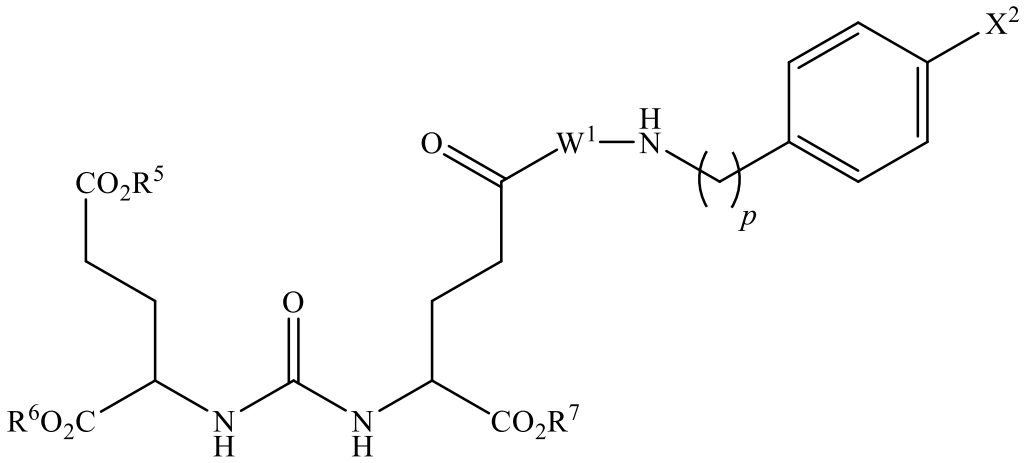
CLAIMS

What is claimed is:

1. A compound of Formula II



(II)

or a pharmaceutically acceptable salt thereof, wherein

X^2 is ^{124}I, ^{125}I, ^{127}I, ^{131}I, ^{211}At, or $Sn(R^8)_3$;

R^5, R^6, and R^7 are each independently H, methyl, benzyl, 4-methoxybenzyl, or *tert*-butyl;

R^8 is independently at each occurrence an alkyl group;

W^1 is a bond or –NH–alkylene–; and

p is 0, 1, 2, or 3.

2. The compound of claim 1, wherein X^1 is ^{124}I, ^{125}I, ^{131}I, or ^{211}At.

3. A composition comprising a compound of claim 2 and a pharmaceutically acceptable carrier.

4. Use of a pharmaceutical composition in the manufacture of a medicament for the treatment of a cancer expressing prostate specific membrane antigen (“PSMA”), the composition comprising an effective amount of the compound of claim 2 for treating the cancer and a pharmaceutically acceptable excipient, wherein the cancer is non-small cell lung cancer, small cell lung cancer, bladder cancer, colon cancer, primary gastric adenocarcinoma, primary colorectal adenocarcinoma, renal cell carcinoma, or prostate cancer.

5. Use of a compound of claim 2 in the manufacture of a medicament for the treatment of a cancer, wherein the treatment comprises the compound of claim 2 to be administered

to a subject suffering from non-small cell lung cancer, small cell lung cancer, bladder cancer, colon cancer, primary gastric adenocarcinoma, primary colorectal adenocarcinoma, renal cell carcinoma, or prostate cancer.

6. The use of claim 5, wherein treating comprises an effective amount of the compound to be administered to the subject.

7. The compound of claim 2, wherein R^5, R^6, and R^7 are each independently H.

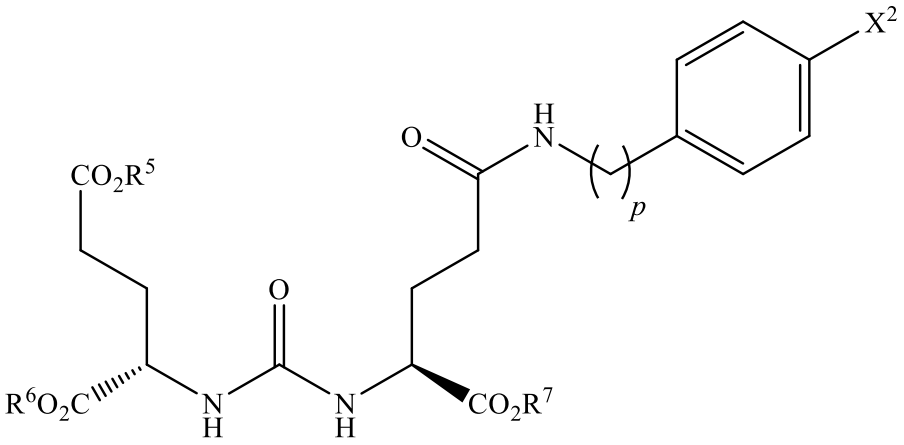
8. A composition comprising a compound of claim 7 and a pharmaceutically acceptable carrier.

