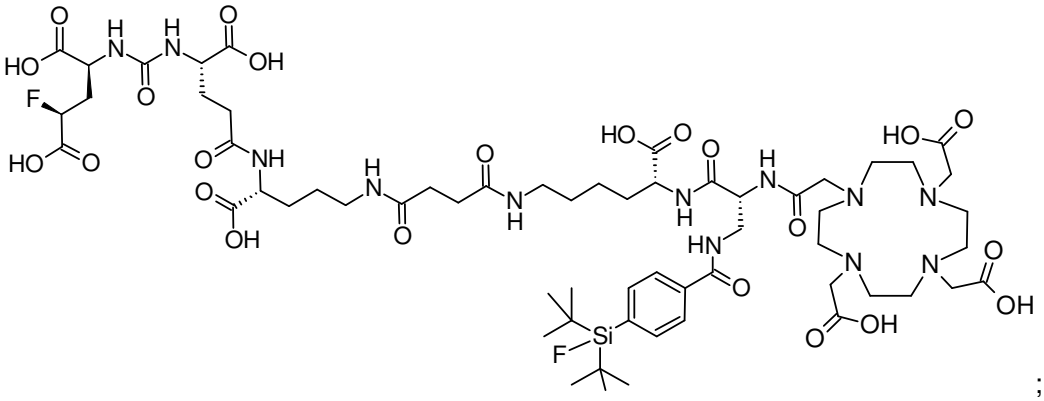
In view of the above, the technical problem underlying the present invention can be seen in providing radio-diagnostics and radio-therapeutics which contain a silicone fluoride acceptor and which are, at the same time, characterized by favourable in-vivo properties.

WO2019/020831 and WO2020/157184 disclose ligand-SIFA-chelator conjugates.

In the present invention a proof-of-principle has been established using specific conjugates which bind with high affinity to prostate-specific membrane antigen (PSMA) as target. Accordingly, a further technical problem underlying the present invention can be seen in providing improved radio-therapeutics and –diagnostics for the medical indication which is cancer, preferably prostate cancer.

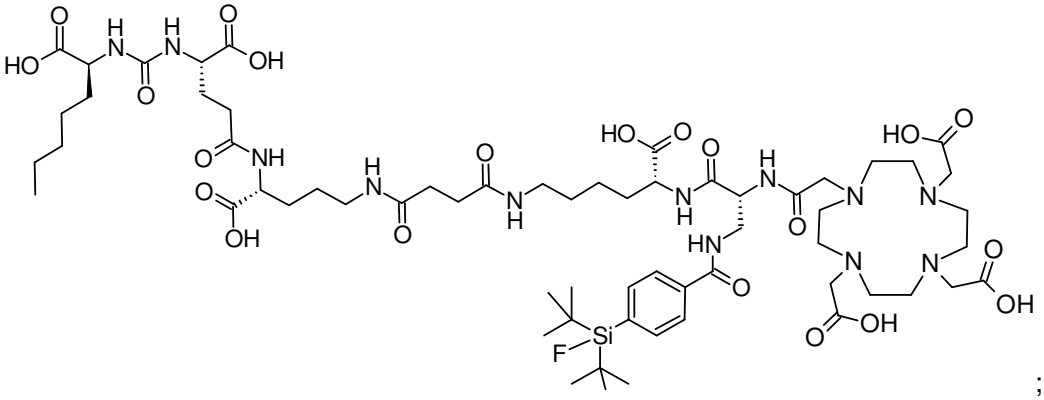
SUMMARY

In another aspect, the present disclosure provides a compound which is selected from:

