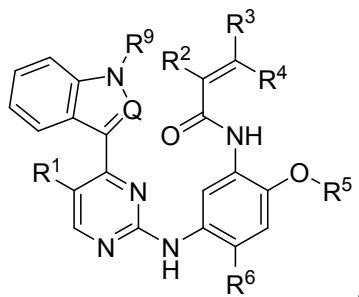


CLAIMS

1. Use of a compound of formula (I):



(I)

or a pharmaceutically acceptable salt, solvate, or composition thereof, in the manufacture of a medicament for the treatment of brain cancer, wherein:

R¹ is selected from hydrogen, halogen, methyl, trifluoromethyl, and cyano;

R², R³, and R⁴ are the same or different and are independently selected from hydrogen, halogen, and trifluoromethyl;

R⁵ is selected from lower alkyl, optionally substituted 3- to 6-membered heterocyclyl, R⁷R⁸N-(lower alkyl), and R⁷R⁸N-(cycloalkylalkyl), wherein R⁷ and R⁸ are the same or different and are independently selected from hydrogen and lower alkyl;

R⁶ is selected from lower alkoxy and lower alkyl;

Q is C-R¹⁰ or N;

R⁹ is C₁-C₄ alkyl or C₁-C₄ haloalkyl; and

R¹⁰ is H or CH₃.

2. The use of claim 1, wherein Q is C-R¹⁰.

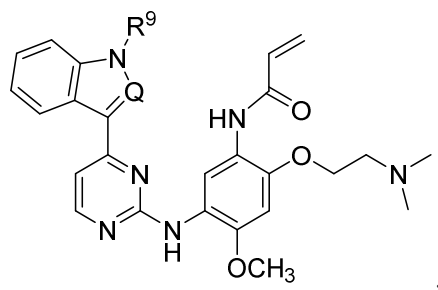
3. The use of claim 1 or 2, wherein:

R⁵ is selected from C₁-C₆ alkyl, substituted or unsubstituted azetidiny, substituted or unsubstituted pyrrolidiny, substituted or unsubstituted piperidiny, R⁷R⁸N-(CH₂)_n- (n = 1 to 5), R⁷R⁸N-(C₃-C₆ cycloalkyl)-(CH₂)_m- (m = 1 to 3), wherein R⁷ and R⁸ are the same or different and are independently selected from hydrogen and lower alkyl.

4. The use of claim 3, wherein:

- R^5 is selected from methyl, $R^7R^8N-(CH_2)_n-$ ($n = 2$ or 3), 1-(dimethylamino)-cyclopropylmethyl, 3-(dimethylamino)cyclobutyl, 1-methylazetidin-3-yl, (*R*)-1-methylpyrrolidin-3-yl, (*S*)-1-methylpyrrolidin-3-yl, and 1-methylpiperidin-4-yl.
5. The use of claim 3, wherein R^5 is 2-dimethylamino-ethyl $[(CH_3)_2NCH_2CH_2-]$.
 6. The use of any one of claims 1 to 5, wherein R^1 is hydrogen or halogen, or methyl.
 7. The use of claim 6, wherein R^1 is hydrogen.
 8. The use of any one of claims 1 to 7, wherein R^2 is hydrogen or halogen.
 9. The use of any one of claims 1 to 8, wherein R^4 is hydrogen.
 10. The use of any one of claims 1 to 7, wherein:

R^2 is hydrogen, F, or Cl;
 R^3 is hydrogen, F, Cl, or $-CF_3$; and
 R^4 is hydrogen.
 11. The use of any one of claims 1 to 10, wherein R^1 , R^2 , R^3 , and R^4 are all hydrogen.
 12. The use of claim 1, wherein the compound of formula (I) is further characterized by a structure of formula **II**:



II

wherein:

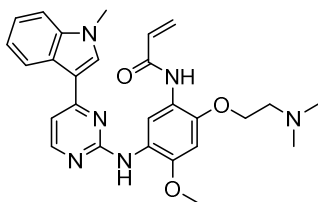
Q is $C-R^{10}$ or N

R^9 is CH_3 or CH_2CH_2F ; and

R^{10} is H or CH_3 .

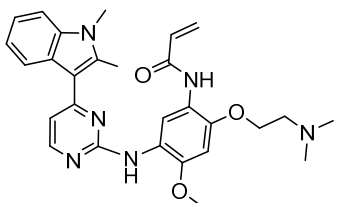
13. The use of claim 12, wherein Q is $C-R^{10}$.
14. The use of claim 12 or 13, wherein R^9 is CH_3 .
15. The use of any one of claims 12 to 14, wherein Q is CH.

