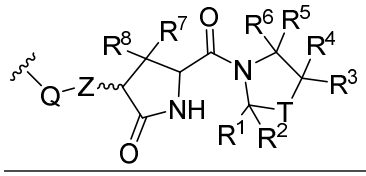
CLAIMS

1. A compound represented by a structure of formula (X):

$$A_m\text{-}L\text{-}B \quad (X)$$

wherein

A is a radical of a fibroblast activation protein alpha (FAPα) ligand comprising a structure of formula (X-A):



(X-A)

wherein:

Q is aryl, heteroaryl, or heterocyclyl;

Z is a bond, substituted or unsubstituted C_1-C_3 alkylene, substituted or unsubstituted heteroalkylene, amino, -O-, or -S-;

T is substituted or unsubstituted methylene, substituted or unsubstituted amino, -O-, or -S-;

R^1 and R^2 are each independently selected from the group consisting of -H, -CN, -CHO, $-B(OH)_2$, -C(O)alkyl, -C(O)aryl-, -C=C-C(O)aryl, $-C{=}C\text{-}S(O)_2$aryl, $-CO_2H$, $-SO_3H$, $-SO_2NH_2$, $-PO_3H_2$, $-SO_2F$, $-CONH_2$, and 5-tetrazolyl;

R^3 and R^4 are each independently selected from the group consisting of -H, -OH, F, Cl, Br, I, $-C_{1\text{-}6}$alkyl, $-O\text{-}C_{1\text{-}6}$alkyl, and $-S\text{-}C_{1\text{-}6}$alkyl; and

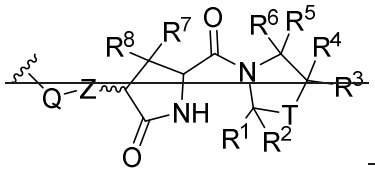
R^5, R^6, R^7, and R^8 are each independently selected from group consisting of H, alkyl, and halo;

L is a linker connecting one or more A groups to B;

B is a radical of an optical dye, a photodynamic therapeutic agent, a radio-imaging agent, a radiotherapeutic agent, a chemotherapeutic agent, an antifibrotic agent, or an anticancer agent; and

m is 1-6.

~~2. The compound of claim 1, wherein A has a structure of formula (X-A):~~



~~(X-A)~~

~~wherein:~~

~~Q is aryl, heteroaryl, or heterocyclyl;~~

~~Z is a bond, substituted or unsubstituted C_1-C_3 alkylene, substituted or unsubstituted heteroalkylene, amino, -O-, or -S-;~~

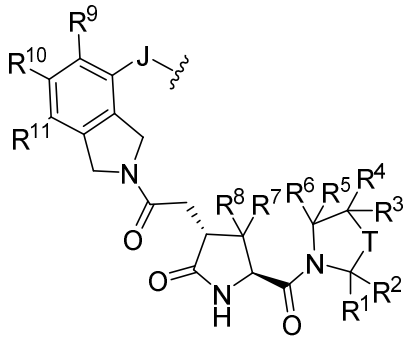
~~T is substituted or unsubstituted methylene, substituted or unsubstituted amino, -O-, or -S-;~~

~~R^1 and R^2 are each independently selected from the group consisting of H, CN, CHO, $B(OH)_2$, C(O)alkyl, C(O)aryl, C≡C-C(O)aryl, C≡C-$S(O)_2$aryl, CO_2H, SO_3H, SO_2NH_2, PO_3H_2, SO_2F, $CONH_2$, and 5-tetrazolyl;~~

~~R^3 and R^4 are each independently selected from the group consisting of H, OH, F, Cl, Br, I, C_{1-6}alkyl, O-C_{1-6}alkyl, and S-C_{1-6}alkyl; and~~

~~R^5, R^6, R^7, and R^8 are each independently selected from group consisting of H, alkyl, and halo.~~

~~3.~~2. The compound of claim 1~~ or claim 2~~, wherein A comprise a structure of formula (X-B):



(X-B)

wherein

Q is aryl, heteroaryl, or heterocyclyl;

T is substituted or unsubstituted methylene, substituted or unsubstituted amino, -O-, or -S-;

J is $C(R^J)_2$, wherein each R^J is independently H or alkyl, or both R^J are taken together to form oxo;

