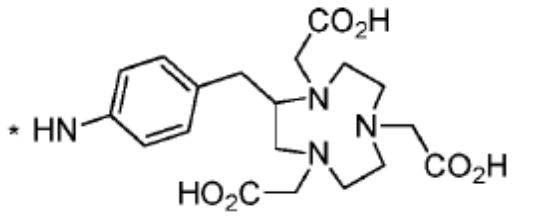
WHAT IS CLAIMED IS:

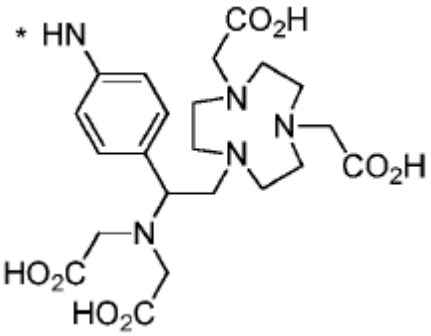
1. A conjugate of the formula

B-L-P

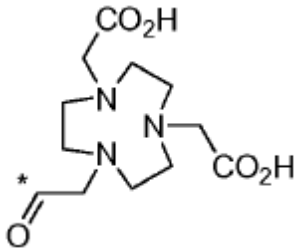
or a pharmaceutically acceptable salt thereof, wherein B is a radical of a ~~targeting agent selected from vitamin receptor binding ligands, PSMA binding ligands, and PSMA inhibitors, L is a divalent linker, and P is a radical of an imaging agent or radiotherapy agent, such as a radionuclide or radionuclide containing group, or a precursor thereof, or a radical of a compound capable of binding a radionuclide or radionuclide containing group, such as a metal chelating group.~~folate; L is a divalent linker; and P is selected from the group consisting of:



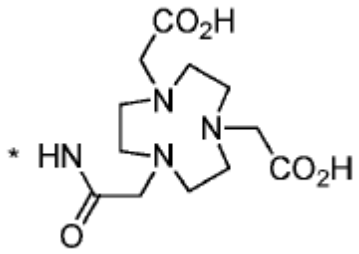
,



,



, and



.

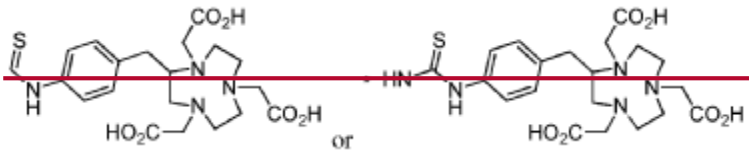
2. The conjugate of claim 1 ~~comprising~~ , wherein the radical of a folate ~~Asp~~ is a radical of a folic acid.

3. The conjugate of claim 1 ~~comprising folate-Arg.~~, wherein the divalent linker L comprises *NH$(CH_2)_2$O-$(CH_2)_2$NH*, *NH[$(CH_2)_2$O]$_2$-$(CH_2)_2$NH*, *NH[$(CH_2)_2$O]$_6$-$(CH_2)_2$NH*, or *NH[$(CH_2)_2$O]$_{12}$-$(CH_2)_2$NH*.

4. The conjugate of claim 1 ~~wherein the linker comprises a polypeptide comprising lysine, arginine, or aspartic acid, or a combination thereof.~~

~~5. The conjugate of claim 1 wherein the linker does not include a diradical of the formula NH-$(CH_2)_2$-NH.~~

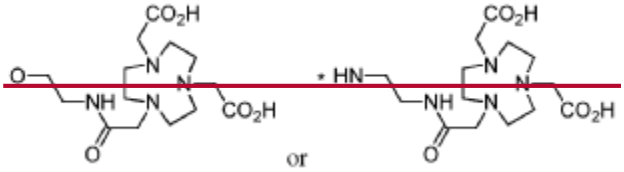
~~6. The conjugate of claim 1 comprising the formula~~