16. The use of claim 12, wherein the compound of formula (I) is further characterized by a structure of formula:



1

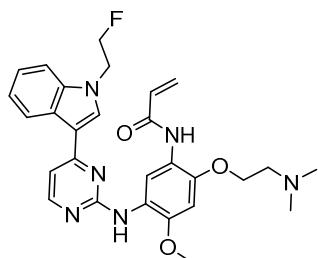
17. The use of claim 12, wherein the compound of formula (I) is further characterized by a structure of formula:



2

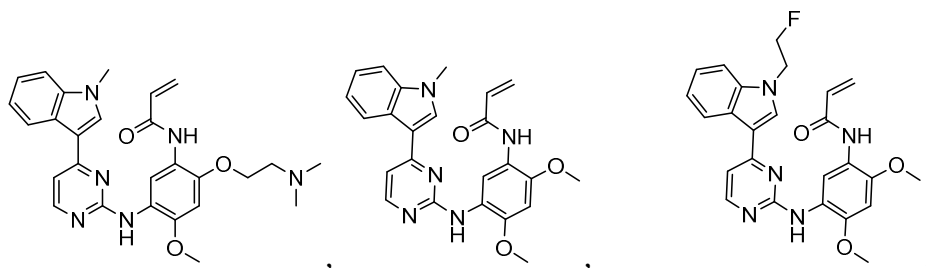
18. The use of claim 12 or 13, wherein R^9 is CH_2CH_2F .

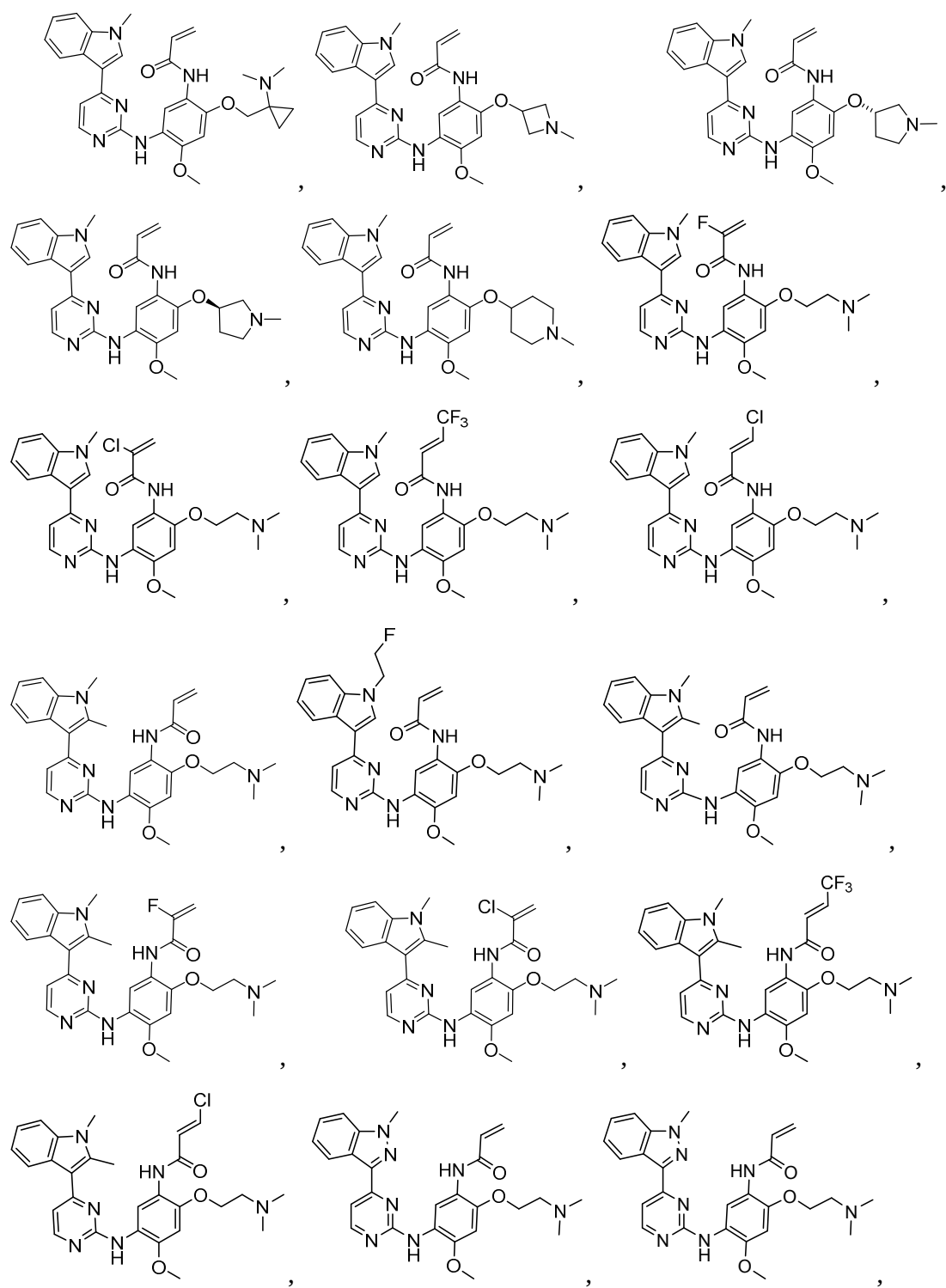
19. The use of claim 18, wherein the compound of formula (I) is further characterized by a structure of formula:

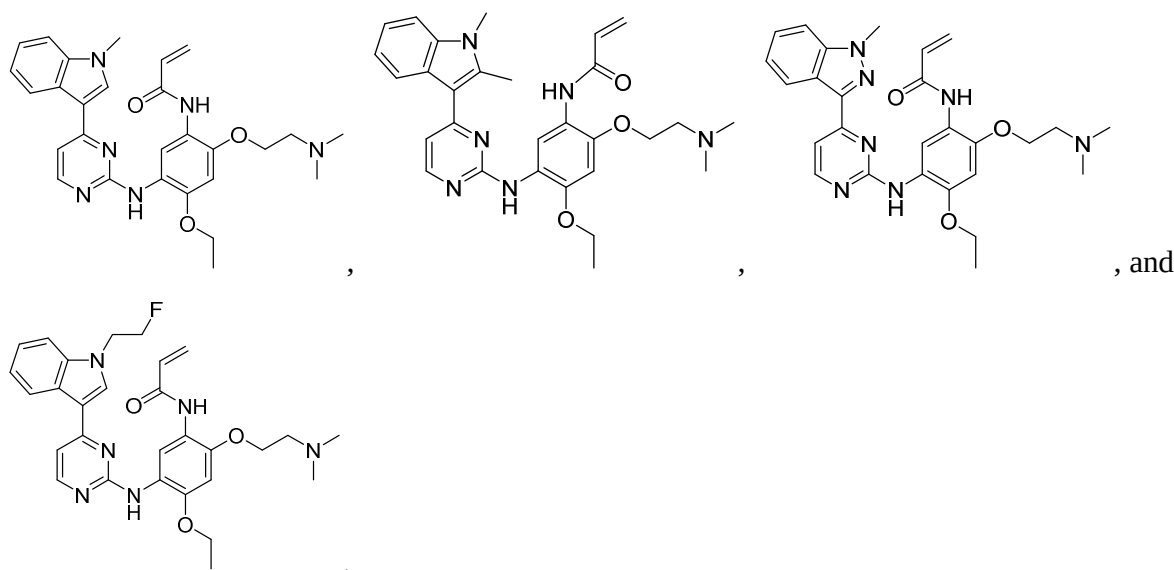


3

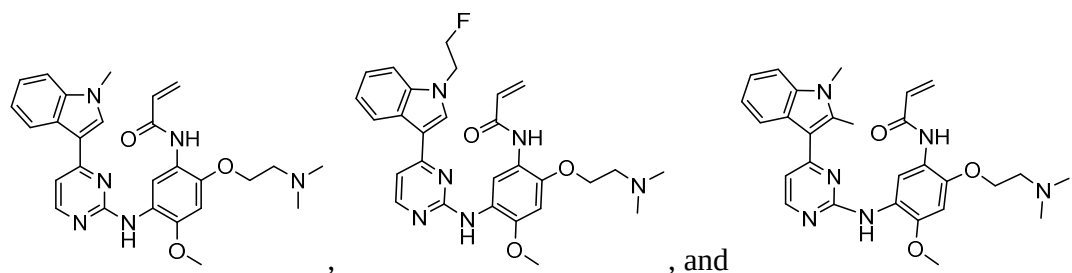
20. The use of claim 1, wherein the compound of formula (I) is selected from the group consisting of:







21. The use of claim 20, wherein the compound of formula (I) is selected from the group consisting of:



22. The use of any one of claims 1 to 21, further comprising administering to the subject a second therapeutic agent.

23. The use of claim 22, wherein said second therapeutic agent is a different EGFR modulator.

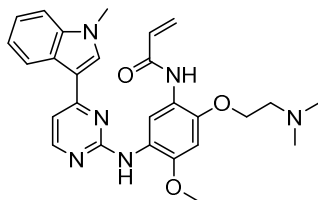
24. The use of claim 22, wherein said second therapeutic agent is a chemotherapeutic agent.

