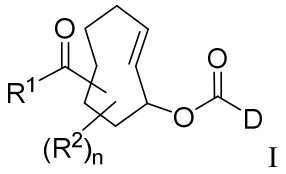
**What is Claimed is:**

1. A process of preparing a compound of formula I, or a salt thereof:



I

wherein

$R^1$ is selected from the group consisting of -$OR^4$ ~~, optionally substituted heterocyclyl,~~ and an amino acid moiety;

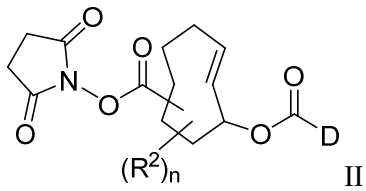
n is 0, 1, 2, 3 or 4;

each $R^2$ is independently $C_{1\text{-}4}$alkyl, $C_{1\text{-}4}$haloalkyl, and $C_{1\text{-}4}$alkoxy; and

D is a payload moiety;

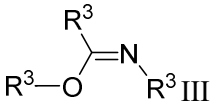
$R^4$ is hydrogen or $C_{1\text{-}4}$alkyl;

comprising contacting a compound of formula II:



II

with HO-$R^4$ ~~, an optionally substituted heterocyclyl~~ or an amino acid moiety, or a salt thereof, and a compound of formula III:



III

wherein each $R^3$ is independently $C_{1\text{-}4}$alkyl, or

wherein a compound of formula III is *N,O*-bis(trimethylsilyl acetamide)

in an organic solvent in the presence of a base.

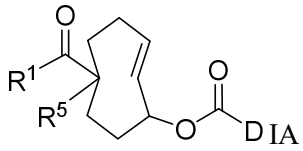
2. The process of claim 1, wherein the payload moiety is an anthracycline moiety, an auristatin moiety, a glycopeptide antibiotic moiety, or a lipopeptide antibiotic moiety.

3. The process of claim 2, wherein the payload moiety is a doxorubicin moiety, daunorubicin moiety, monomethyl auristatin E moiety, vancomycin moiety or daptomycin moiety.

4. The process of any one of claims 1-3, wherein $R^1$ is an amino acid moiety, an alanine moiety or a glycine moiety.

5. The process of any one of claims 1-4, wherein the compound of formula III is *N*,*O*-bis(trimethylsilyl)acetamide.

6. The process of any one of claims 1-5, wherein the compound of formula I is represented by formula IA:



IA

wherein

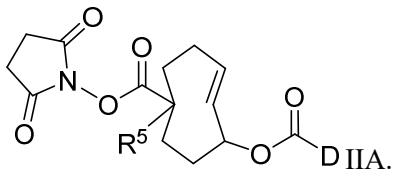
$R^1$ is selected from the group consisting of -$OR^4$~~, optionally substituted heterocyclyl,~~ and an amino acid moiety;

$R^4$ is hydrogen or $C_{1\text{-}4}$alkyl;

$R^5$ is hydrogen or $C_{1\text{-}4}$alkyl; and

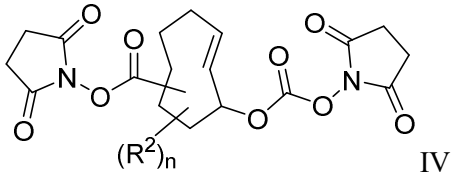
D is a payload moiety;

and the compound of formula II is represented by formula IIA:



IIA.

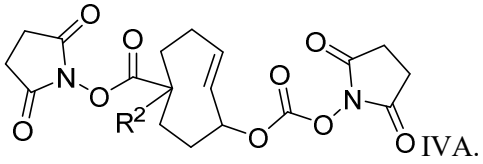
7. The process of any one of claims 1-5, further comprising preparing the compound of formula II by reacting a compound of formula IV:



IV

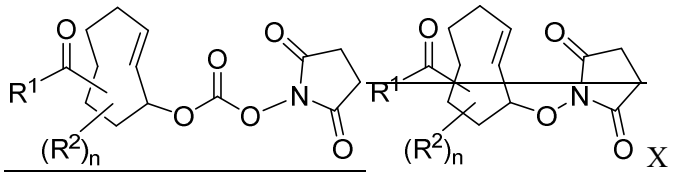
with a payload moiety, or a salt thereof, in an organic solvent in the presence of a base.

