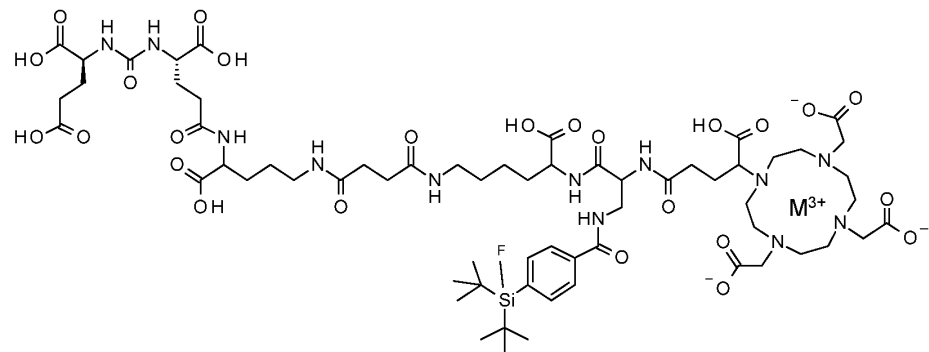
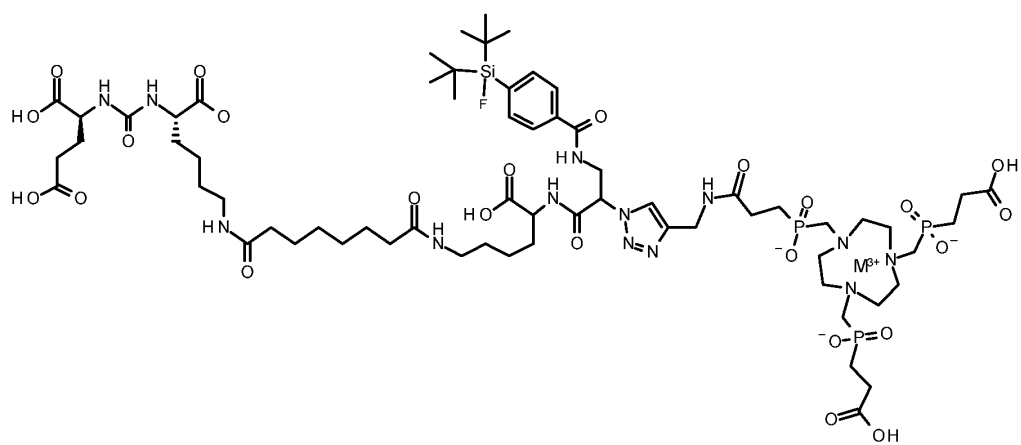
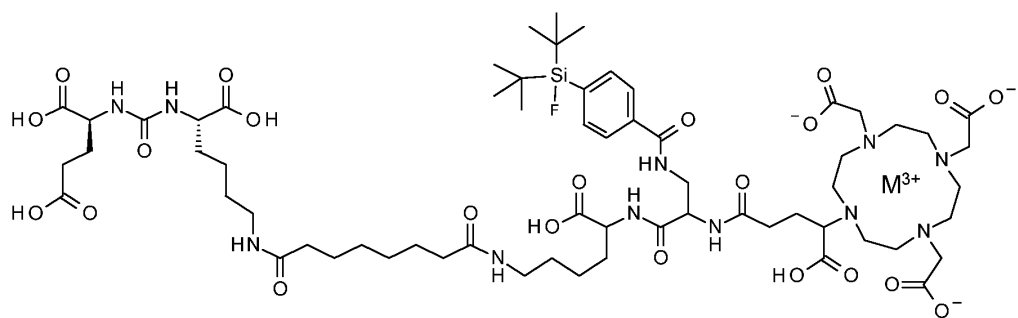
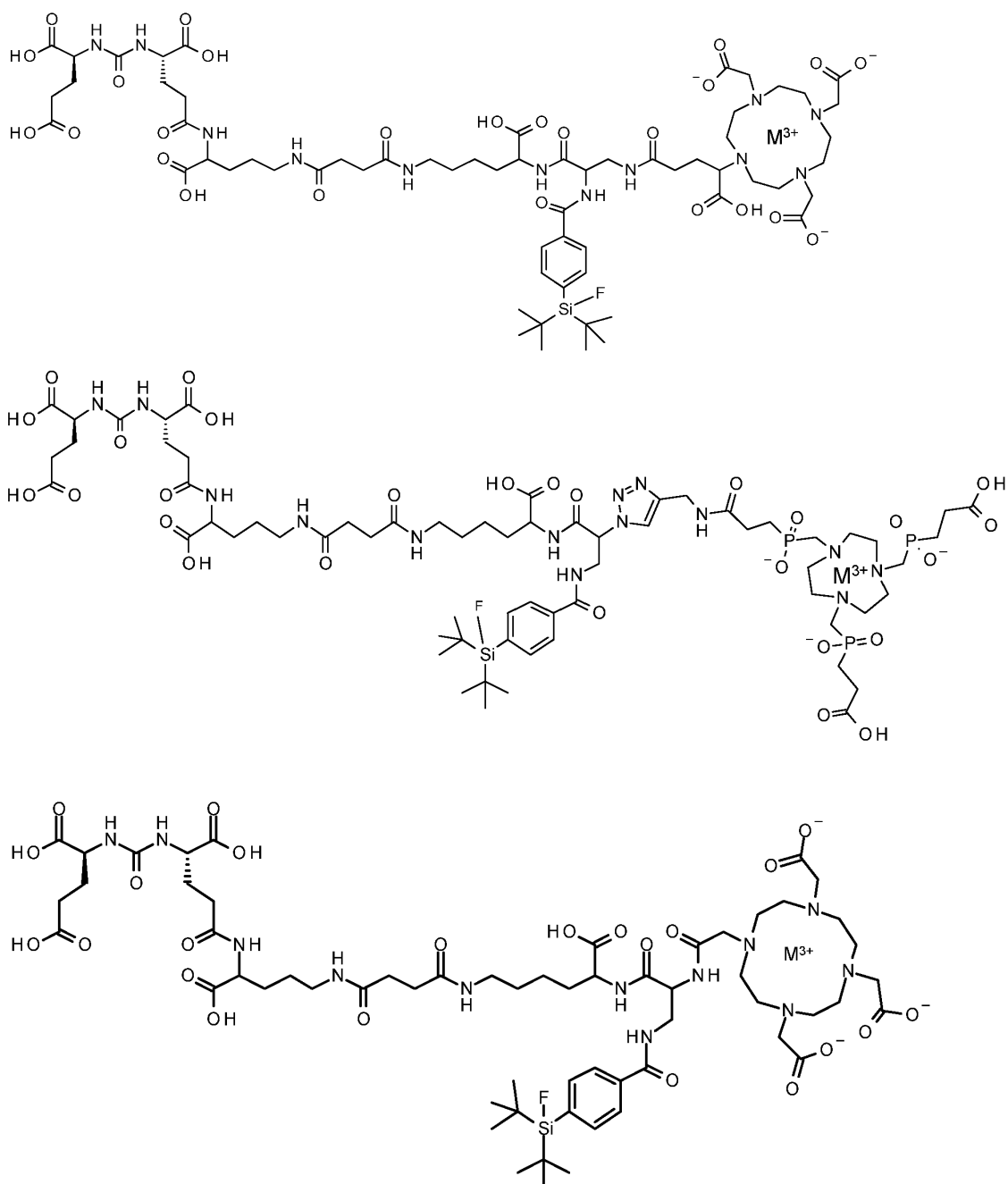