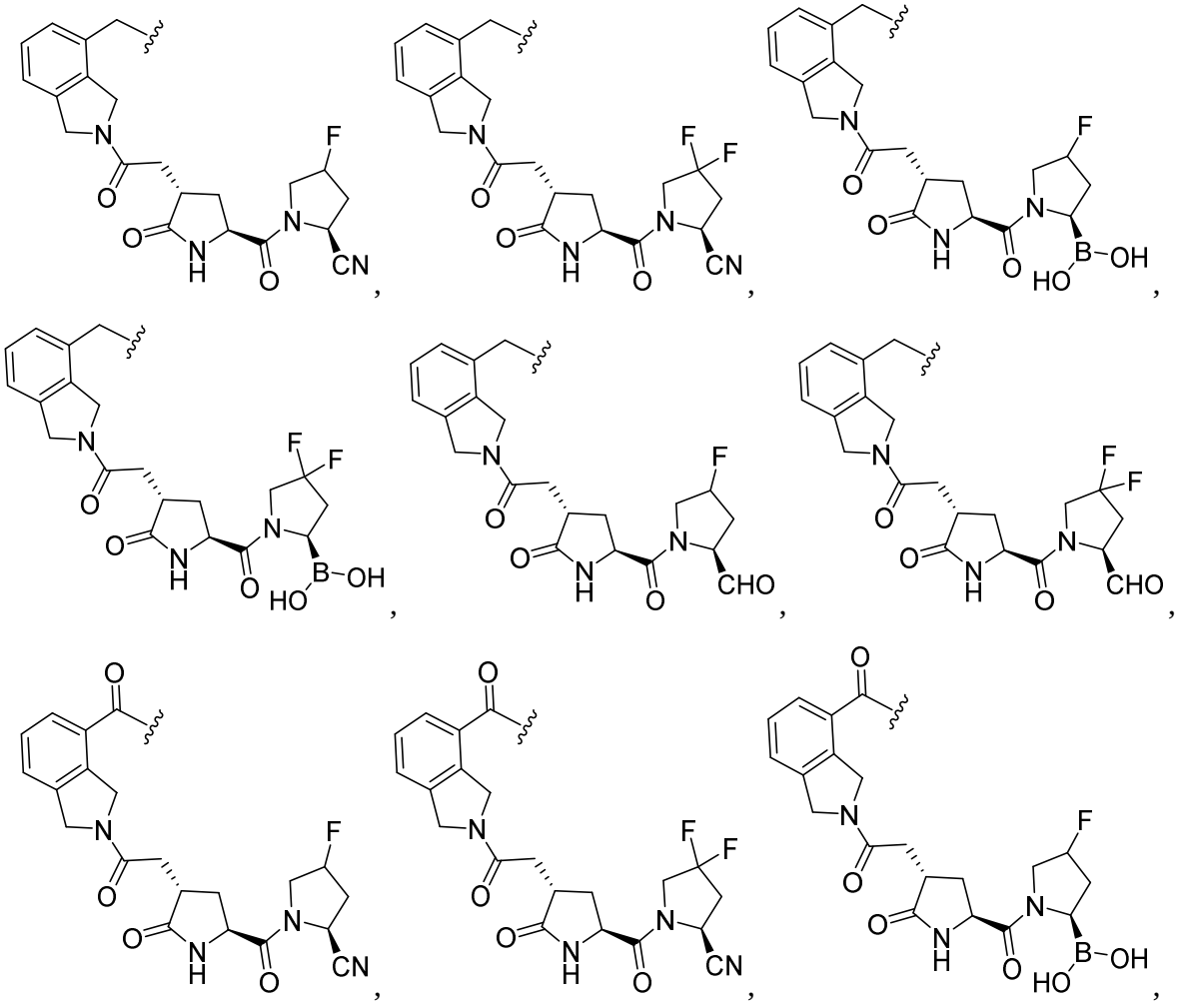
R^1 and R^2 are each independently selected from the group consisting of -H, -CN, -CHO, -$B(OH)_2$, -C(O)alkyl, -C(O)aryl-, -C=C-C(O)aryl, -C=C-$S(O)_2$aryl, -CO_2H, -SO_3H, -SO_2NH_2, -PO_3H_2, -SO_2F, -$CONH_2$, and 5-tetrazolyl;

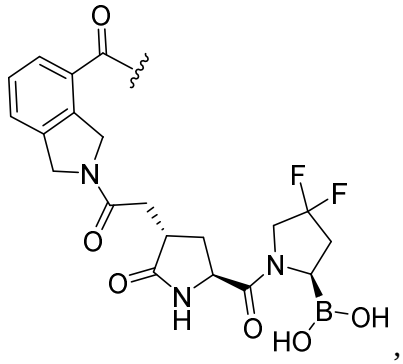
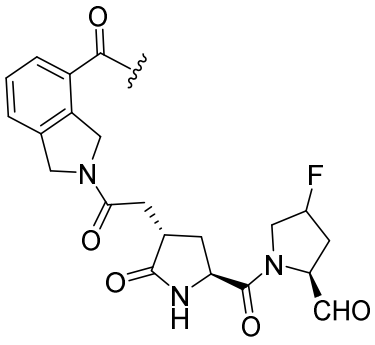
R^3 and R^4 are each independently selected from the group consisting of - of -H, -OH, F, Cl, Br, I, -$C_{1\text{-}6}$alkyl, -O-$C_{1\text{-}6}$alkyl, and -S-$C_{1\text{-}6}$alkyl;

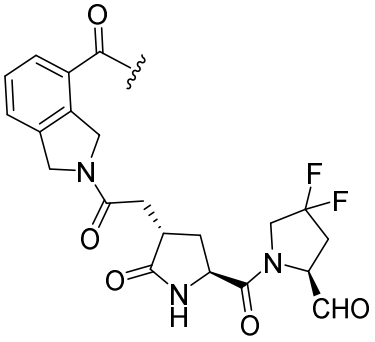
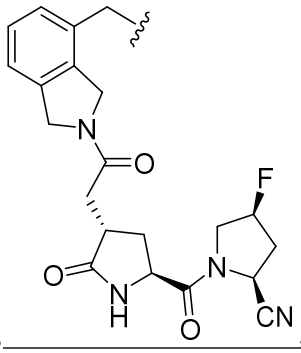
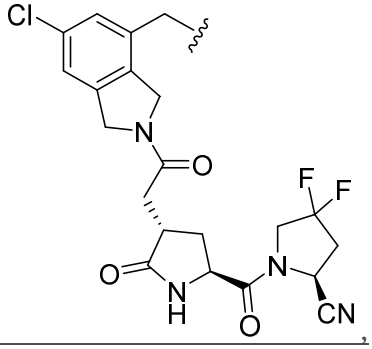
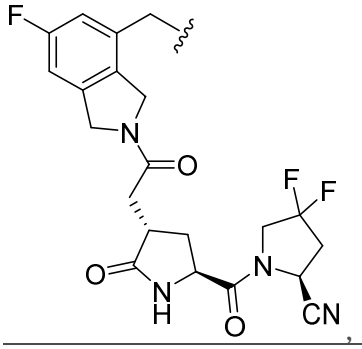
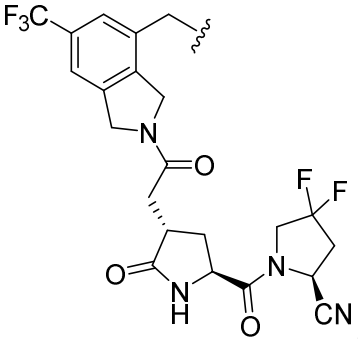
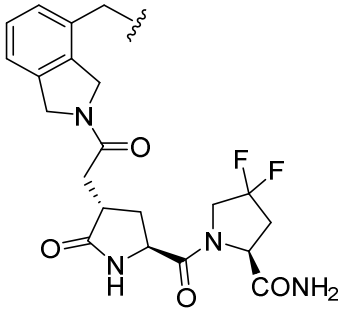
R^5, R^6, R^7, and R^8 are each independently selected from group consisting of H, alkyl, and halo; and

R^9, R^{10}, and R^{11} are each independently selected from group consisting of H, -$C_{1\text{-}6}$alkyl, -$C_{1\text{-}6}$haloalkyl, -O-$C_{1\text{-}6}$alkyl, -S-$C_{1\text{-}6}$ alkyl, F, Cl, Br, and I.