~~or a derivative thereof comprising a chelated metal.~~

~~7. The conjugate of claim 1 comprising folate-PEG.~~

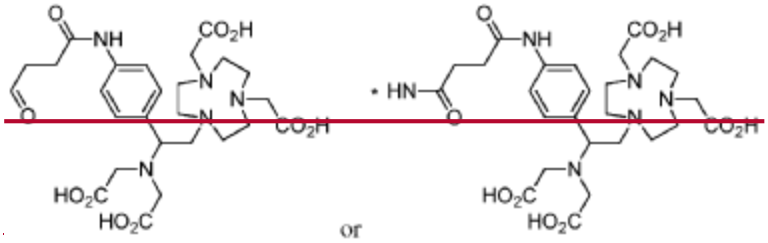
~~8. The conjugate of claim 7 comprising the formula~~



or

~~or a derivative thereof comprising a chelated metal.~~

~~9. The conjugate of claim 7 comprising the formula~~

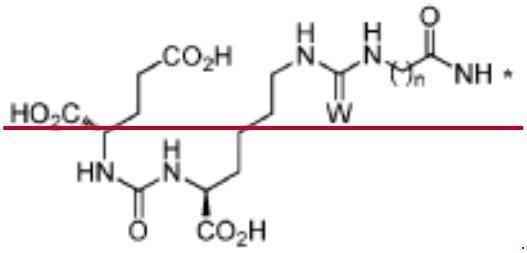


or

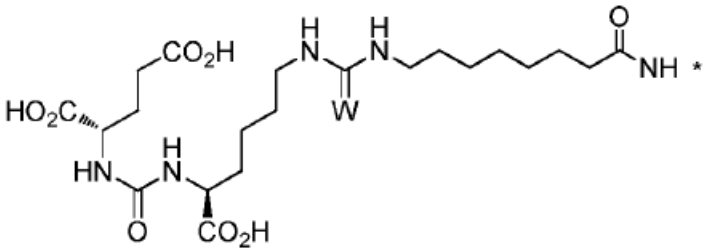
~~or a derivative thereof comprising a chelated metal.~~

~~10. The conjugate of claim 1,~~ wherein the ~~targeting agent is a radical of a PSMA binding ligand or PSMA inhibitor.~~

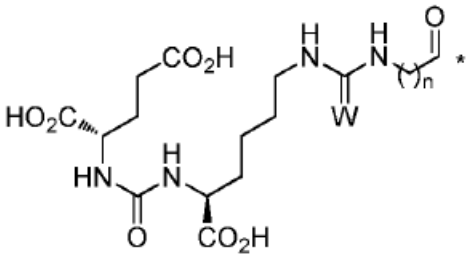
~~11. The conjugate of claim 10 comprising the formula~~



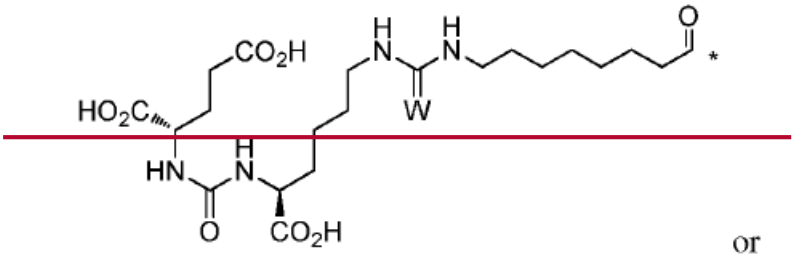
where n is an integer selected from 1, 2, 3, 4, 5, 6, 7, 8, 9, or 10; or



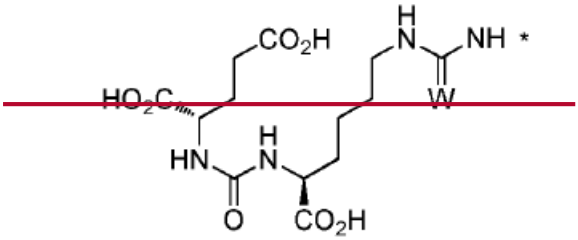
or



where n is an integer selected from 1, 2, 3, 4, 5, 6, 7, 8, 9, or 10; or



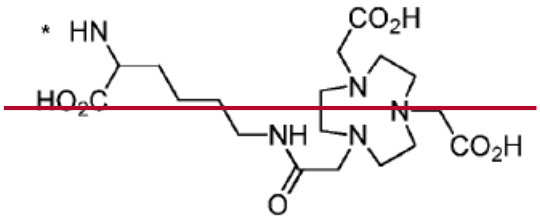
or



where W is O or S.