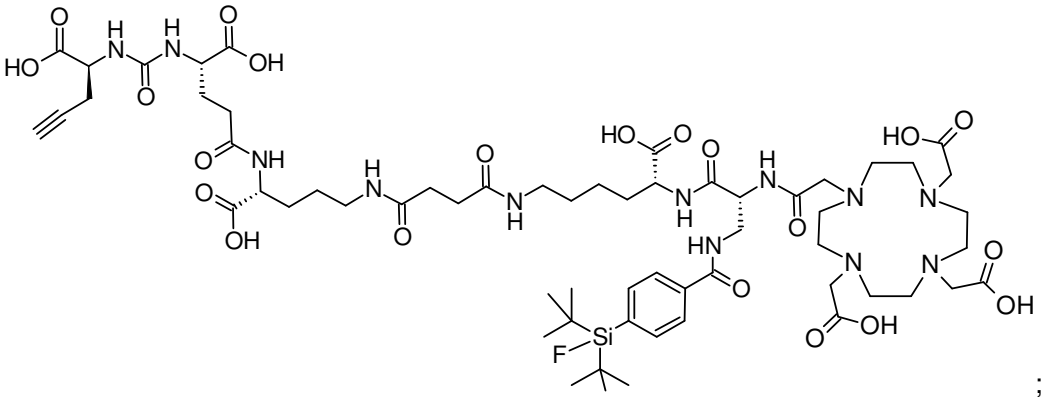


;

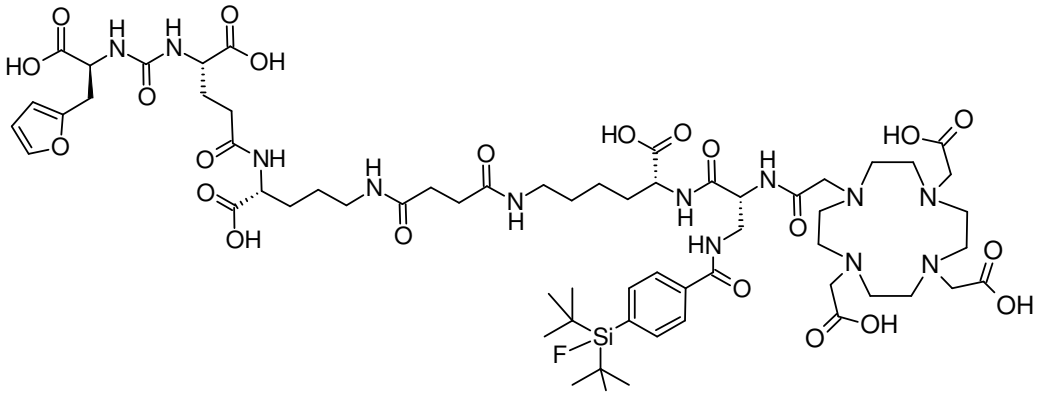
;



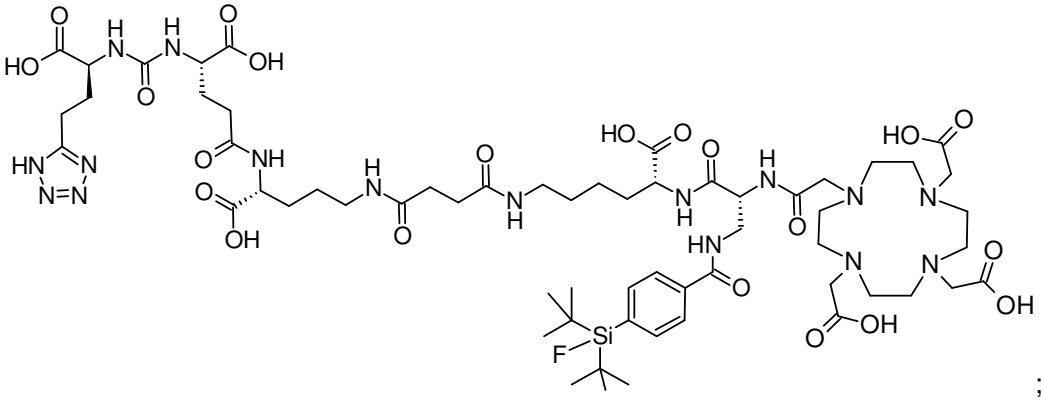
;