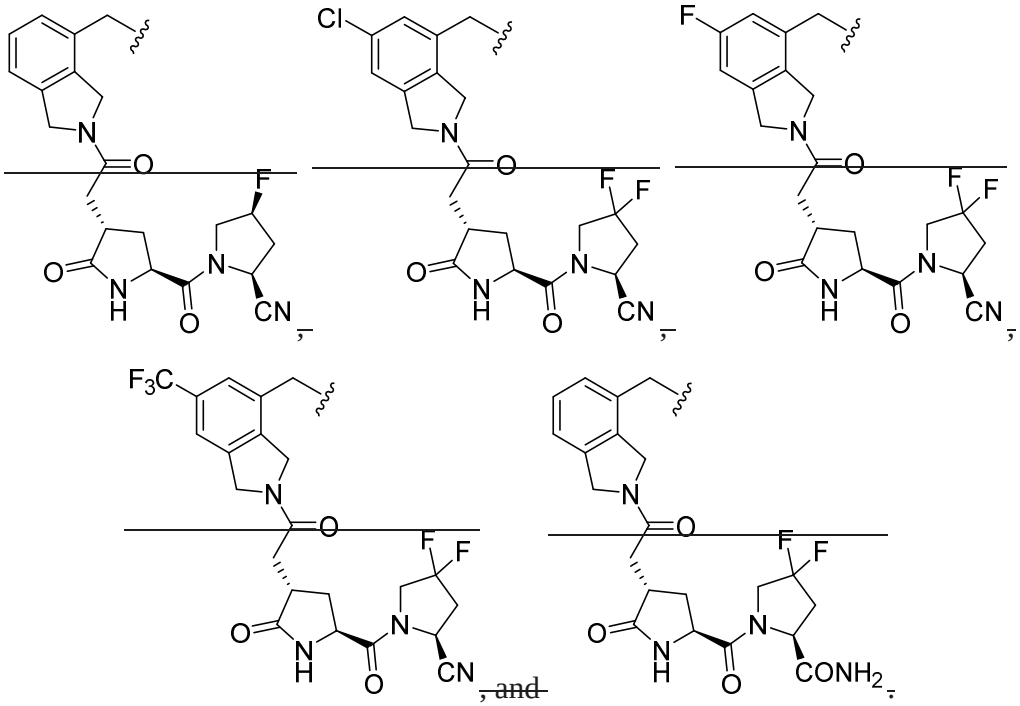
~~4.~~3. The compound of ~~any one of claims 1-3~~claim 1 or 2, wherein A is selected from the group consisting of:





, and







, and .

5. The compound of any one of claims 1-3, wherein A is selected from the group consisting of:



~~6. The compound of any one of claims 1-5, wherein A has a binding affinity to FAPα from about 1 nM to about 25 nM.~~

~~7. The compound of any one of claims 1-6, wherein L comprises one or more linker group, each linker group independently selected from the group consisting of alkyl(ene), heteroalkyl(ene), heterocycloalkyl(ene), heteroaryl, aryl, alkoxy, thioether, disulfide, carboxylic acid, anhydride, carbonate, carbamate, thioether, sugar, and peptide.~~

~~8. The compound of any one of claims 1-7, wherein L comprises one or more linker group, each linker group independently selected from the group consisting of polyethylene glycol (PEG), alkyl(ene), disulfide, amide, carboxylic acid, anhydride, carbonate, ester, carbamate, thioether, phenyl, and triazole.~~

~~9. The compound of any one of claims 1-8, wherein L comprises one or more linker group, each linker group independently selected from the group consisting of polyethylene glycol (PEG), alkyl(ene), disulfide, amide, carboxylic acid, carbonate, and ester.~~

~~10. The compound of any one of claims 1-8, wherein L is a releasable linker.~~

~~11. The compound of any one of claims 1-8, wherein L comprises one or more linker group, each linker group independently selected from the group consisting of polyethylene glycol (PEG), alkyl(ene), amide, phenyl, and triazole.~~

~~12. The compound of any one of claims 1-8 and 11, wherein L is a non-releasable linker.~~

~~13.~~4. The compound of any one of claims ~~1-12~~1-3, wherein:

L is $(L^1)_o$-Y-$(L_2)_p$, wherein:

each L^1 is a first linker;

each L^2 is a second linker;

Y is a third linker;

o is an integer from 1-5; and

p is an ~~inter~~integer from 1-5.

~~14.~~5. The compound of claim ~~13~~4, wherein each L^1 and L^2 independently comprises one or more linker group, each linker group independently selected from the group consisting of alkyl(ene), heteroalkyl(ene), heterocycloalkyl(ene), heteroaryl, aryl, alkoxy, thioether, disulfide, carboxylic acid, anhydride, carbonate, carbamate, thioether, sugar, and peptide, or each L^1 and L^2 independently comprises one or more linker group, each linker group independently selected from the group consisting of polyethylene glycol (PEG), alkyl(ene), disulfide, amide, carboxylic acid, anhydride, carbonate, ester, carbamate, thioether, phenyl, and triazole.