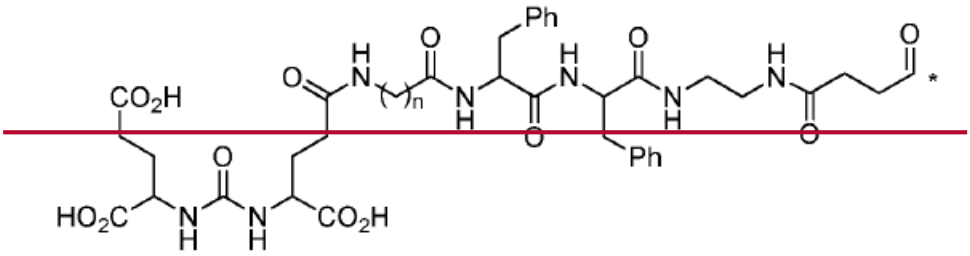
12. The conjugate of claim 10 wherein thedivalent linker L comprises a polypeptide comprising phenylalanine, lysine, arginine, or aspartic acid, or a combination thereof.

135. The conjugate of claim 10 comprising the formula1, wherein the divalent linker L does not include a diradical of the formula *NH-$(CH_2)_2$-NH*.



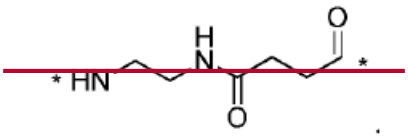
or a derivative thereof comprising a chelated metal.

14 6. The conjugate of claim 10 comprising1, wherein the formula



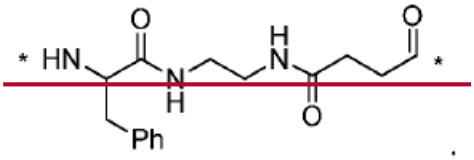
divalent linker L comprises *NH[$(CH_2)_2O]_n$, NH[$(CH_2)_2O]_n$-$(CH_2)_2$-C(O)*, *NH[$(CH_2)_2O]_n$-$(CH_2)_2$-C(O)NH*, *NH[$(CH_2)_2O]_n$-$(CH_2)_2$-C(O)NH-$(CH_2)_2$*, or *NH[$(CH_2)_2O]_n$-$(CH_2)_2$-C(O)NH-$(CH_2)_2$NH*, where n is an integer ~~selected~~ from 1~~, 2, 3, 4, 5, 6, 7, 8, 9, or 10~~ to 12.

~~15~~7. The conjugate of claim ~~10~~1, wherein the divalent linker L comprises ~~the formula~~*NH[$(CH_2)_2O]_n$-$(CH_2)_2$NH*, where n is an integer from 1 to 12.