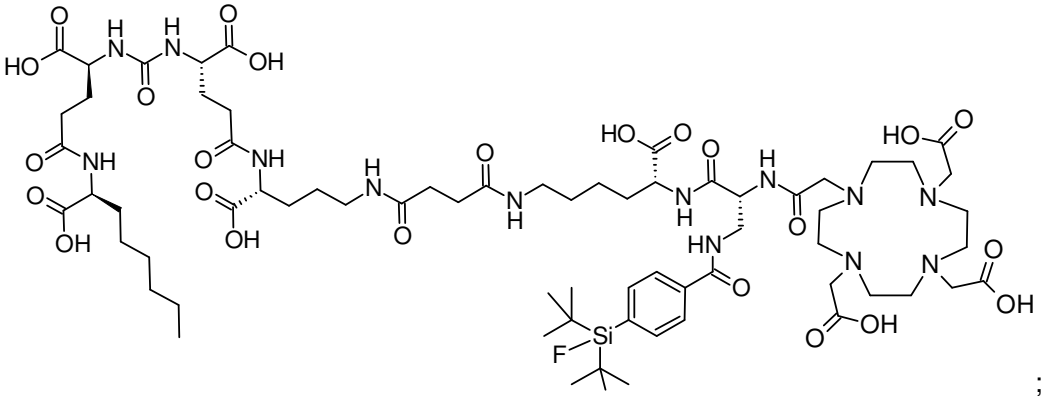
;



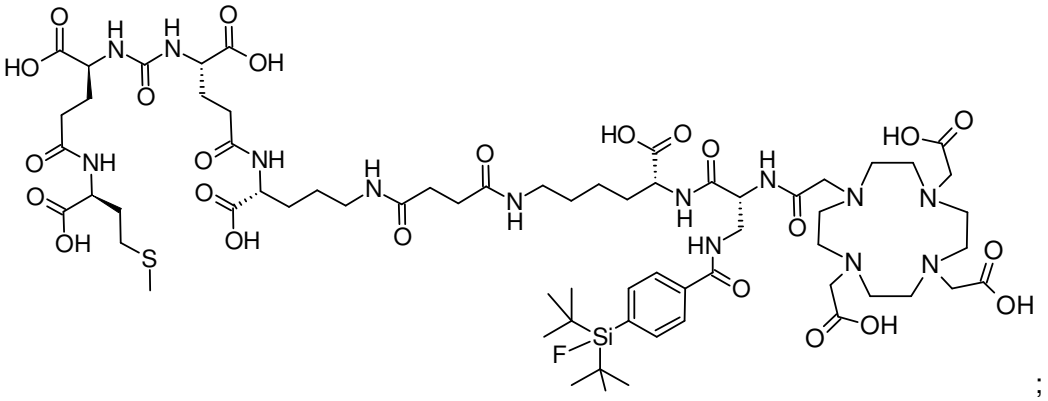
;



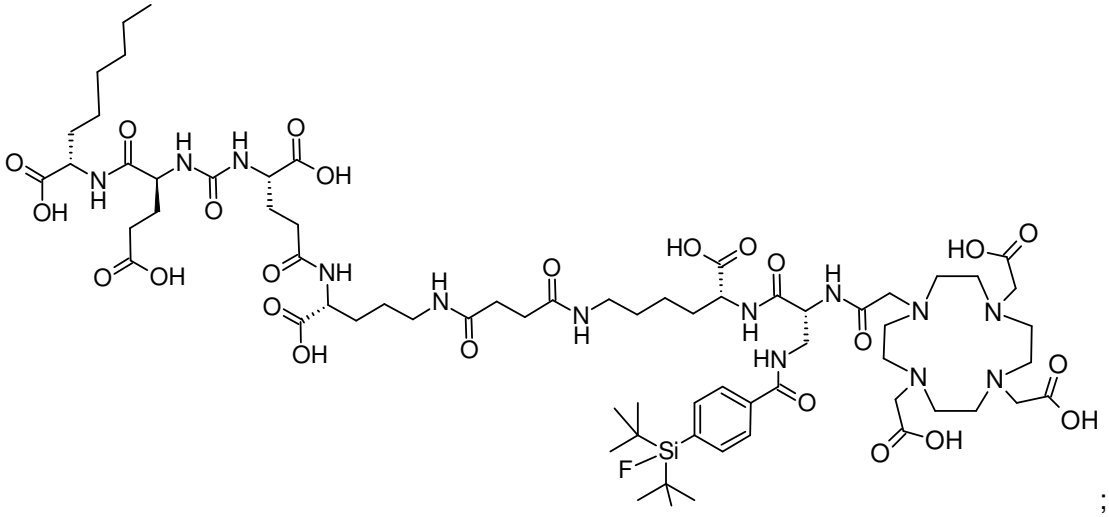
;



