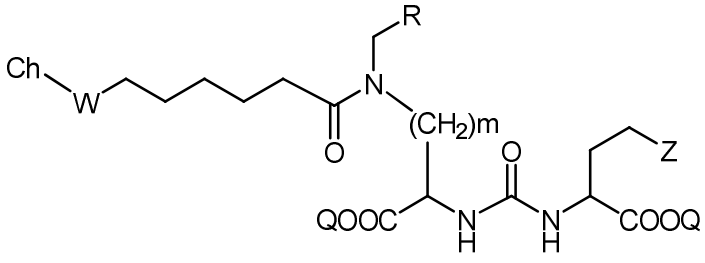
CLAIMS

1. A compound of formula (I) :



(I)

wherein :

Z is tetrazole or COOQ, preferably Z is COOQ;

Q is H or a protecting group, preferably Q is H;

m is an integer selected from the group consisting of 1, 2, 3, 4, and 5, preferably m is 4;

R is selected from the group consisting of substituted aryl, substituted pyridine, and unsubstituted isoquinoline;

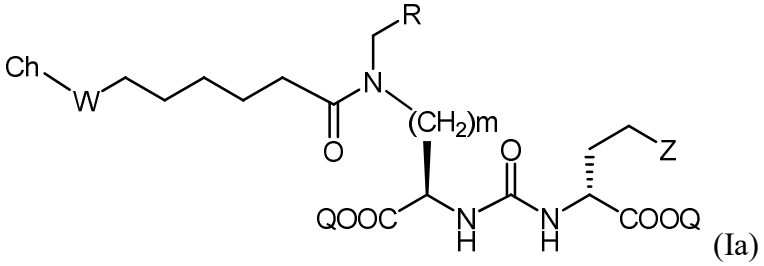
W is selected from the group consisting of $–NR^2$-(C=O), $–NR^2$-(C=S), -(C=O)-NR^2-, and -(C=S)-NR^2-, preferably, W is -(C=O)-NR^2-;

R^2 is H or C1-C4 alkyl, preferably R^2 is H;

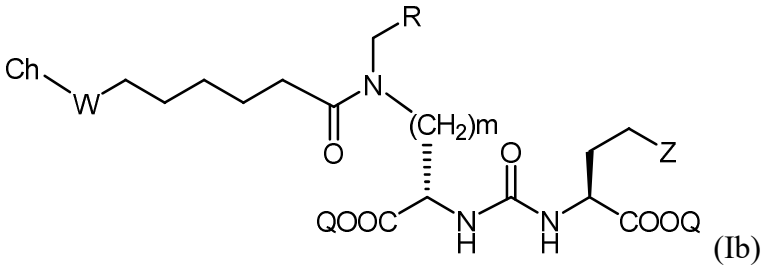
Ch is a chelating agent optionally comprising a metal or a radiometal;

and pharmaceutically acceptable salts thereof.

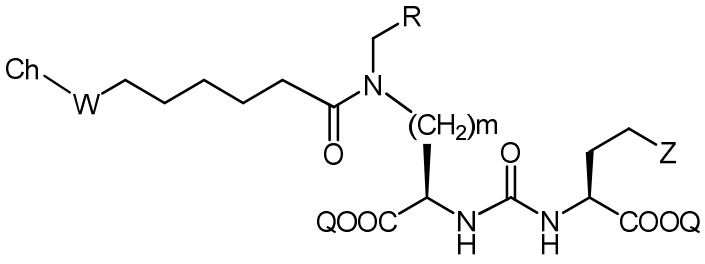
2. The compound of formula (I) according to claim 1, wherein the compound is a compound of formula (Ia), (Ib), (Ic) or (Id):