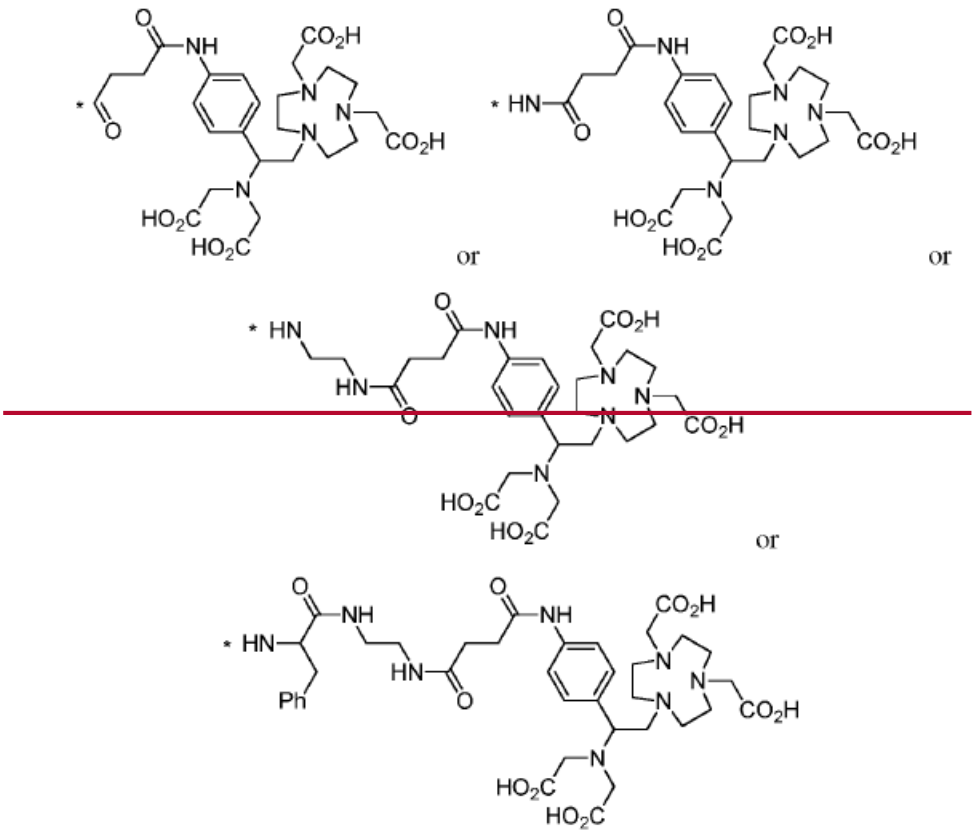


~~16~~ 8. The conjugate of claim ~~10~~1, wherein P further comprises a radionuclide.

9. The conjugate of claim 8, wherein the ~~linker~~radionuclide comprises ~~the formula~~

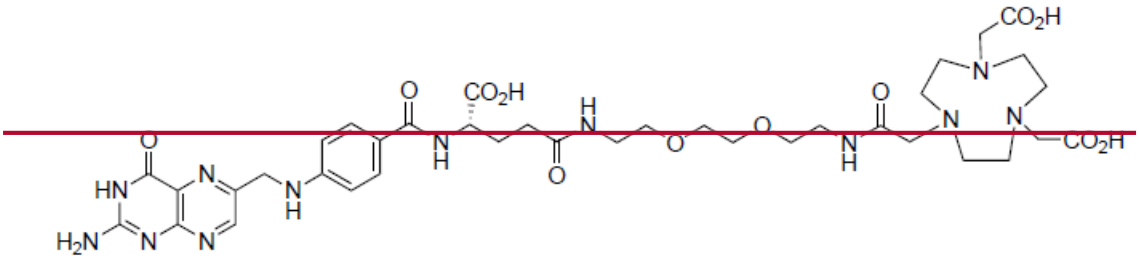


~~17. The conjugate of claim 14 comprising the formula~~



~~or a derivative thereof comprising a chelated metal.~~

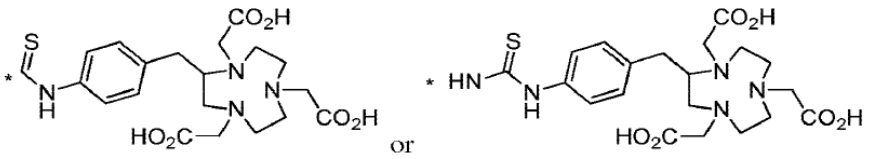
~~18. The conjugate of claim 1 comprising the formula~~



~~19. The conjugate of claim 18, further comprising~~ a positron emitting radionuclide or a radiotherapy agent.