8. The process of claim 6, wherein the compound of formula IV is represented by formula IVA:



IVA.

9. A process of preparing a compound of formula X, or a salt thereof:



X

wherein

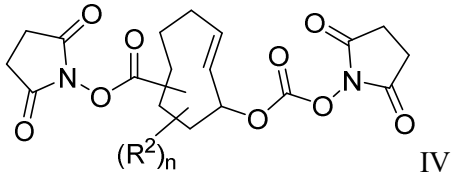
$R^1$ is selected from the group consisting of -$OR^4$~~, an optionally substituted heterocyclyl,~~ and an amino acid moiety;

n is 0, 1, 2, 3 or 4;

each $R^2$ is independently $C_{1\text{-}4}$alkyl, $C_{1\text{-}4}$haloalkyl, and $C_{1\text{-}4}$alkoxy; and

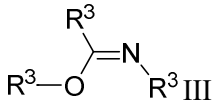
$R^4$ is hydrogen or $C_{1\text{-}4}$alkyl;

comprising contacting a compound of formula IV:



IV

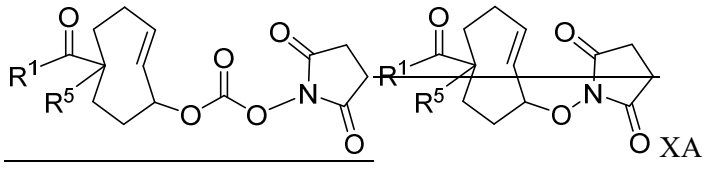
with HO-$R^4$~~, an optionally substituted heterocyclyl~~ or an amino acid, or a salt thereof, and a compound of formula III:



III

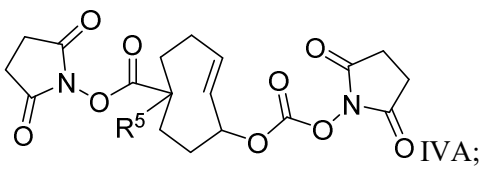
wherein each $R^3$ is independently $C_{1\text{-}4}$alkyl, in an organic solvent in the presence of a base.

10. The process of claim 9, wherein the compound of formula X is represented by formula XA:



XA

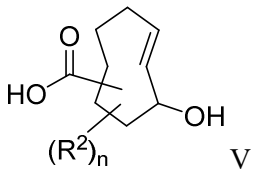
and the compound of formula IV is represented by formula IVA:



IVA;

wherein $R^5$ is hydrogen or $C_{1\text{-}4}$alkyl.

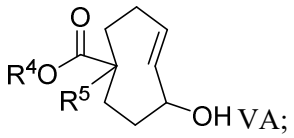
11. The process of claim 9, further comprising preparing the compound of formula IV, or a salt thereof, comprising contacting a compound of formula V, or a salt thereof:



V

with N,N'-disuccinimidylcarbonate in an organic solvent in the presence of a base.

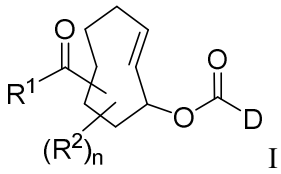
12. The process of claim 11, wherein the compound of formula V is represented by formula VA:



VA;

wherein $R^5$ is hydrogen or $C_{1-4}$alkyl.