~~15. The compound of claim 13, wherein each L^1 and L^2 independently comprises one or more linker group, each linker group independently selected from the group consisting of polyethylene glycol (PEG), alkyl(ene), disulfide, amide, carboxylic acid, anhydride, carbonate, ester, carbamate, thioether, phenyl, and triazole.~~

~~16. The compound of claim 13, wherein each L^1 and L^2 independently comprises one or more linker group, each linker group independently selected from the group consisting of polyethylene glycol (PEG), alkyl(ene), disulfide, amide, carboxylic acid, carbonate, and ester.~~

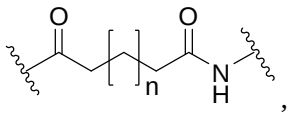
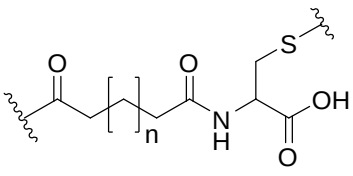
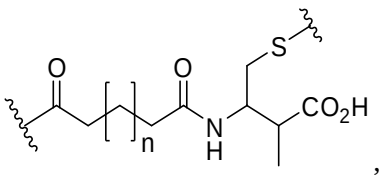
~~17. The compound of any one of claims 13-15, wherein each L^1 and L^2 independently comprises one or more linker group, each linker group independently selected from the group consisting of polyethylene glycol (PEG), alkyl(ene), amide, phenyl, and triazole.~~

~~18. The compound of any one of claims 13-17, wherein Y has an amine core, an aromatic core.~~

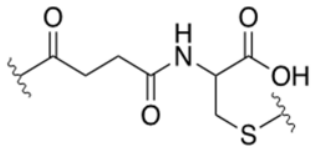
~~19.~~6. The compound of ~~any one of claims 13-17~~claim 4 or 5, wherein Y has an amine core, an aromatic core, or an alkylene core.

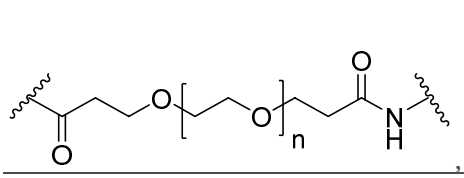
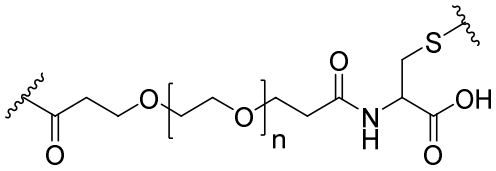
~~20. The compound of any one of claims 1-19, wherein L, L^1, L^2, or any combination thereof independently have a length from 15-200 angstroms (Å).~~

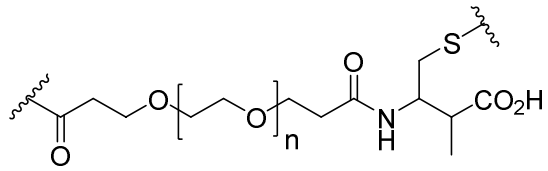
~~21.~~7. The compound of ~~any one of claims 1-20~~claim 4 or 5, wherein L, L^1, L^2, or any combination thereof independently comprise i) at least one linker group having the following structure:


, 
, or 
,

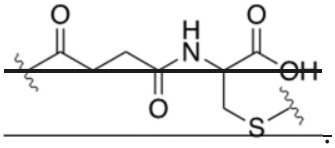
wherein n is 0 to 10, ii) at least one linker group having the following structure:


, or iii) at least one linker group having the following structure:

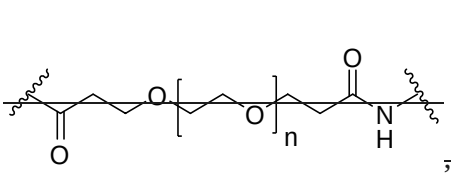
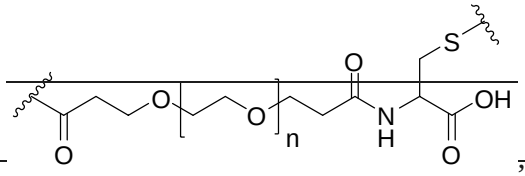

, 
, or

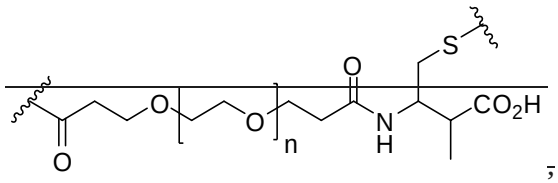

, wherein n is 1 to 32.

~~22. The compound of any one of claims 1-21, wherein L, L^1, L^2, or any combination thereof independently comprises at least one linker group having the following structure:~~


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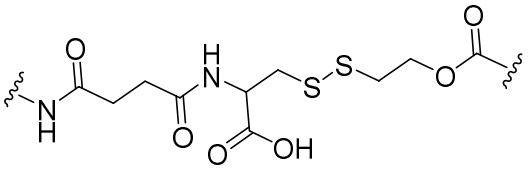
~~23. The compound of claim 1-22, wherein L, L^1, L^2, or any combination thereof comprises at least one linker group having the following structure:~~


~~,~~ 
~~, or~~


~~,~~

~~wherein n is 1 to 32.~~

~~24.~~8. The compound of any one of ~~claims 1-23~~claims 1-7, wherein L has the following structure:



.

~~25. The compound of any one of claims 1-24, wherein B is a radical of a (e.g., fluorescent) dye.~~

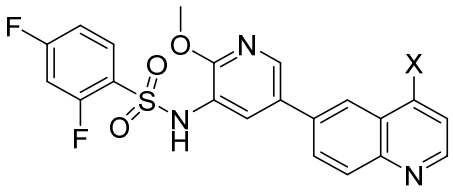
~~26.~~9. The compound of any one of ~~claims 1-25~~claims 1-8, wherein i) the compound is an imaging agent and B is a radical of a fluorescent dye, ii) the compound is a chemotherapeutic agent and B is a radical of an antifibrotic agent or an anticancer agent; or iii) B is radical of a phosphoinositide 3-kinase (PI3K) inhibitor.