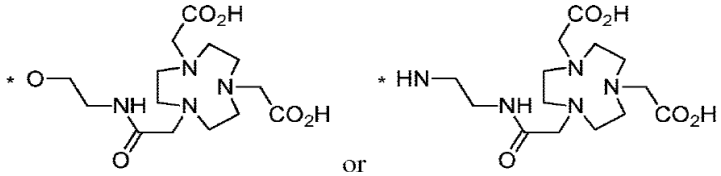
~~20~~10. The conjugate of claim ~~19~~9, wherein the positron emitting radionuclide ~~is~~or the radiotherapy agent is ^{66}Ga, ^{68}Ga~~.~~, ^{18}F, ^{177}Lu, ^{90}Y, ^{64}Cu, ^{61}Cu, ^{89}Zr, ^{45}Ti, ^{51}Mn, ^{63}Zn, ^{82}Rb, ^{124}I, ^{11}C, ^{13}N, or ^{15}O.

11. The conjugate of claim 1, wherein P comprises the formula



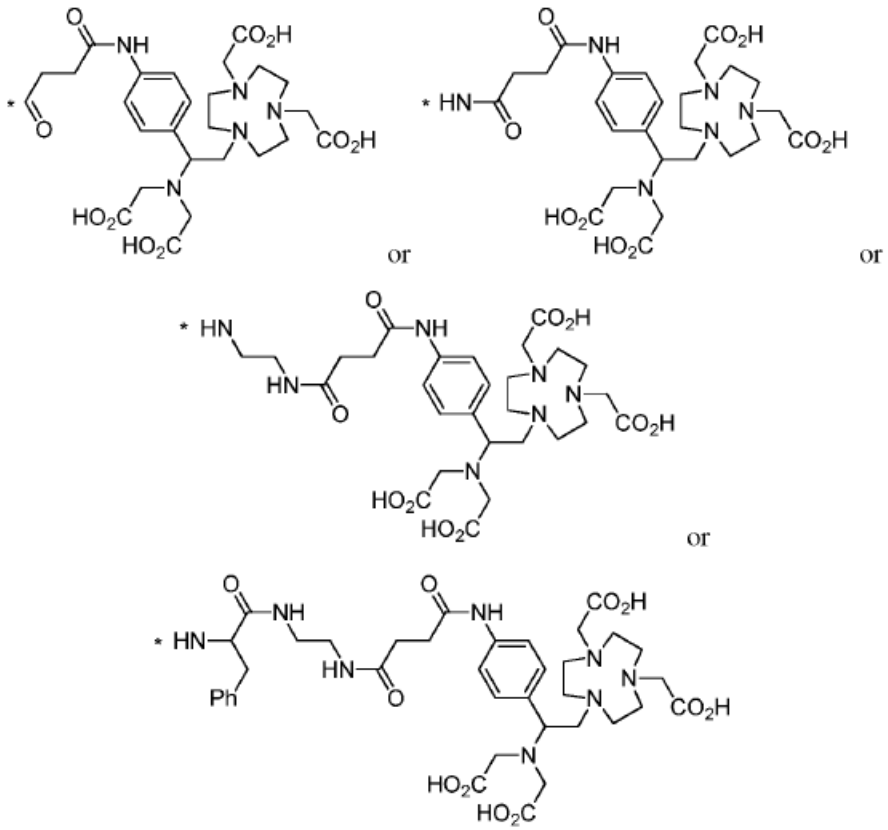
wherein P further comprises a radionuclide.

12. The conjugate of claim 1, wherein P comprises the formula



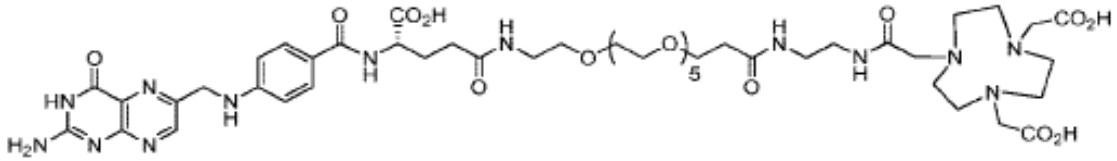
and wherein P further comprises a radionuclide.