13. A process of preparing a compound of formula I, or a salt thereof:



I

wherein

$R^1$ is selected from the group consisting of -$OR^4$~~, optionally substituted heterocyclyl,~~ and an amino acid moiety;

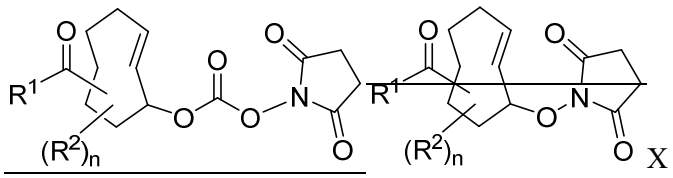
n is 0, 1, 2, 3 or 4;

each $R^2$ is independently $C_{1-4}$alkyl, $C_{1-4}$haloalkyl, and $C_{1-4}$alkoxy;

D is a payload moiety; and

$R^4$ is hydrogen or $C_{1-4}$alkyl;

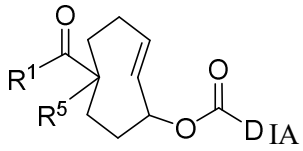
comprising contacting a compound of formula X, or a salt thereof:



X

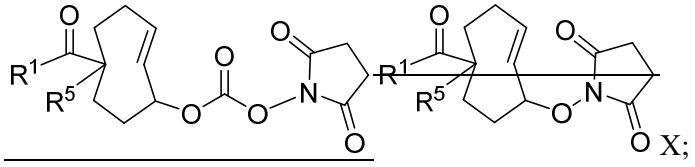
with a payload moiety, or a salt thereof, in an organic solvent in the presence of a base.

14. The process of claim 13, wherein the compound of formula I is represented by formula IA:



IA

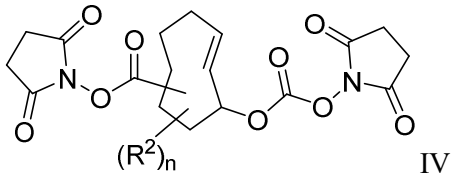
and the compound of formula X is represented by formula XA:



X;

wherein $R^5$ is hydrogen or $C_{1\text{-}4}$alkyl.

15. A process of preparing a composition comprising a compound of formula IV, or a salt thereof:



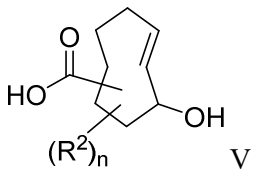
IV

wherein

n is 0, 1, 2, 3, or 4; and

each $R^2$ independently hydrogen or $C_{1\text{-}4}$alkyl;

comprising contacting one equivalent of a compound of formula V, or a salt thereof:



V

with 3-5 equivalents of N,N'-disuccinimidylcarbonate in 15-25 volumes of an anhydrous organic solvent in the presence of a base at a temperature from 15-30 °C for 5-10 hours.

16. The process of claim 15, further comprising adding the composition comprising a compound of formula IV to 40-60 volumes of water at room temperature to form an aqueous product mixture.

17. The process of claim 16, further comprising isolating a solid formed in the aqueous product mixture.

18. The process of claim 17, further comprising triturating the solid in acetonitrile at a temperature of from about 30 to about 50 °C to form a triturated solid.

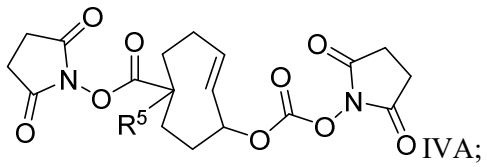
19. The process of claim 18, further comprising isolating the triturated solid.

20. The process of claims 15 wherein the anhydrous organic solvent is anhydrous acetonitrile.

21. The process of any one of claims 15-20, wherein the base is a trialkylamine base.

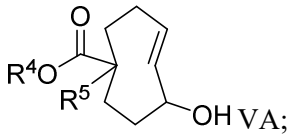
22. The process of claim 21, wherein the base is diisopropylethylamine.

23. The process of any one of claims 15-22, wherein the compound of formula IV is represented by formula IVA:



IVA;

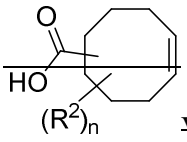
and the compound of formula V is represented by formula VA:



VA;

wherein $R^4$ is hydrogen or $C_{1-4}$alkyl; and $R^5$ is hydrogen or $C_{1-4}$alkyl.

