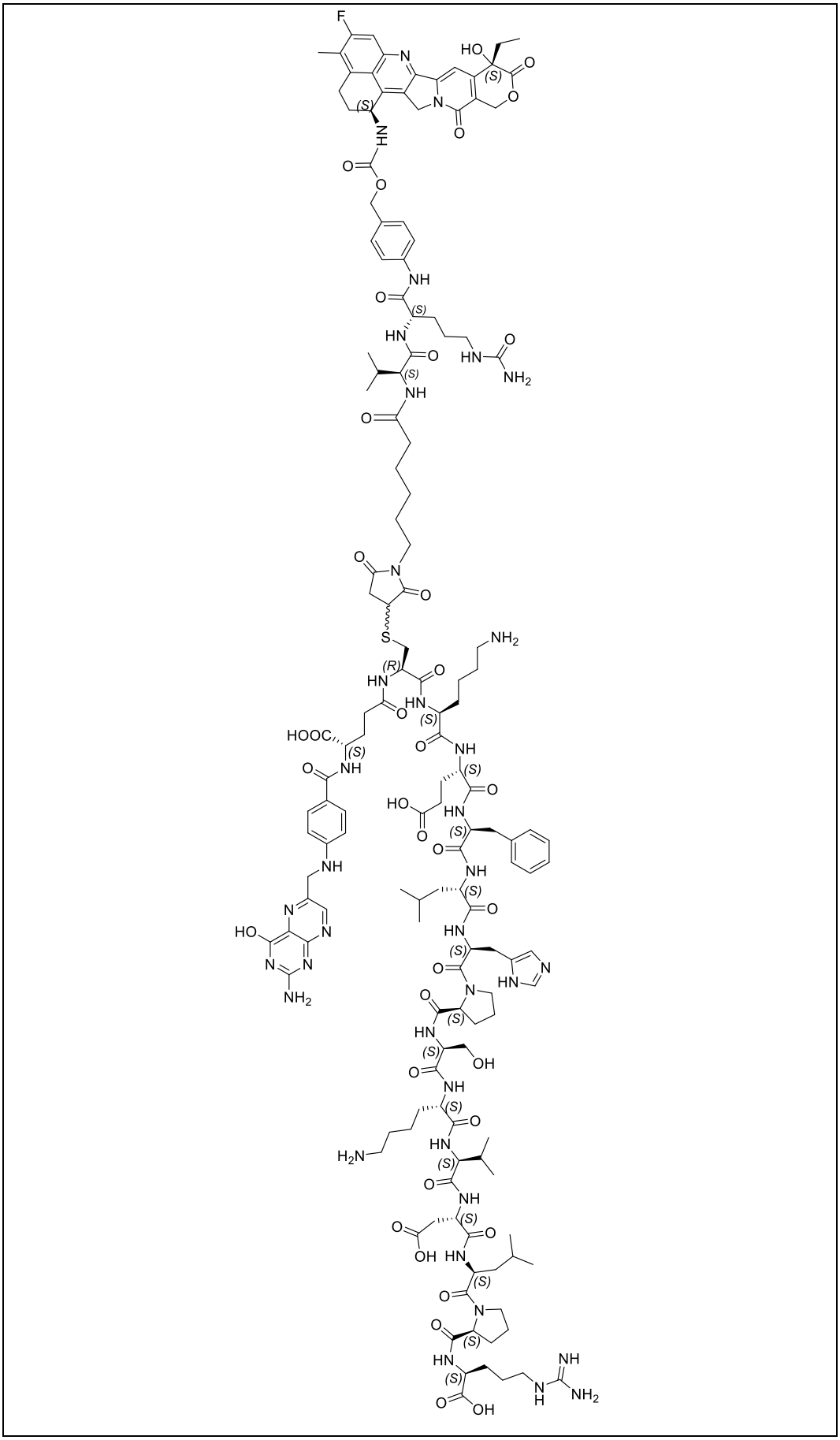


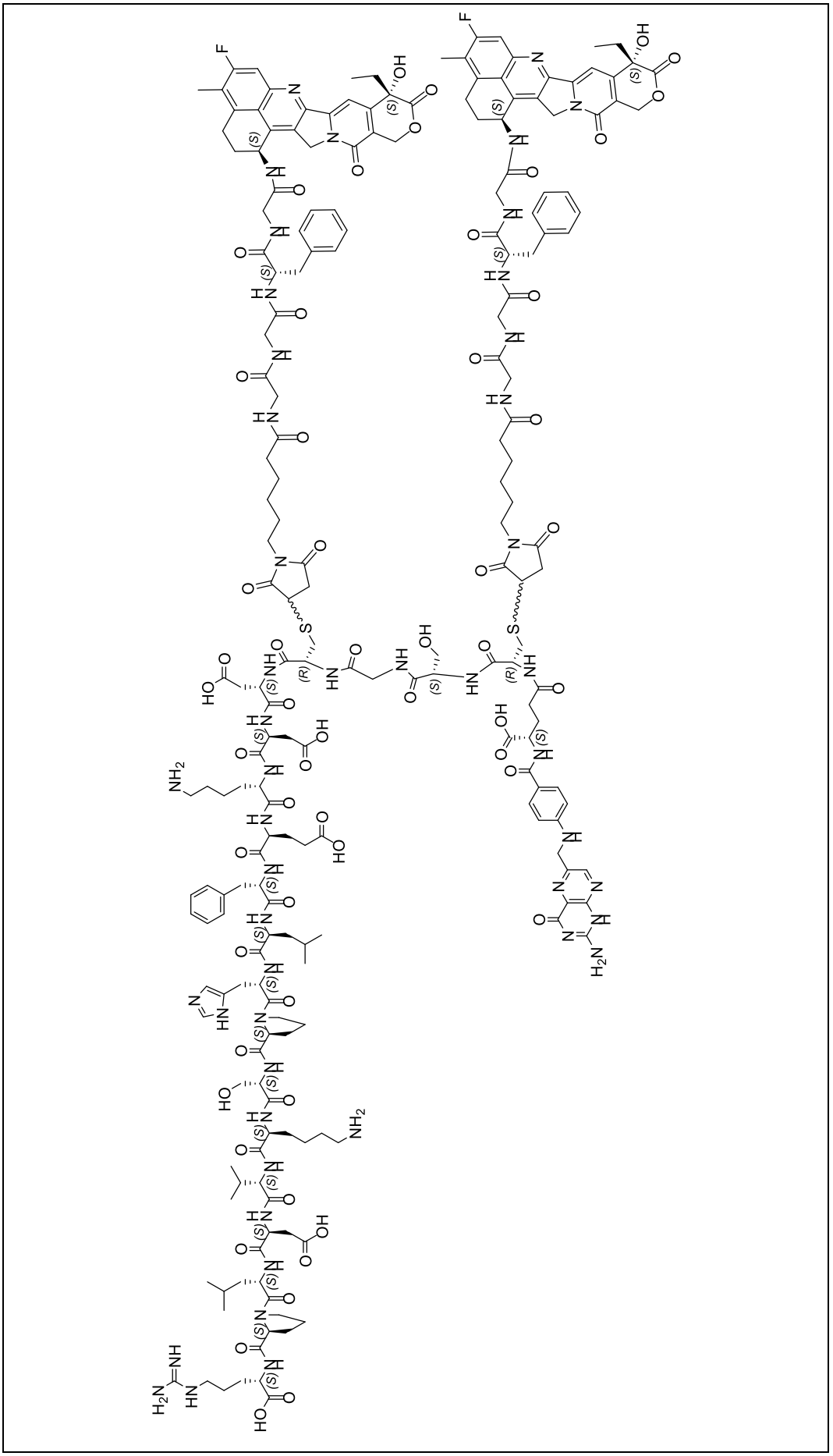


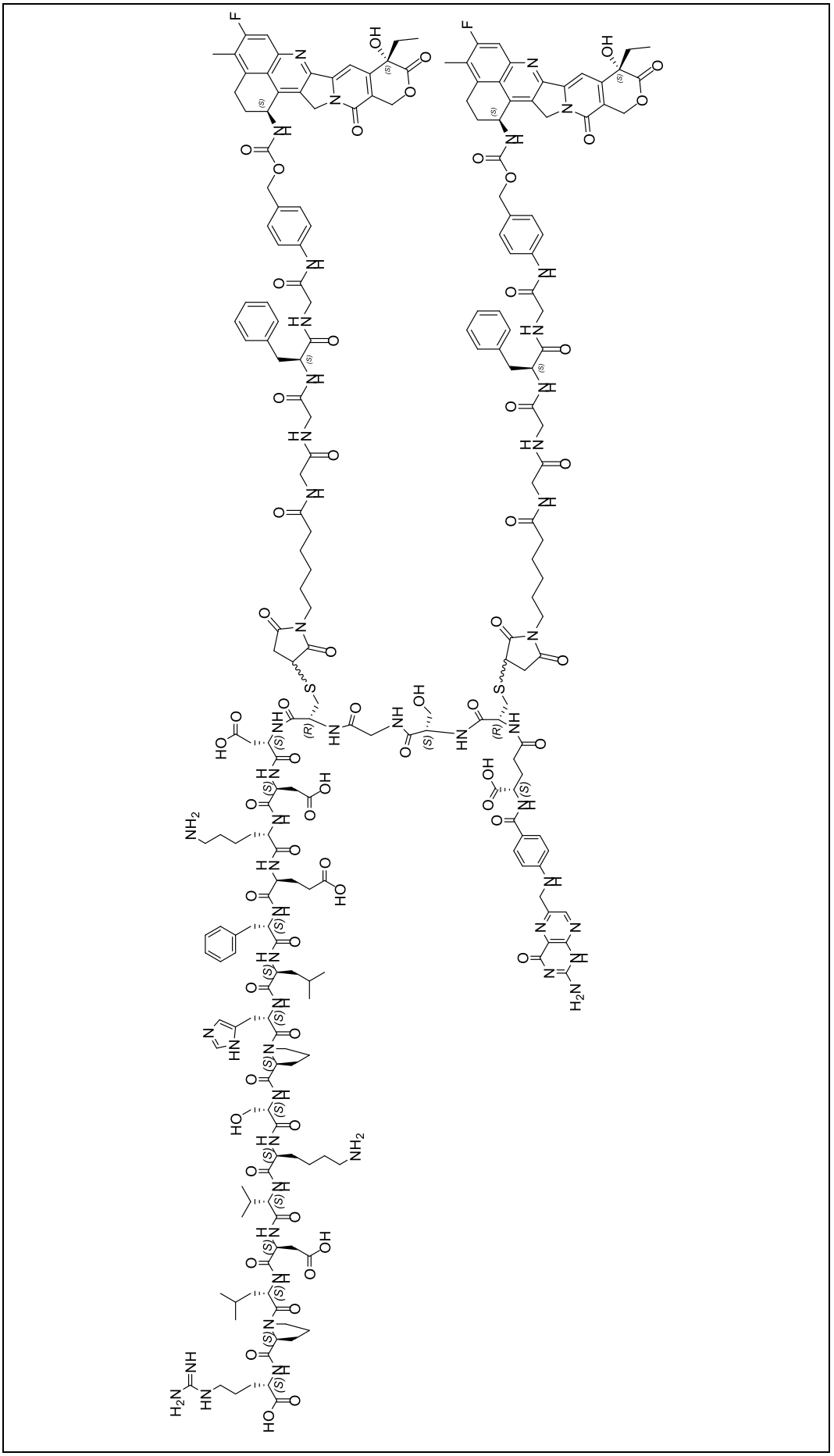


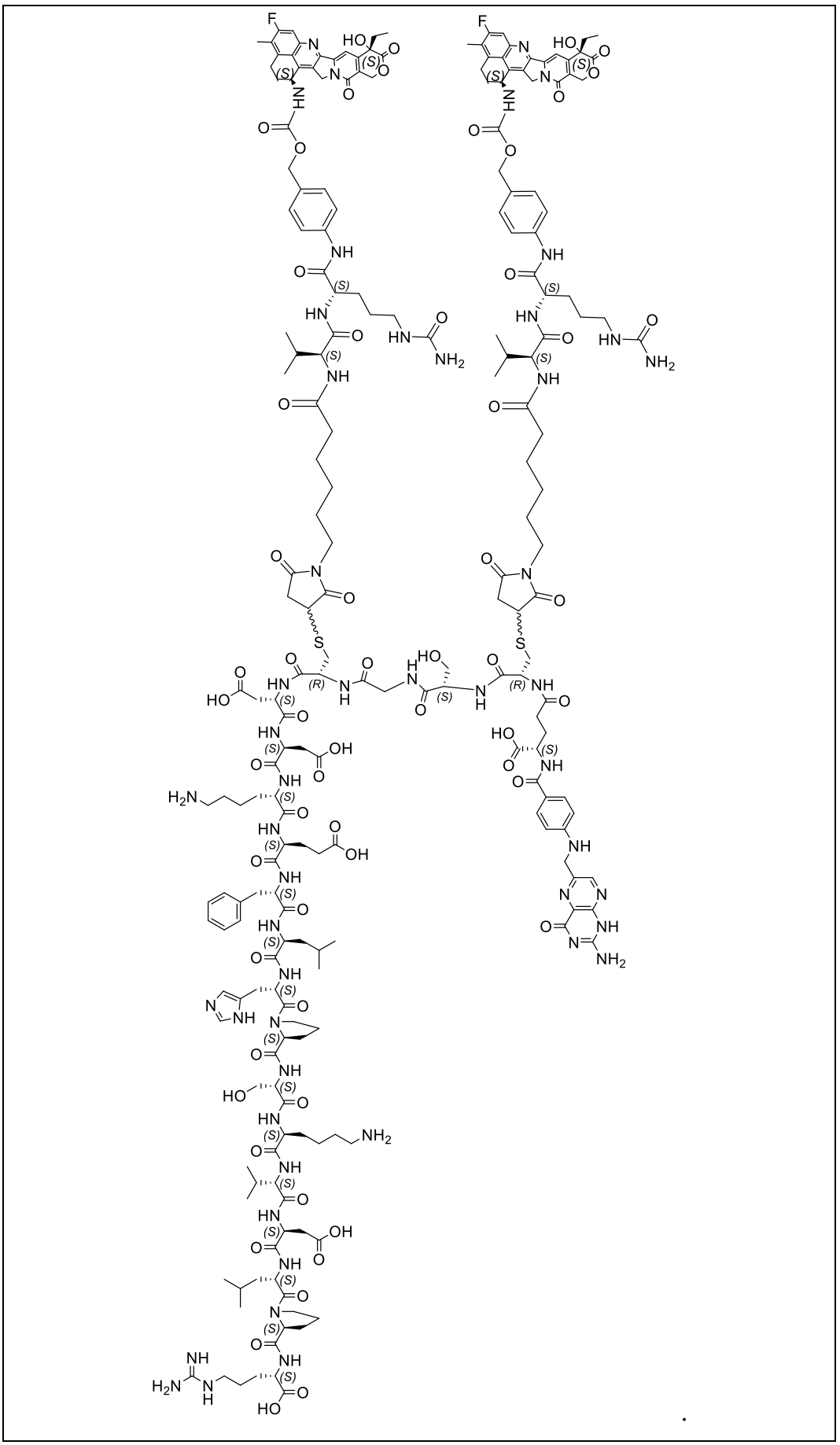












16. A pharmaceutical composition comprising the conjugate compound or the pharmaceutically acceptable salt thereof according to any one of claims 1-15, and a pharmaceutically acceptable carrier.

17. A method for delivering a payload, wherein a therapeutically effective amount of the conjugate compound or the pharmaceutically acceptable salt thereof according to any one