~~27. The compound of any one of claims 1-24, wherein B is radical of an anticancer agent or an antifibrotic agent.~~

~~28. The compound of any one of claims 1-24 or 27, wherein the compound is a chemotherapeutic agent and B is a radical of an antifibrotic agent or an anticancer agent.~~

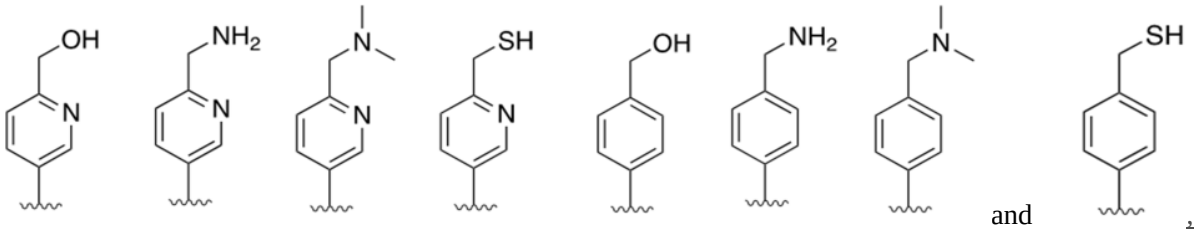
~~29. The compound of any one of claims 1-24, 27, or 28, wherein B is radical of a phosphoinositide 3-kinase (PI3K) inhibitor.~~

~~30.~~10. The compound of any one of claims ~~1-24 or 27-29~~1-9, wherein i) B has a structure of a radical of a compound represented by the following formula:



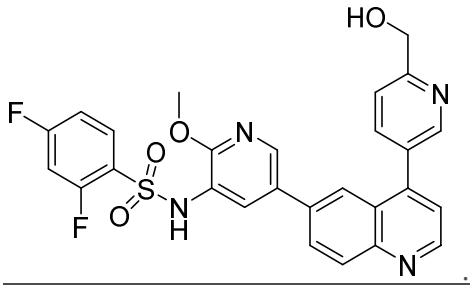
wherein:

X is selected from the group consisting of



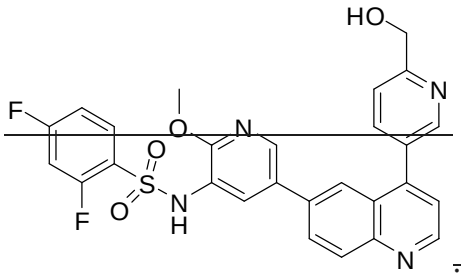
and .

or ii) B is a radical of a compound of the following structure:



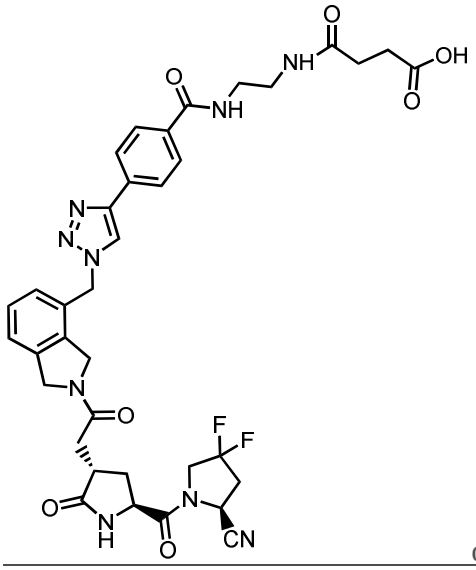
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~~31. The compound of any one of claims 1-24, or 27-30, wherein B is a radical of the following structure:~~

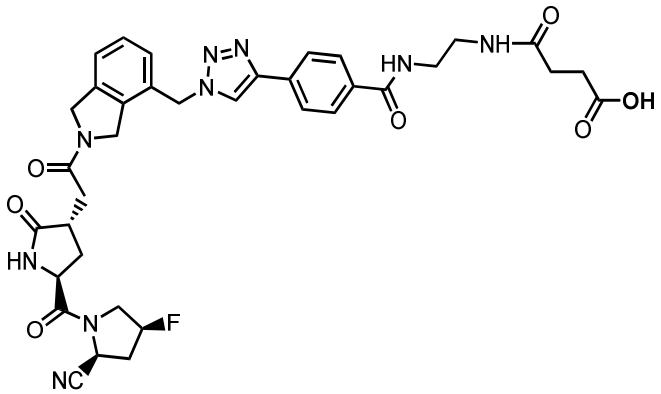


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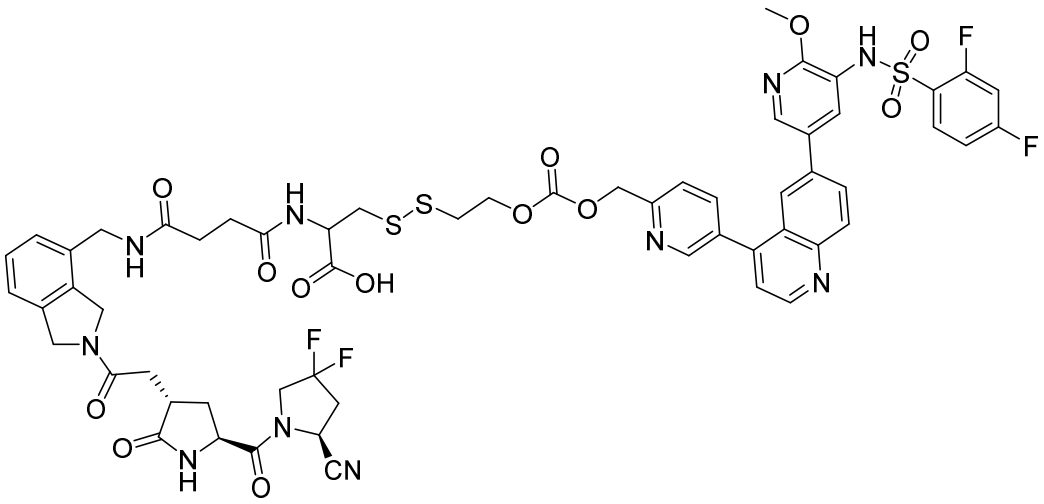
~~32.~~11. A compound of the following structure:



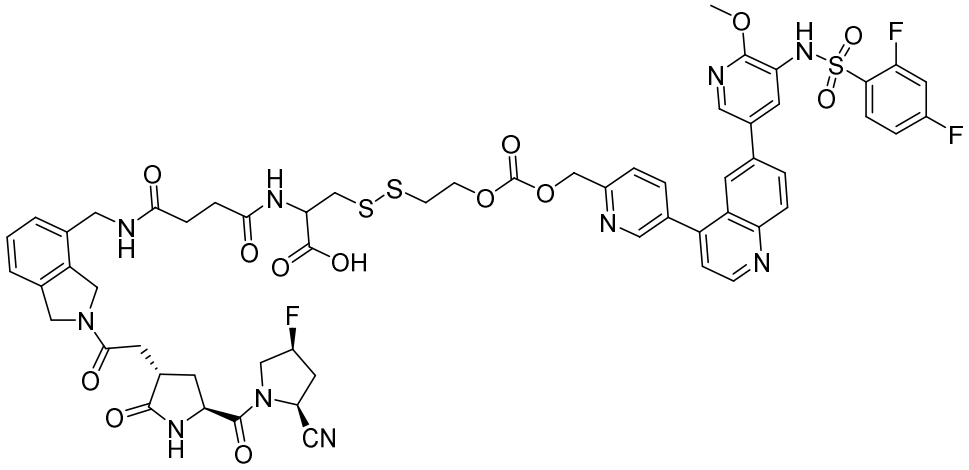
or



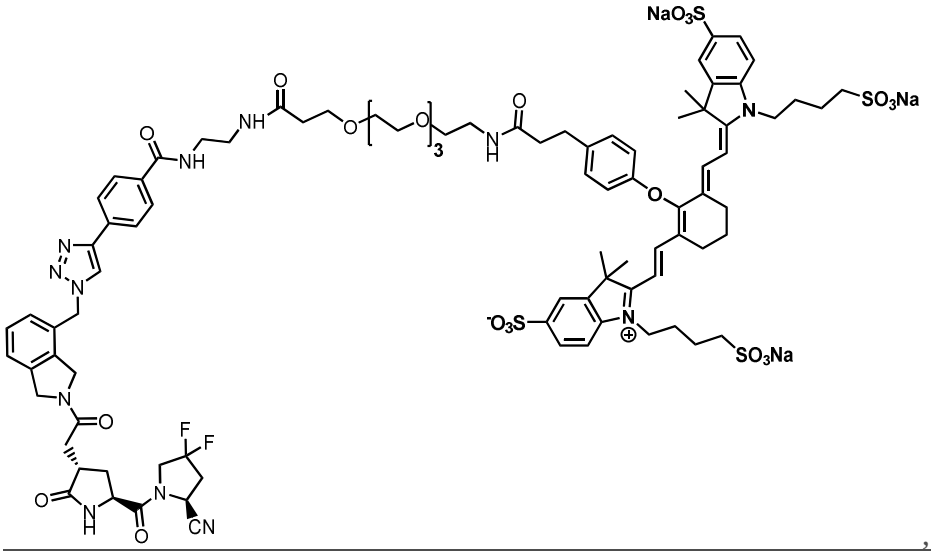
or a compound of the following structure:



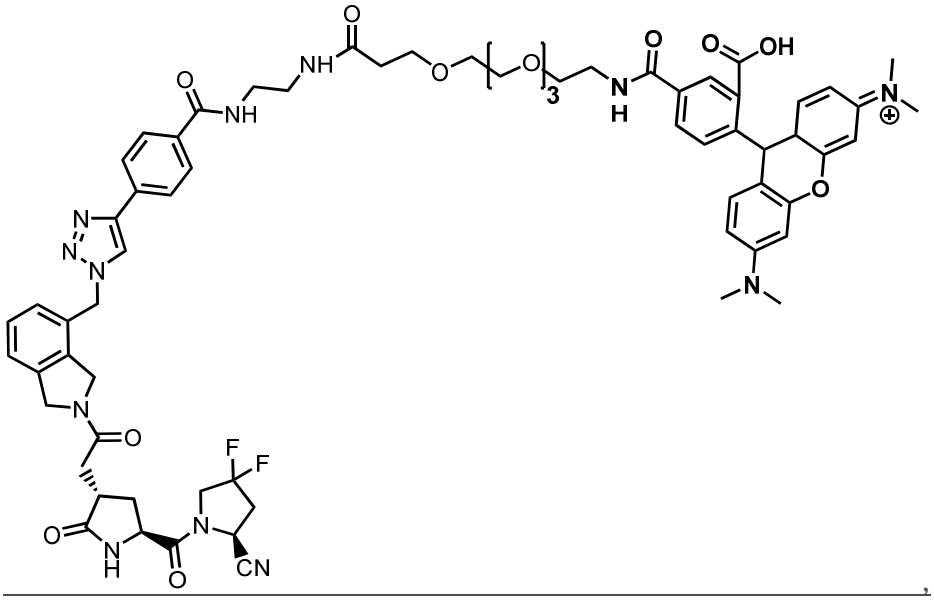
, or



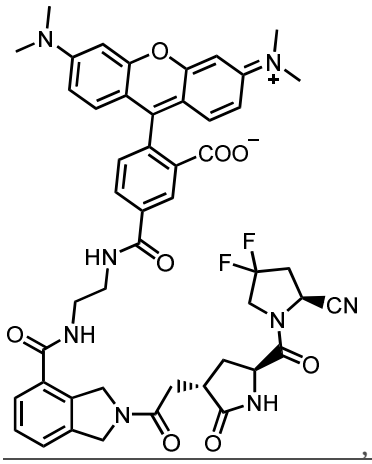
, or a compound of the following structure:



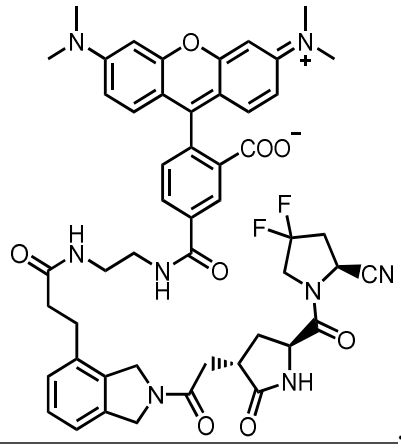
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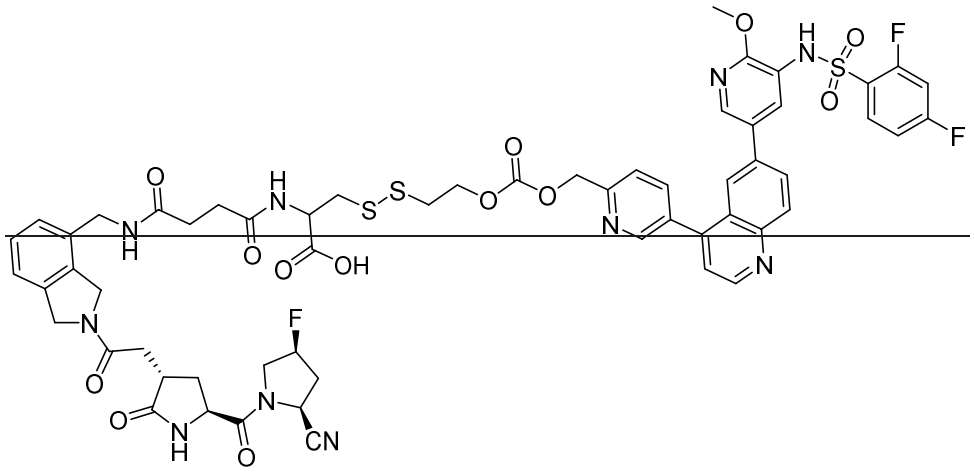


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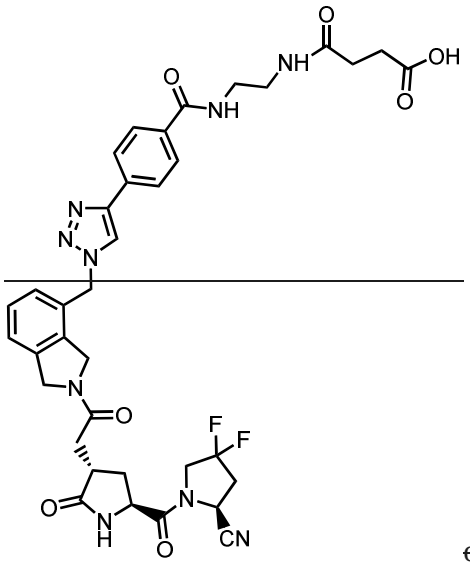


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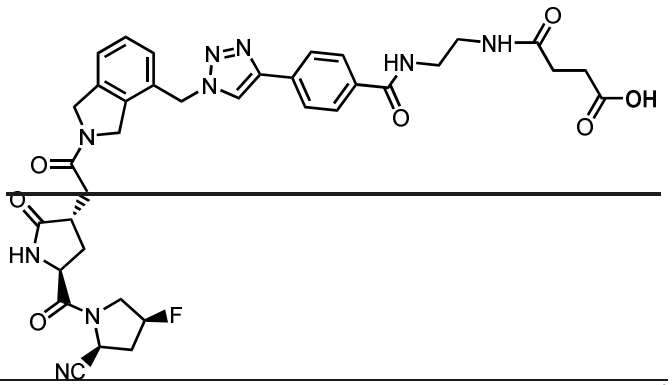
~~33. A compound of the following structure:~~