~~24. A process for resolving a composition comprising one or more stereoisomers of a compound of formula VI, or a salt thereof:~~



~~VI~~

~~wherein~~

~~n is 0, 1, 2, 3, or 4;~~

~~each $R^2$ is independently $C_{1-4}$alkyl, $C_{1-4}$haloalkyl, and $C_{1-4}$alkoxy;~~

~~comprising the steps of:~~

~~(a) contacting a composition comprising one or more stereoisomers of formula VI with a chiral base to provide a chiral salt of the compound of formula VI;~~

~~(b) cooling the composition of step (a);~~

~~(c) isolating the chiral salt of the compound of formula VI; and~~

~~(d) hydrolyzing the chiral salt of the compound of formula VI to provide the enantiomerically enriched composition comprising a compound of formula VI, or a salt thereof.~~

~~25. The process of claim 24, wherein the chiral base is cinchonidine.~~

~~26. The process of claim 24, wherein the contacting of step (a) is performed in a solvent selected from acetone/water or acetone/isopropyl alcohol.~~

~~27. The process of claim 24, wherein the cooling of step (b) is performed at a temperature at or below about 15 °C.~~

~~28. The process of claim 24, wherein the cooling of step (b) is at a temperature of from about 10 to about 15 °C.~~

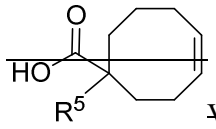
~~29. The process of claim 24, wherein the cooling of step (b) is maintained for at least about 8 hours.~~

~~30. The process of claim 24, wherein the isolating of step (c) is via filtration.~~

~~31. The process of claim 24, further comprising dissolving the chiral salt of the compound of formula VI obtained from step (c) in a suitable solvent, and repeating steps (b) and (c) prior to step (d).~~

~~32. The process of claim 30, wherein the steps of dissolving the chiral salt of the compound of formula VI obtained from step (c) in a suitable solvent, and repeating steps (b) and (c) two, three, four, five or six times prior to step (d).~~

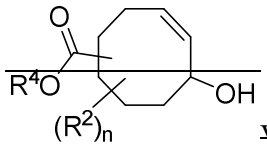
~~33. The process of any of claims 24-32, wherein the compound of formula VI is represented by formula VIA:~~




~~VIA;~~

~~wherein $R^5$ is hydrogen or $C_{1-4}$alkyl.~~

~~34. A process for the preparation of an enantiomerically enriched composition comprising a compound of formula VII, or a salt thereof:~~




~~VII~~

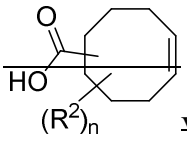
~~wherein~~

~~n is 0, 1, 2, 3 or 4;~~

~~each $R^2$ is independently $C_{1-4}$alkyl, $C_{1-4}$haloalkyl, and $C_{1-4}$alkoxy; and~~

~~$R^4$ is independently hydrogen or $C_{1-4}$alkyl;~~

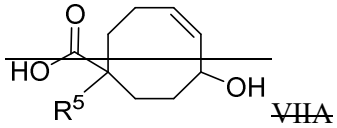
comprising sequentially contacting an enantiomerically enriched composition of a compound of formula VI, or a salt thereof:



VI

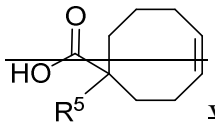
with: (i) a solution comprising KI and $I_2$, (ii) a base, and (iii) a hydrolyzing composition comprising a base and a compound of formula $R^4$-OH, to provide the enantiomerically enriched composition of a compound of formula VII, or a salt thereof.