of claims 1-15, or the pharmaceutical composition according to claim 16 is to be administered to a subject in need thereof.

18. A conjugate compound or a pharmaceutically acceptable salt thereof according to any one of claims 1-15, or a pharmaceutical composition according to claim 16 for use in treating a disease in a subject.

19. The conjugate compound or the pharmaceutically acceptable salt thereof, or the pharmaceutical composition for use according to claim 18, wherein the disease is selected from the group of: a cancer, an immune disease, a metabolic disease, and a neurological disease.

20. The conjugate compound or the pharmaceutically acceptable salt thereof, or the pharmaceutical composition for use according to claim 19, wherein:

i) the cancer is selected from the group of: pancreatic cancer, biliary tract cancer, liver cancer, breast cancer, thyroid cancer, colorectal cancer, esophagus cancer, lung cancer, kidney cancer, leukemia, ovarian cancer, stomach cancer, uterine cancer, endometrial cancer, colon cancer, testicular cancer, skin cancer, prostate cancer, lymphoma, and multiple myeloma;

ii) the immune disease is an autoimmune disease, and preferably, the autoimmune disease is selected from the group of: a connective tissue disease, systemic sclerosis, rheumatoid arthritis, and systemic lupus erythematosus;

iii) the metabolic disease is selected from the group of: diabetes, gout, obesity, hypoglycemia, hyperglycemia, and dyslipidemia; or

iv) the neurological disease is selected from the group of: Alzheimer’s disease, Parkinson’s disease, Huntington’s disease, head injury, multiple sclerosis, vertigo, coma, and epilepsy.