13. The conjugate of claim 1, wherein P comprises the formula

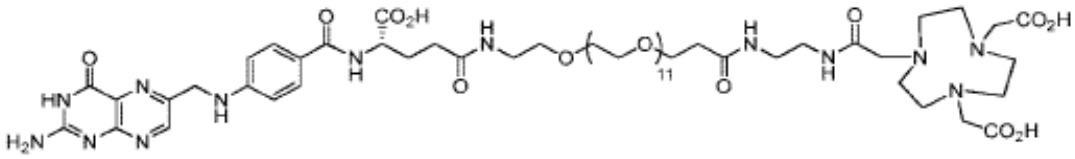


and wherein P further comprises a radionuclide.

14. The conjugate of claim 1, comprising the formula

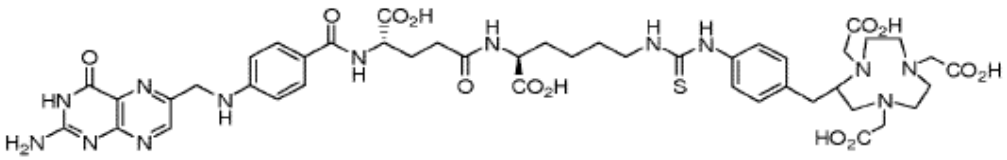


or

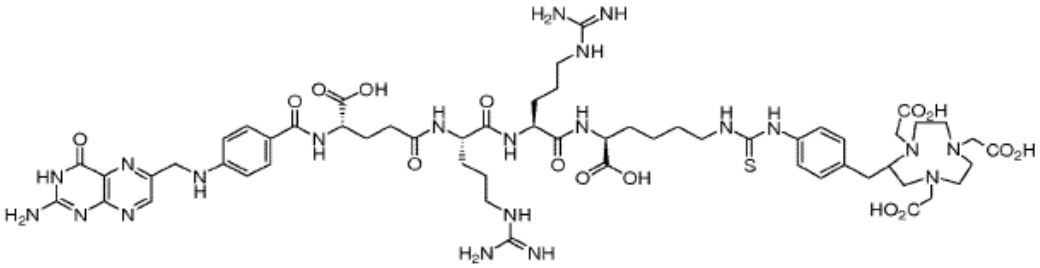


.

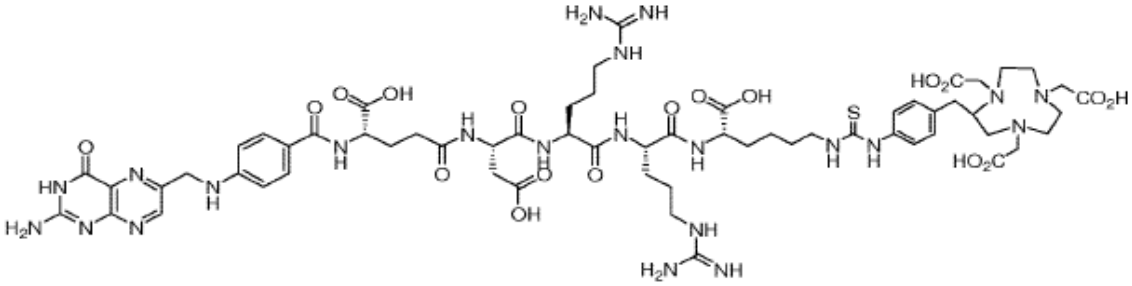
15. The conjugate of claim 1, comprising the formula