35. The process of claim 34, wherein the compound of formula VII is represented by formula VIIA:



VIIA

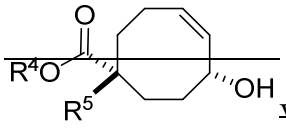
and the compound of formula VI is represented by formula VIA:



VIA;

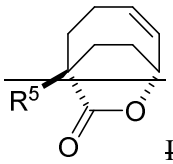
wherein $R^5$ is hydrogen or $C_{1-4}$alkyl.

36. A process for the preparation of an enantiomerically enriched composition comprising a compound of formula VIIB, or a salt thereof:



VIIB

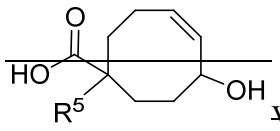
wherein $R^5$ is hydrogen or $C_{1-4}$alkyl, comprising hydrolyzing an enantiomerically enriched composition of a compound of formula IXB, or a salt thereof:



IXB

with a hydrolyzing composition comprising a base and a compound of formula $R^4$-OH, to provide the enantiomerically enriched composition of a compound of formula VIIB, or a salt thereof.

37. A process for resolving a composition comprising one or more stereoisomers of a compound of formula VIIA, or a salt thereof:




~~VIIA~~

~~wherein~~

~~$R^5$ is hydrogen or $C_{1-4}$alkyl, comprising the steps of:~~

~~(a) contacting a composition comprising one or more stereoisomers of formula VIIA with a chiral base to provide a chiral salt of the compound of formula VIIA;~~

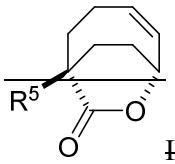
~~(b) cooling the composition of step (a);~~

~~(c) isolating the chiral salt of the compound of formula VIIA; and~~

~~(d) hydrolyzing the chiral salt of the compound of formula VIIA to provide the enantiomerically enriched composition comprising a compound of formula VIIA, or a salt thereof.~~

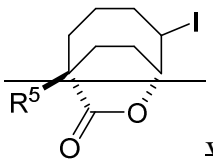
~~38. The process of claim 37, wherein the chiral base is (R) 1-amino-2-propanol, L-phenylalaninol, (S) phenylglycinol, (S) diphenyl-2-pyrrolidine methanol.~~

~~39. A process for the preparation of an enantiomerically enriched composition comprising a compound of formula IXB, or a salt thereof:~~




~~IXB~~

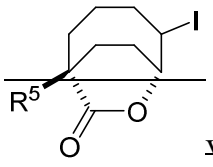
~~wherein $R^5$ is hydrogen or $C_{1-4}$alkyl, comprising contacting an enantiomerically enriched composition of a compound of formula VIIIB, or a salt thereof:~~




~~VIIIB~~

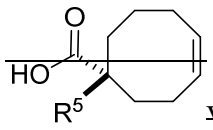
~~with a base to provide the enantiomerically enriched composition of a compound of formula IXB, or a salt thereof.~~

~~40. A process for the preparation of an enantiomerically enriched composition comprising a compound of formula VIIIB, or a salt thereof:~~




~~VIIIB~~

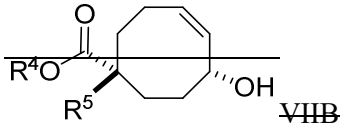
wherein $R^5$ is hydrogen or $C_{1-4}$alkyl, comprising contacting an enantiomerically enriched composition of a compound of formula VIB, or a salt thereof:



VIB

with a solution comprising KI and $I_2$ to provide the enantiomerically enriched composition of a compound of formula VIIIB, or a salt thereof.

41. A process for the preparation of an enantiomerically enriched composition comprising a compound of formula VIIB, or a salt thereof:



VIIB

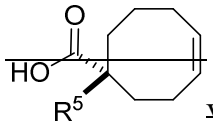
wherein

$R^4$ is hydrogen or $C_{1-4}$alkyl; and

$R^5$ is hydrogen or $C_{1-4}$alkyl;

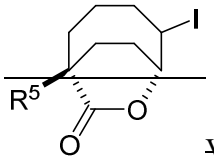
comprising the steps of:

(a) contacting an enantiomerically enriched composition of a compound of formula VIB, or a salt thereof:



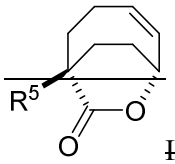
VIB

with a solution comprising KI and $I_2$ to provide an enantiomerically enriched composition of a compound of formula VIIIB, or a salt thereof:



VIIIB

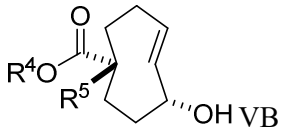
(b) contacting the enantiomerically enriched composition of a compound of formula VIIIB with a base to provide an enantiomerically enriched composition of a compound of formula IXB, or a salt thereof:



~~IXB~~

~~(c) hydrolyzing the enantiomerically enriched composition of a compound of formula IXB, or a salt thereof, with a hydrolyzing composition comprising a base and a compound of formula $R^4$-OH, to provide the enantiomerically enriched composition of a compound of formula VIIB, or a salt thereof.~~

2442. A process for the preparation of an enantiomerically enriched composition comprising a compound of formula VB, or a salt thereof:



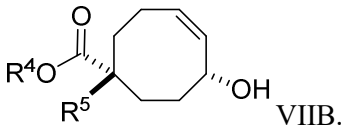
VB

wherein

$R^4$ is hydrogen or $C_{1\text{-}4}$alkyl; and

$R^5$ is ~~hydrogen or~~ $C_{1\text{-}4}$alkyl;

comprising isomerizing an enantiomerically enriched composition of a compound of formula VIIB, or a salt thereof:

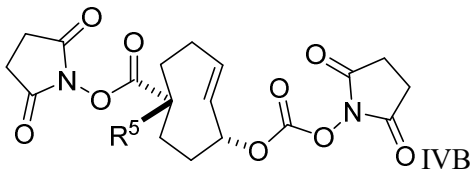


VIIB.

2543. The process of claim 2442, wherein the isomerizing comprises exposing the compound of formula VA to UV light.

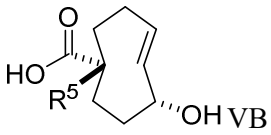
2644. The process of claim 2442 or 2543, wherein when $R^4$ is $C_{1\text{-}4}$alkyl, the process further comprises a hydrolyzing step to convert $R^4$ to hydrogen.

2745. A process for the preparation of an enantiomerically enriched composition comprising a compound of formula IVB, or a salt thereof:



IVB

wherein $R^5$ is ~~hydrogen or~~ $C_{1\text{-}4}$alkyl, comprising contacting an enantiomerically enriched composition of a compound of formula VB, or a salt thereof:



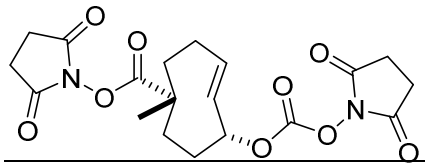
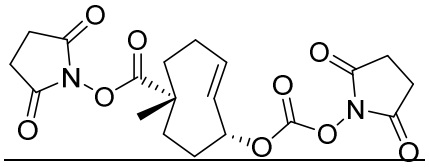
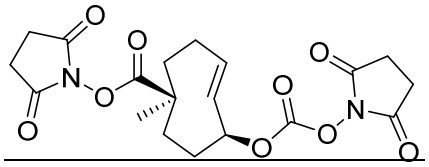
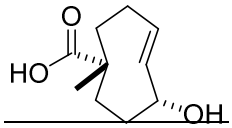
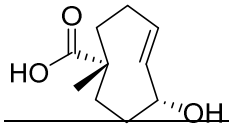
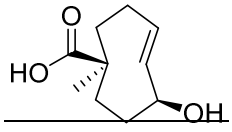
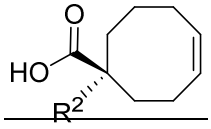
VB