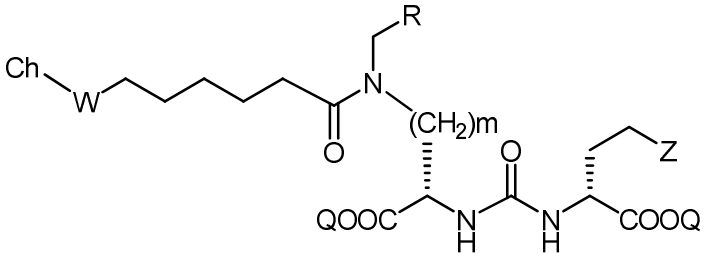
(Ia)



(Ib)



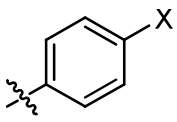
(Ic)

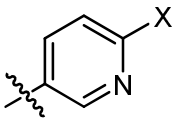


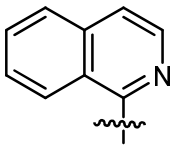
(Id).

3. The compound of formula (I) according to claim 1 or 2, wherein R is selected from the group consisting of aryl substituted with one or more halogen, pyridine substituted with one or more halogen, and unsubstituted isoquinoline.

4. The compound of formula (I) according to claim 1 to 3, wherein R is selected from the group consisting of:



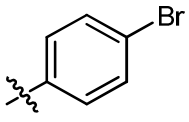
; 

; and 

;

wherein X is independently Br or I.

5. The compound of formula (I) according to any of claims 1 to 4, wherein R is



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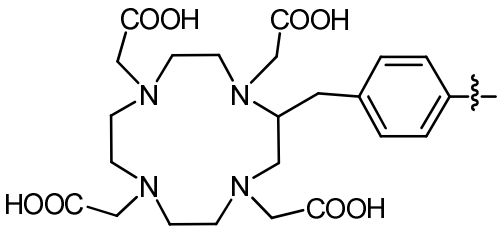
6. The compound of formula (I) according to any of claims 1 to 5, wherein Ch is selected from the group consisting of:



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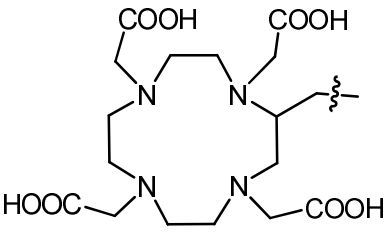

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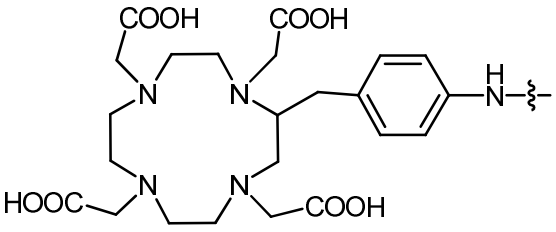

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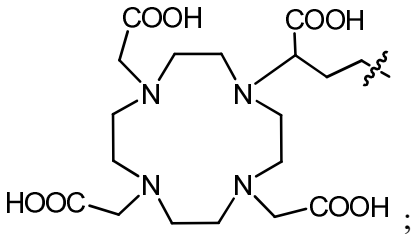

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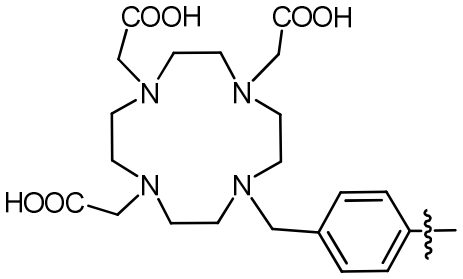
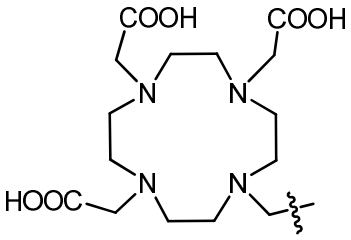


; and



;