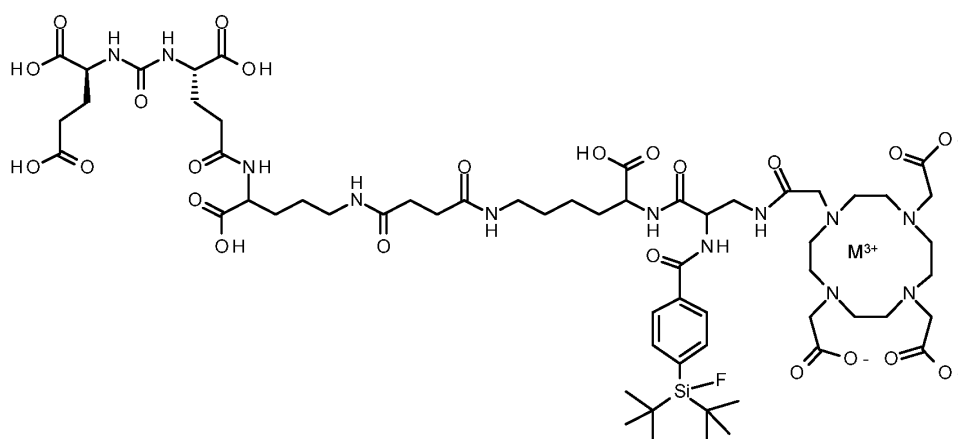
**Claims**

1. A pharmaceutical composition comprising a radiohybrid agent containing a silicon-fluoride and a chelating group wherein either the fluorine is  $^{18}\text{F}$  or the chelating group contains a chelated radioactive metal, wherein the composition has a pH of 4.0-6.0 and further  
5 comprises:
  - a) 0.1-200 mM citrate buffer; and
  - b) 1-100 mg/mL ethanol; and
  - c) 5-10 mg/mL sodium chloride.
- 10 2. The pharmaceutical composition as defined in claim 1 comprising 1-15 mM citrate buffer.
3. The pharmaceutical composition as defined in claim 1 comprising 1-10 mM ( $\pm 10\%$ ) citrate buffer.
- 15 4. The pharmaceutical composition as defined in any one of claims 1 to 3 comprising 5-50 mg/mL ( $\pm 10\%$ ) ethanol.
5. The pharmaceutical composition as defined in claim 4 comprising 5-50 mg/mL ethanol.
- 20 6. The pharmaceutical composition as defined in any one of claims 1 to 5 that has a pH of 4.5 to 5.5.
7. The pharmaceutical composition as defined in any one of claims 1 to 6, wherein the composition comprises 6-9 mg/mL sodium chloride.
- 25 8. The pharmaceutical composition as defined in any one of claims 1 to 7 wherein the citrate buffer is prepared from citric acid and sodium hydroxide, or sodium citrate and hydrochloric acid.
- 30 9. The pharmaceutical composition as defined in claim 8, wherein 1-3 mg/mL citric acid and 0.5-1.0 mg/mL sodium hydroxide are used to prepare the citrate buffer.
10. The pharmaceutical composition as defined in claim 8, wherein 1.9 mg/mL citric acid and 0.75 mg/mL sodium hydroxide are used to prepare the citrate buffer.