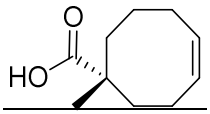
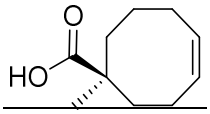
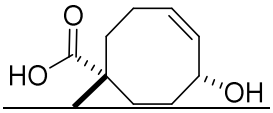
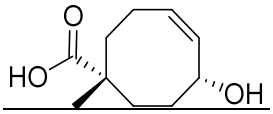
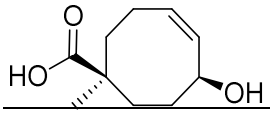
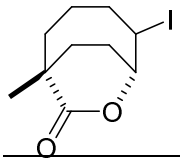
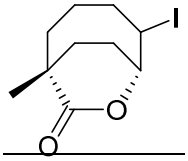
with *N,N'*-disuccinimidyl carbonate (DSC) under conditions to provide the enantiomerically enriched composition comprising a compound of formula IVB.

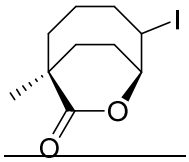
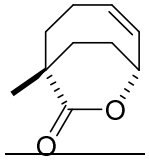
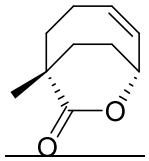
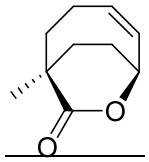
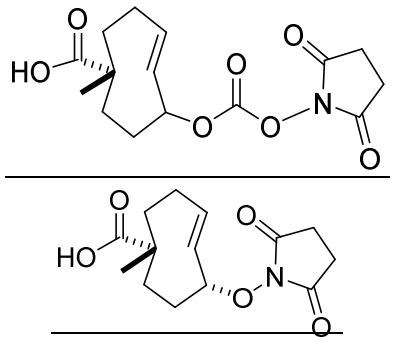
2846. The process of any preceding claim, wherein $R^2$ or $R^5$ is methyl.

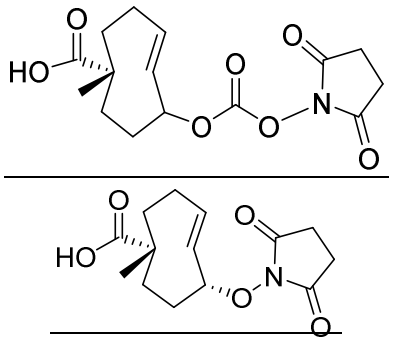
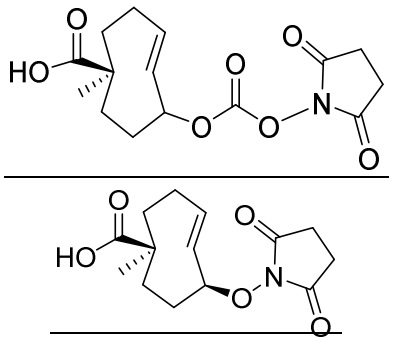
2947. An enantiomerically enriched composition comprising a compound selected from Table 1, or a salt thereof:

**Table 1**

| | |
|---|---|
| ~~IVC~~ |  |
| ~~IVD~~ |  |
| ~~IVE~~ |  |
| ~~VC-1~~ |  |
| ~~VD-1~~ |  |
| ~~VE-1~~ |  |
| ~~VIC~~ |  |

| | |
|---|---|
| ~~VID~~ |  |
| ~~VIE~~ |  |
| ~~VIIC~~ |  |
| ~~VIID~~ |  |
| ~~VIIE~~ |  |
| ~~VIIIC~~ |  |
| ~~VIIID~~ |  |

| | |
|---|---|
| ~~VIIIE~~ |  |
| ~~IXC~~ |  |
| ~~IXD~~ |  |
| ~~IXE~~ |  |
| XC |  |

| | |
|---|---|
| XD |  |
| XE |  |

3048. The process of any preceding claim, wherein the enantiomerically enriched composition has a % ee of greater than about 25%, or about 50%, or about 70%, or about 80%, or about 90%, or about 95%, or about 98%, or about 99% or about 100%.