9. Use of a pharmaceutical composition in the manufacture of a medicament for the treatment of a cancer expressing prostate specific membrane antigen ("PSMA"), the composition comprising an effective amount of the compound of claim 7 for treating the cancer and a pharmaceutically acceptable excipient, wherein the cancer is non-small cell lung cancer, small cell lung cancer, bladder cancer, colon cancer, primary gastric adenocarcinoma, primary colorectal adenocarcinoma, renal cell carcinoma, or prostate cancer.

10. Use of a compound of claim 7 in the manufacture of a medicament for the treatment of a cancer, wherein the treatment comprises an effective amount of the compound of claim 7 to be administered to a subject suffering from non-small cell lung cancer, small cell lung cancer, bladder cancer, colon cancer, primary gastric adenocarcinoma, primary colorectal adenocarcinoma, renal cell carcinoma, or prostate cancer.

11. The use of claim 10, wherein administration of the compound comprises parenteral administration.

12. The compound of claim 1, wherein the compound of Formula II is a compound of Formula IIa



(IIa)

or a pharmaceutically acceptable salt thereof.

13. The compound of claim 12, wherein X^2 is ^{124}I, ^{125}I, ^{131}I, or ^{211}At and wherein R^5, R^6, and R^7 are each independently H.

14. The compound of claim 13, wherein X^2 is ^{211}At.

15. A composition comprising a compound of claim 13 and a pharmaceutically acceptable carrier.

16. Use of a pharmaceutical composition in the manufacture of a medicament for the treatment of a cancer expressing prostate specific membrane antigen ("PSMA"), the composition comprising an effective amount of the compound of claim 13 for treating the cancer and a pharmaceutically acceptable excipient, wherein the cancer is non-small cell lung cancer, small cell lung cancer, bladder cancer, colon cancer, primary gastric adenocarcinoma, primary colorectal adenocarcinoma, renal cell carcinoma, or prostate cancer.

17. Use of a compound of claim 13 in the manufacture of a medicament for the treatment of a cancer, wherein the treatment comprises an effective amount of the compound of claim 13 to be administered to a subject suffering from non-small cell lung cancer, small cell lung cancer, bladder cancer, colon cancer, primary gastric adenocarcinoma, primary colorectal adenocarcinoma, renal cell carcinoma, or prostate cancer.

18. The method of claim 17, wherein administration of the compound comprises intravenous administration.

19. Use of a pharmaceutical composition in the manufacture of a medicament for the treatment of a cancer expressing prostate specific membrane antigen ("PSMA"), the composition comprising an effective amount of the compound of claim 14 for treating the cancer and a pharmaceutically acceptable excipient, wherein the cancer is non-small cell lung cancer, small cell lung cancer, bladder cancer, colon cancer, primary gastric adenocarcinoma, primary colorectal adenocarcinoma, renal cell carcinoma, or prostate cancer.

20. Use of a compound of claim 14 in the manufacture of a medicament for the treatment of a cancer, wherein the treatment comprises the compound of claim 14 to be administered to a subject suffering from non-small cell lung cancer, small cell lung cancer, bladder cancer, colon cancer, primary gastric adenocarcinoma, primary colorectal adenocarcinoma, renal cell carcinoma, or prostate cancer, wherein administration of the compound comprises parenteral administration.

21. A compound of any one of claims 2, 7, 13 or 14, for use in therapy.

22. A composition comprising a compound of any one of claims 2, 7, 13 or 14 and a pharmaceutically acceptable excipient, for use in therapy.