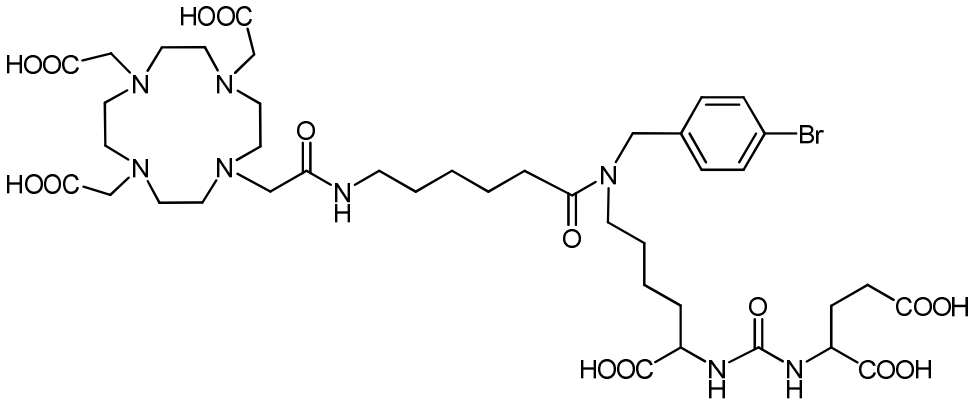
and optionally comprises a metal or a radiometal.

7. The compound of formula (I) according to any of claims 1 to 6, wherein Ch comprises a metal selected from Y, Lu, Tc, Zr, In, Sm, Re, Cu, Pb, Ac, Bi, Al, Ga, Re, Ho and Sc.

8. The compound of formula (I) according to claim 7, wherein the metal is a radiometal selected from ^{68}Ga, ^{64}Cu, ^{86}Y, ^{90}Y, ^{89}Zr, ^{111}In, ^{99m}Tc, ^{177}Lu, ^{153}Sm, ^{186}Re, ^{188}Re, ^{67}Cu, ^{212}Pb, ^{225}Ac, ^{213}Bi, ^{212}Bi, ^{212}Pb, ^{67}Ga, ^{203}Pb, ^{47}Sc, and ^{166}Ho.

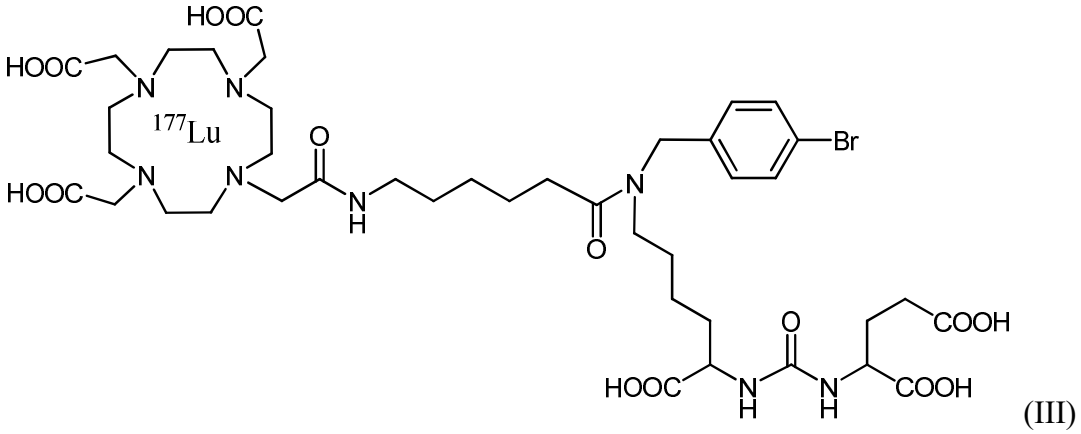
9. The compound of formula (I) according to any of claims 1 to 8, wherein the compound is distributed in the body of a tumor bearing animal or human in such a way that, 1 h after the intravenous injection of the compound, the tumor-to-kidney ratio is at least 5.