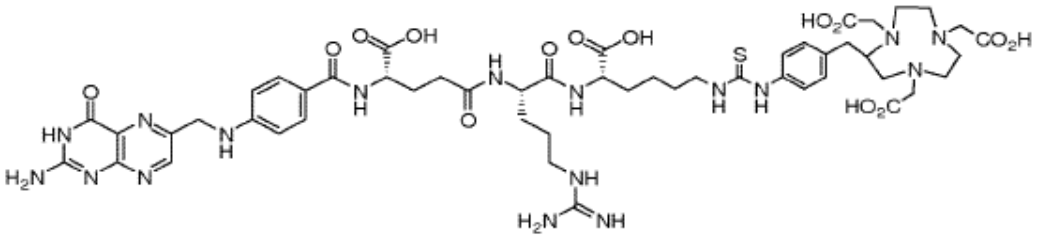
or



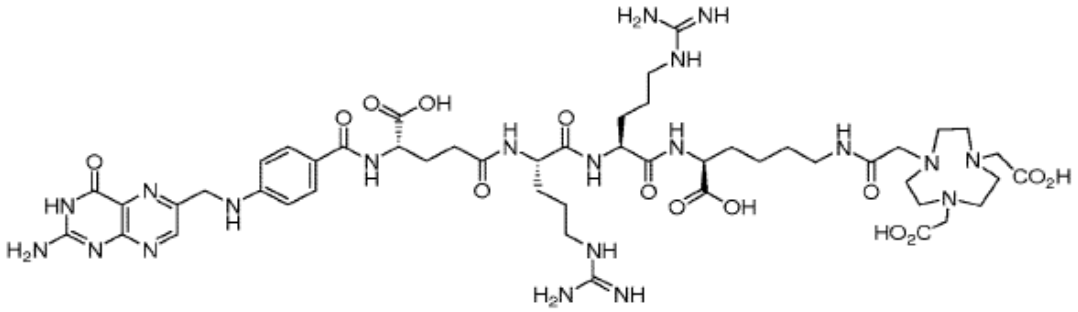
or



or

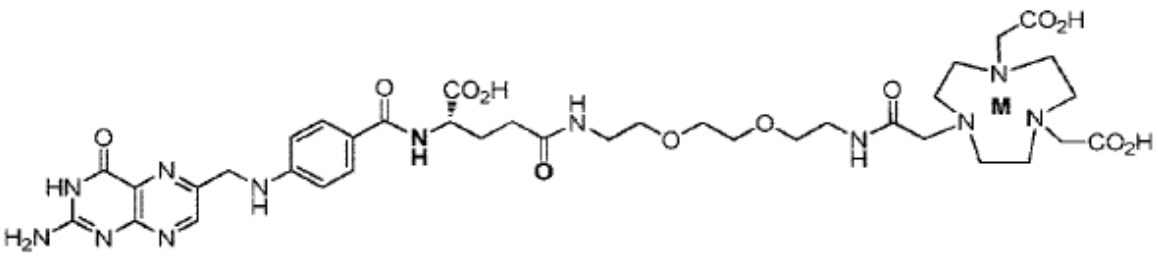


, or



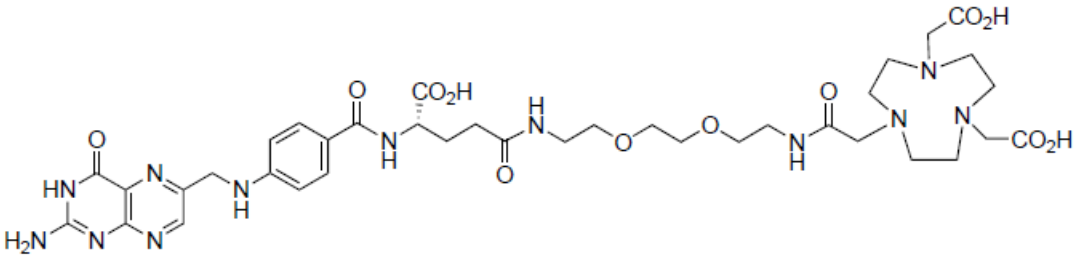
.

16. The conjugate of claim 1, comprising the formula



wherein **M** is Al-^{18}F or ^{68}Ga.

17. The conjugate of claim 1, comprising the formula



.