11. The pharmaceutical composition as defined in any one of claims 1 to 10 wherein the metal is radioactive and the fluoride is  $^{19}\text{F}$ .
- 5 12. The pharmaceutical composition as defined in any one any one of claims 1 to 11 wherein the chelated metal is selected from the cations of: Sc, Cu, Ga, Y, In, Tb, Ho, Lu, Re, Pb, Bi, Ac, Th or Er.
- 10 13. The pharmaceutical composition as defined in any one of claims 1 to 10 wherein the fluoride is  $^{18}\text{F}$  and the metal is non-radioactive.
14. The pharmaceutical composition as defined in claim 12 wherein the chelated radioactive metal cation is a positron emitting isotope.
- 15 15. The pharmaceutical composition as defined in any one of claims 1-14 that has an end of synthesis (EOS) radioactive concentration (RAC) of 5-200 mCi/mL.
16. The pharmaceutical composition as defined in any one preceding claim comprising 1-10 mM ( $\pm 10\%$ ) citrate buffer, 5-50 mg/mL ( $\pm 10\%$ ) ethanol, 6-9 mg/mL sodium chloride and that has a pH of 4.5 to 5.5.
- 20 17. The pharmaceutical composition as defined in any one preceding claim comprising 10 mM citrate buffer, 50 mg/mL ethanol, 7.2 mg/mL sodium chloride, and that is pH 5.
- 25 18. The pharmaceutical composition as defined in any one of claims 1 to 17, which is diluted with sodium chloride solution prior to administration.
19. The pharmaceutical composition as defined in claim 18 comprising 1.1 mM ( $\pm 10\%$ ) citrate buffer, 5.3 mg/mL ( $\pm 10\%$ ) ethanol, 8.8 mg/mL ( $\pm 10\%$ ) sodium chloride, and which has a pH of 4.5 to 5.5.
- 30 20. The pharmaceutical composition as defined in any one of claims 1 to 19 wherein the radiohybrid agent is selected from:

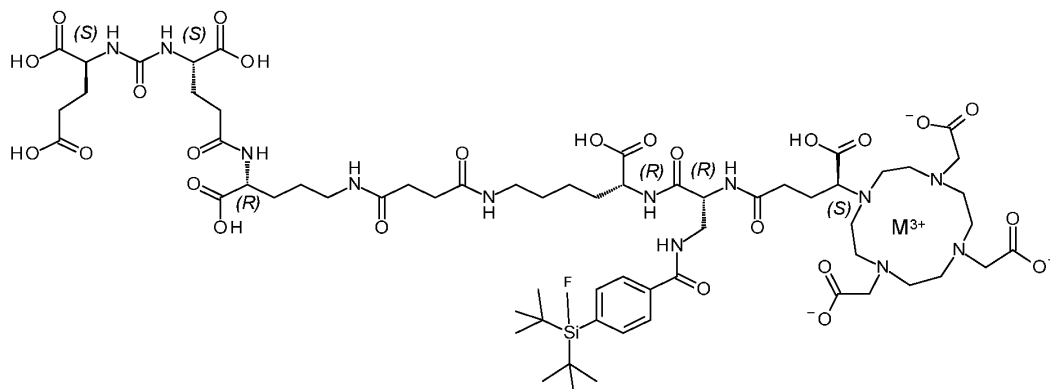






and salts or isomers thereof wherein  $M^{3+}$  is a chelated radioactive or non-radioactive metal.

21. The pharmaceutical composition as defined in claim 20 wherein the radiohybrid agent is:



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or an isomer thereof.

22. The pharmaceutical composition as defined in any one of claims 1-21 for use as a cancer diagnostic or imaging agent.

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23. A method of imaging and/or diagnosing cancer comprising administering a composition according to any one of claims 1-21 to a patient in need thereof.

24. The pharmaceutical composition as defined in any one of claims 1-21 for the diagnosis, imaging or prevention of neoangiogenesis/angiogenesis.

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25. The pharmaceutical composition as defined in any one of claims 1-21 for use as a cancer diagnostic or imaging agent wherein the cancer is prostate, breast, lung, colorectal or renal cell carcinoma.

26. A method of producing a composition as defined in any one of claims 1-25 comprising preparing a formulation of a radiohybrid agent containing a silicon-fluoride and a chelating group wherein either the fluorine is  $^{18}\text{F}$  or the chelating group contains a chelated radioactive metal, wherein the composition has a pH of 4.0-6.0 and a citrate concentration of at least 10 mM, and diluting the citrate concentration with a solution of sodium chloride.