;



;



;

or a pharmaceutically acceptable salt thereof, wherein the fluorine atom is optionally ^{18}F and wherein the chelator moiety is optionally coordinated to Lu^{3+}.

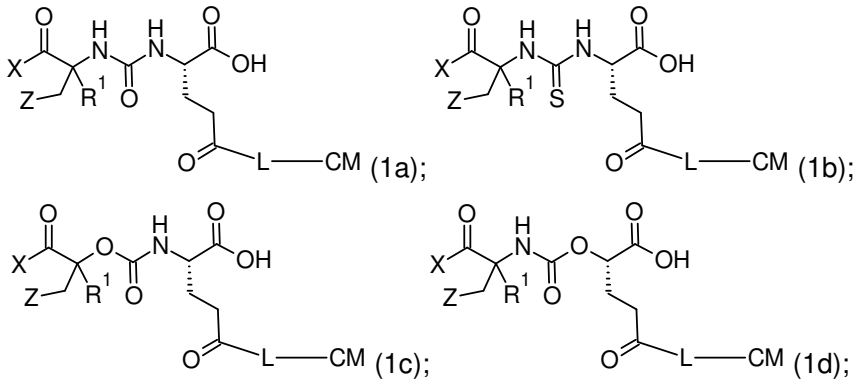
In another aspect, the present disclosure provides a pharmaceutical or diagnostic composition comprising or consisting of one or more compounds according to the disclosure.

In another aspect, the present disclosure provides a use of a compound or composition according to the disclosure in the manufacture of a medicament for treating cancer.

In another aspect, the present disclosure provides a use of a compound or composition according to the disclosure in the manufacture of a cancer diagnostic or imaging agent for use in a method of cancer diagnosis or imaging.

THE INVENTION

The present disclosure relates to compounds of Formula (1a), (1b), (1c) or (1d):



(1a); (1b); (1c); (1d);

or a pharmaceutically acceptable salt thereof, wherein;

L represents a linker group comprising a silicon-fluoride acceptor (SIFA) moiety which comprises a covalent bond between a silicon and a fluorine atom;

CM represents a chelator moiety, optionally containing a chelated nonradioactive or radioactive cation;

R^1 is H or a C_{1-3} alkyl group optionally substituted with 1 to 3 fluorine atoms;

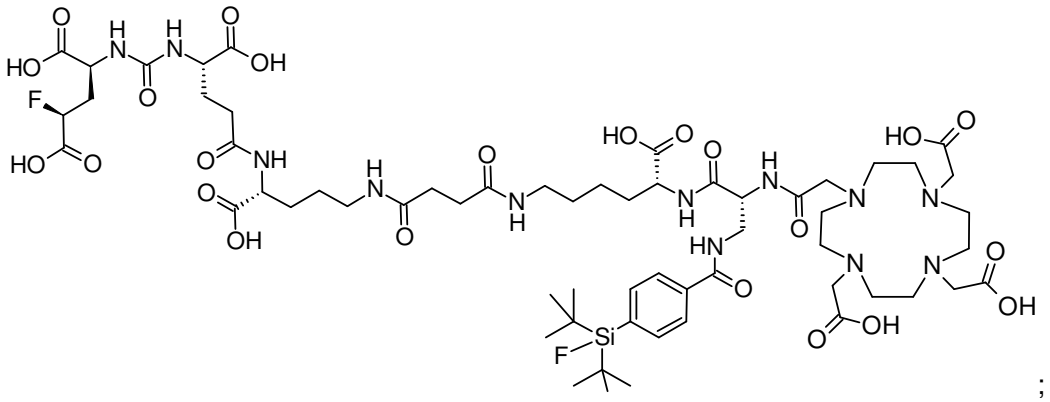
X is selected from OH and an amino acid group;