10. The compound of formula (I) according to any of claims 1 to 9, wherein the compound is a compound of formula (II):



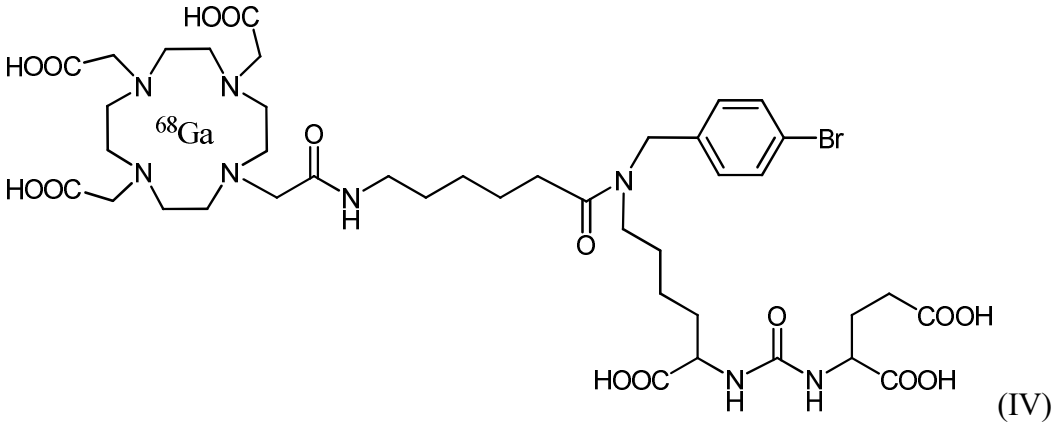
(II).

11. The compound of formula (I) according to any of claims 1 to 10, wherein the compound is a compound of formula (III):



(III)

12. The compound of formula (I) according to any of claims 1 to 10, wherein the compound is a compound of formula (IV):



(IV)

13. A pharmaceutical composition comprising a compound of formula (I) according to any of claims 1 to 9, a compound of formula (II) according to claim 10, a compound of

formula (III) according to claim 11, or a compound of formula (IV) according to claim 12, and at least one pharmaceutically acceptable carrier.

14. A compound of formula (I) according to any of claims 1 to 9, a compound of formula (II) according to claim 10, a compound of formula (III) according to claim 11, or a compound of formula (IV) according to claim 12, for use as a medicament.

~~15. The compound for use according to claim 14, for use in treating cancer.~~

~~16. The compound for use according to claim 14 or 15, for use in treating prostate cancer.~~

~~17.~~15. A compound of formula (I) according to any of claims 1 to 9, a compound of formula (II) according to claim 10, a compound of formula (III) according to claim 11, or a compound of formula (IV) according to claim 12, for use in imaging.

~~18.~~16. A compound of formula (I) according to any of claims 1 to 9, a compound of formula (II) according to claim 10, a compound of formula (III) according to claim 11, or a compound of formula (IV) according to claim 12, for use in diagnostic, typically for use in diagnosing cancer disorders, such as PSMA-expressing cancers

17. Use of a therapeutically effective amount of ~~A method for treating cancer, the method comprising contacting the cancer cells with an therapeutically efficient amount of~~ a compound of formula (I) according to any of claims 1 to 9, a compound of formula (II) according to claim 10, a compound of formula (III) according to claim 11, or a compound of formula (IV) according to claim 12 in the manufacture of a medicament for the treatment of cancer.

~~19.~~18. The use according to claim 17, wherein the cancer is prostate cancer.

~~20.~~19. A method for imaging, the method comprising the ex-vivo contacting of the cancer cells with an effective amount of the compound of formula (I) according to any of claims 1 to 9, a compound of formula (II) according to claim 10 a compound of formula (III) according to claim 11, or a compound of formula (IV) according to claim 12.

~~21. A method for diagnosing and/or detecting cancer cells or PSMA-expressing tumors or cells in a subject, the method comprising administering to said subject, preferably a human, a therapeutically efficient amount of a compound of formula (I) according to any of claims 1 to 9, a compound of formula (II) according to claim 10, a compound of formula (III) according to claim 11, or a compound of formula (IV) according to claim 12, and detecting the signal derived from the decay of the radiometal present in said compound.~~