~~34. A compound of the following structure:~~

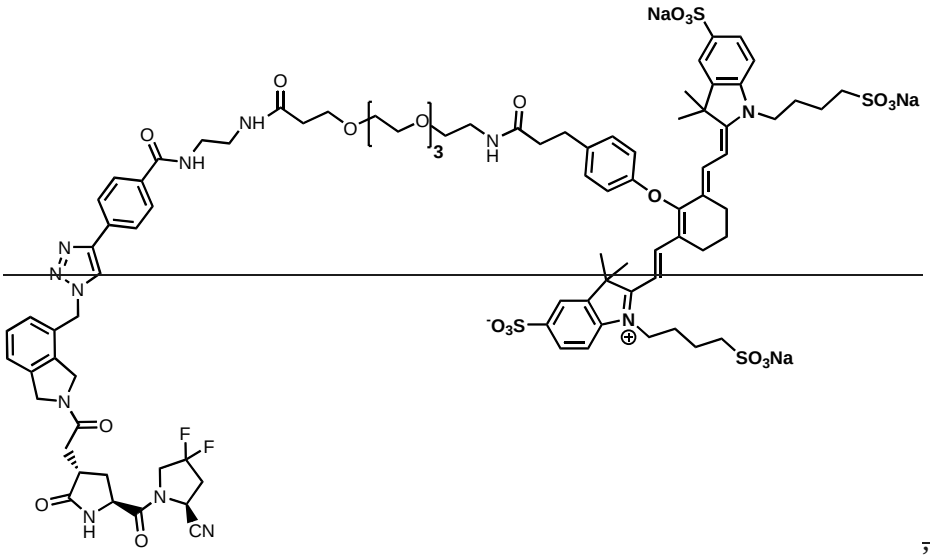


~~or~~

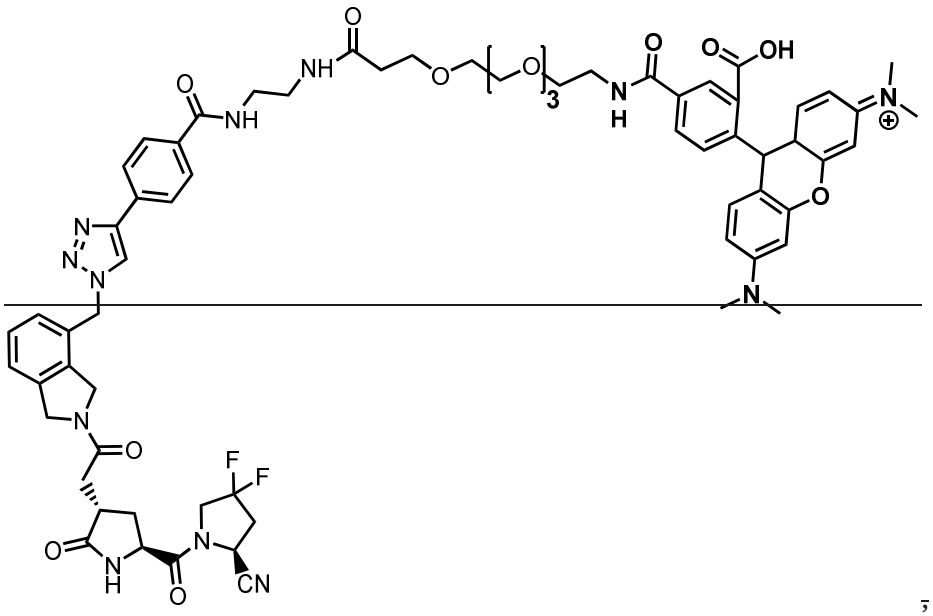


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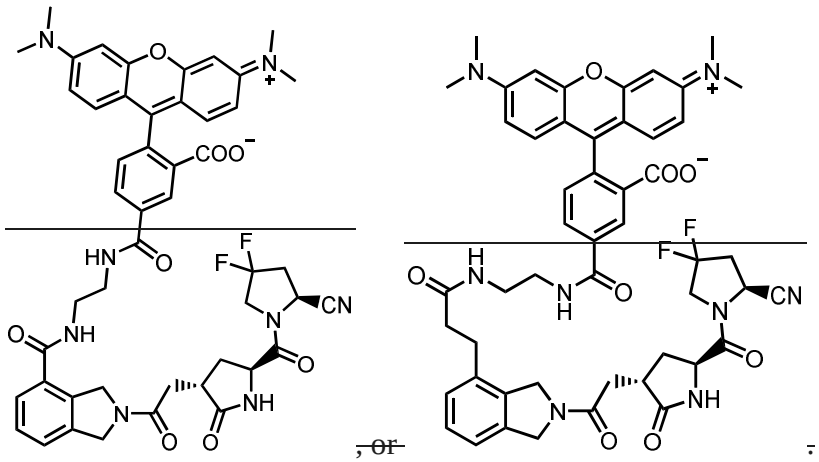
~~35. A compound of the following structure:~~



;



;



~~, or~~ ;

~~36.~~12. A pharmaceutical composition comprising a compound of any one of claims ~~1-35~~1-11 and a pharmaceutically acceptable carrier.

~~37. A method for imaging cancer or fibrosis in a subject with the cancer or the fibrosis, the method comprising administering an effective amount of a compound of any one of claims 1-26 and 35 to a subject in need thereof.~~

~~38. A method for treating an inflammatory disease or disorder, the method comprising administering a therapeutically effective amount of a compound of any one of claims 1-35 to a subject in need thereof.~~

~~39.~~13. A ~~method for treating cancer, the method comprising administering a therapeutically effective amount of a~~ compound ~~of~~according to any one of claims ~~1-35~~1-11 for use ~~to a subject in need thereof,~~in treating cancer in a subject in need thereof wherein the cancer is optionally selected from the group consisting of fibrosarcoma, breast cancer, colorectal cancer, glioblastoma, squamous cell carcinoma, pancreatic cancer, and cervical cancer.

14. A compound according to any one of claims 1-11 for use in treating fibrosis in a subject in need thereof.

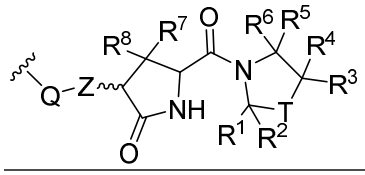
15. A conjugate represented by a structure of formula:

FAP-A-L-B

wherein

FAP is fibroblast activation protein alpha (FAPα), bound to the A group;

A is a radical of a fibroblast activation protein alpha (FAPα) ligand comprising a structure of formula (X-A):



(X-A)

wherein:

Q is aryl, heteroaryl, or heterocyclyl;

Z is a bond, substituted or unsubstituted C_1-C_3 alkylene, substituted or unsubstituted heteroalkylene, amino, -O-, or -S-;

T is substituted or unsubstituted methylene, substituted or unsubstituted amino, -O-, or -S-;

R^1 and R^2 are each independently selected from the group consisting of -H, -CN, -CHO, $-B(OH)_2$, -C(O)alkyl, -C(O)aryl-, -C=C-C(O)aryl, $-C{=}C\text{-}S(O)_2$aryl, $-CO_2H$, $-SO_3H$, $-SO_2NH_2$, $-PO_3H_2$, $-SO_2F$, $-CONH_2$, and 5-tetrazolyl;

R^3 and R^4 are each independently selected from the group consisting of -H, -OH, F, Cl, Br, I, $-C_{1\text{-}6}$alkyl, $-O\text{-}C_{1\text{-}6}$alkyl, and $-S\text{-}C_{1\text{-}6}$alkyl; and

R^5, R^6, R^7, and R^8 are each independently selected from group consisting of H, alkyl, and halo;

L is a linker connecting one or more A groups to B; and

B is a radical of an optical dye, a photodynamic therapeutic agent, a radio-imaging agent, a radiotherapeutic agent, a chemotherapeutic agent, an antifibrotic agent, or an anticancer agent.