Z is selected from -V-CO_2H, -V-NH_2, -V-PO_3H_2, -V-COY, -V-W and a C_{1-6} saturated or unsaturated hydrocarbon group optionally substituted with 1 to 3 fluorine atoms, where Y is an amino acid, W is a 5- or 6-membered heterocyclic ring, and V is a bond or a C_{1-3} alkyl group optionally substituted with 1 to 3 fluorine atoms;

and when the compound is a compound of formula (1a) and X is OH, Z is not CH_2CO_2H.

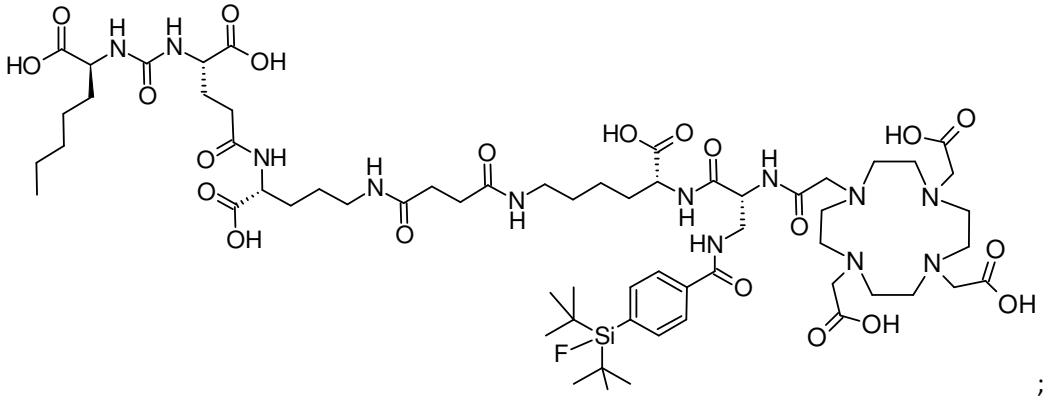
Claims

1. A compound which is selected from:

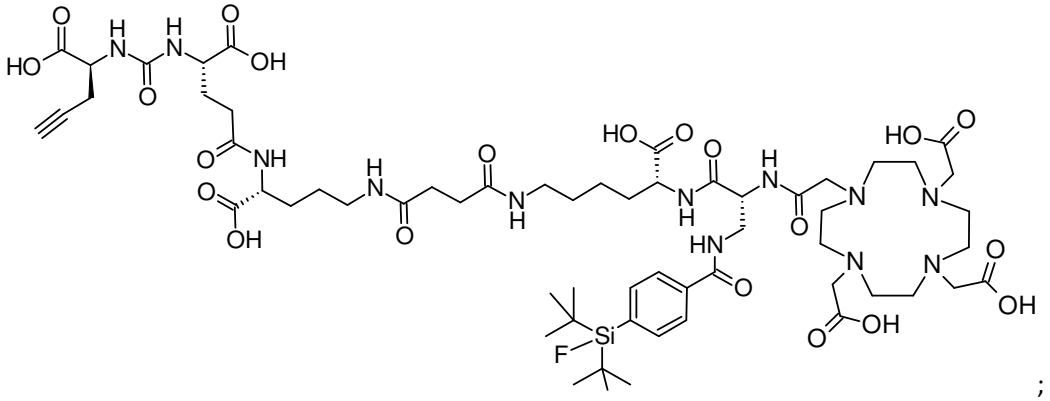


;