25. The use of any one of claims 1 to 24, wherein said brain cancer is a metastatic brain cancer.

26. The use of any one of claims 1 to 24, wherein said brain cancer is metastatic brain cancer developed from an EGFR-mediated non-small cell lung cancer.

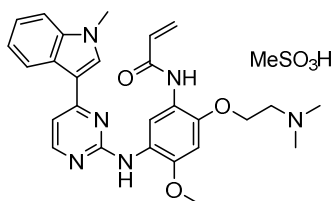
27. The use of any one of claims 1 to 26, comprising administering to the subject a pharmaceutical composition comprising said compound of formula (I) or (II), or a pharmaceutically acceptable salt or solvate thereof, and a pharmaceutically acceptable carrier.

28. The use of any one of claims 1 to 27, said compound of formula (I) or (II) is compound **1**.



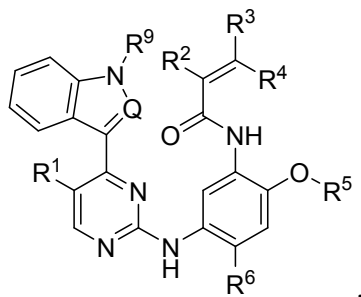
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29. The use of any one of claims 1 to 27, said compound of formula (I) or (II) is the methanesulfonic acid salt of compound **1** (**1·Ms**).



1·Ms

30. Use of a compound of formula (I), or a pharmaceutically acceptable salt, solvate, or composition thereof, in the manufacture of a medicament for the treatment of brain cancer:



(I)

wherein:

R^1 is selected from hydrogen, halogen, methyl, trifluoromethyl, and cyano;

R^2 , R^3 , and R^4 are each hydrogen;

R^5 is selected from lower alkyl, R^7R^8N -(lower alkyl), and R^7R^8N -(cycloalkylalkyl), wherein R^7 and R^8 are the same or different and are independently selected from hydrogen and lower alkyl;

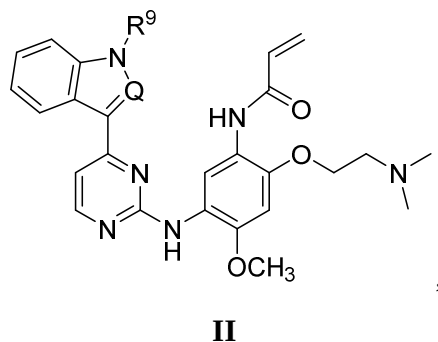
R^6 is selected from lower alkoxy and lower alkyl;

Q is $C-R^{10}$ or N ;

R^9 is C_1 - C_4 alkyl or C_1 - C_4 haloalkyl; and

R^{10} is H or CH_3 .

31. The use of claim 30, wherein the compound of formula (I) is further characterized by a structure of formula **II**:



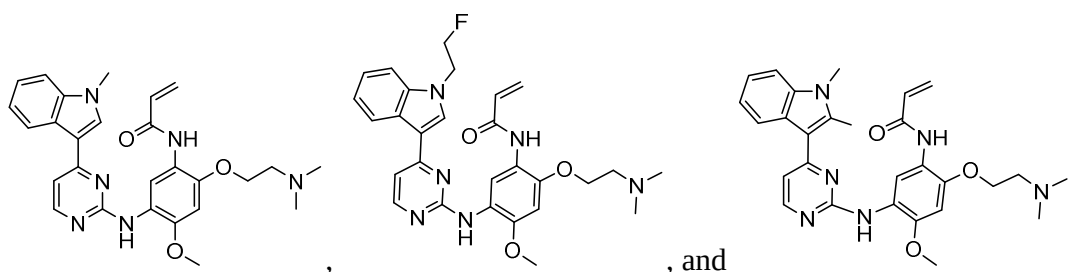
wherein:

Q is $C-R^{10}$ or N

R^9 is CH_3 or CH_2CH_2F ; and

R^{10} is H or CH_3 .

32. The use of claim 30 or 31, wherein the compound of formula (I) is selected from the group consisting of:



33. The use of any one of claims 30 to 32, wherein said brain cancer is a metastatic brain cancer.

34. The use of any one of claims 30 to 32, wherein said brain cancer is a metastatic brain cancer developed from an EGFR-mediated non-small cell lung cancer.