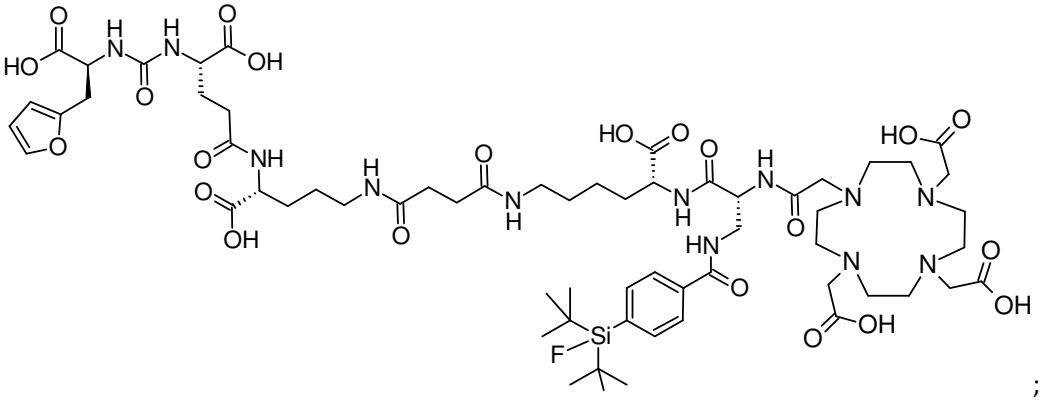
;



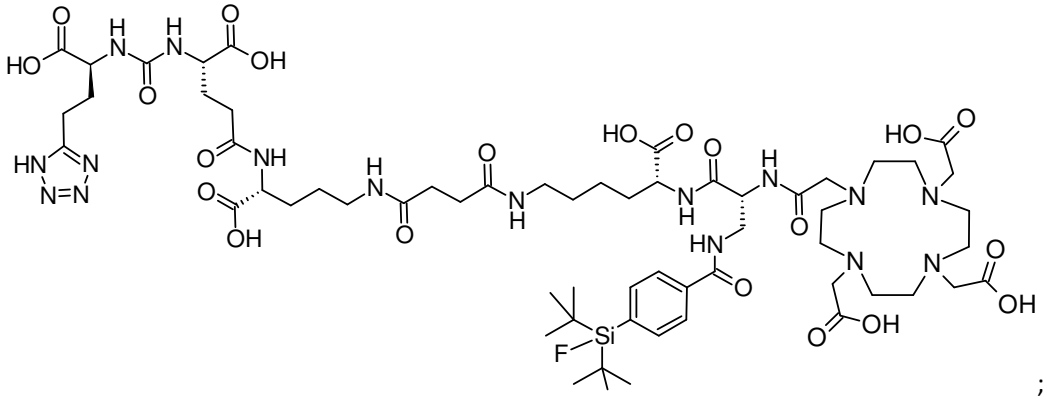
;



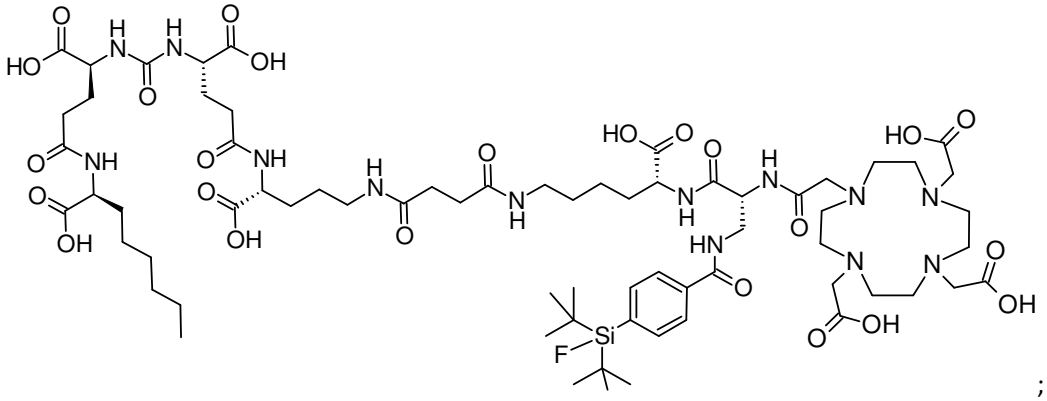
;



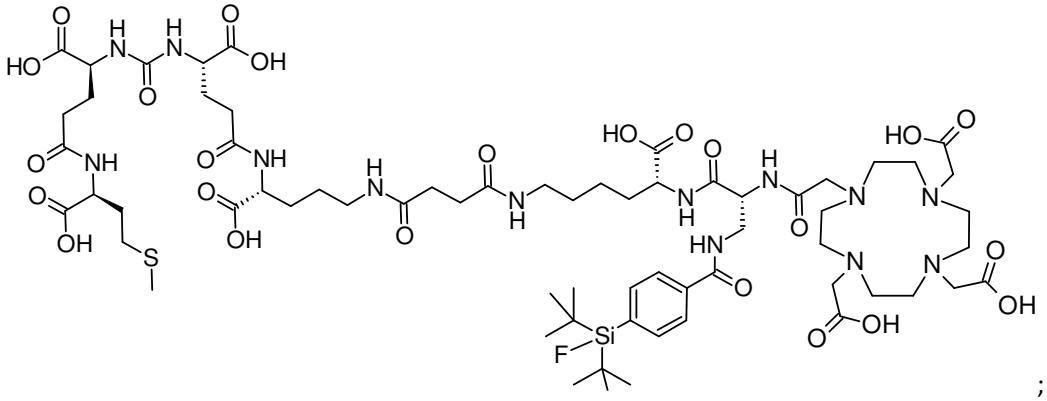
;



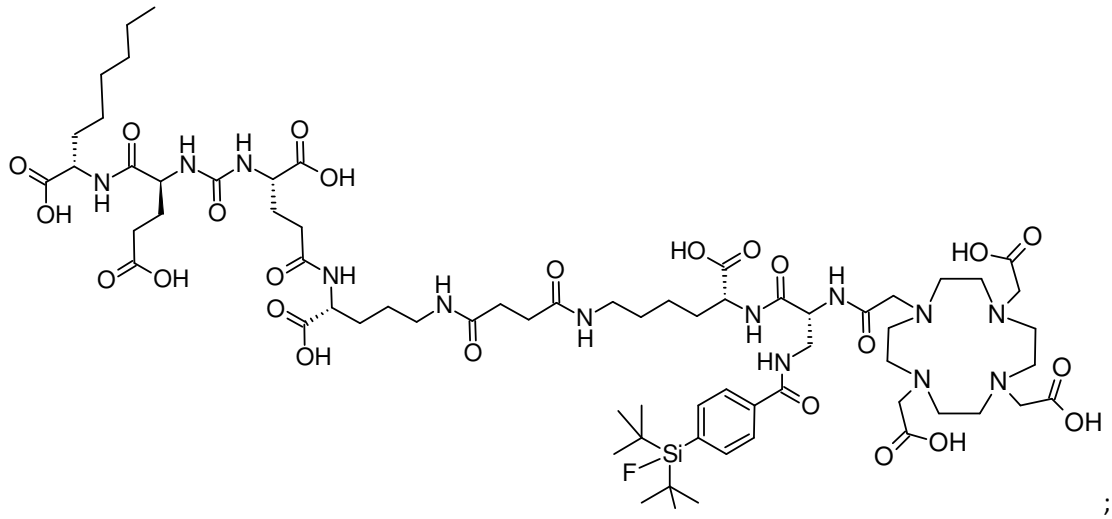
;



;



;



;

or a pharmaceutically acceptable salt thereof, wherein the fluorine atom is optionally ^{18}F and wherein the chelator moiety is optionally coordinated to Lu^{3+}.

2. A pharmaceutical or diagnostic composition comprising or consisting of one or more compounds according to claim 1.

3. Use of a compound or composition according to claim 1 in the manufacture of a medicament for treating cancer.

4. Use of a compound or composition according to claim 1 in the manufacture of a cancer diagnostic or imaging agent for use in a method of cancer diagnosis or imaging.