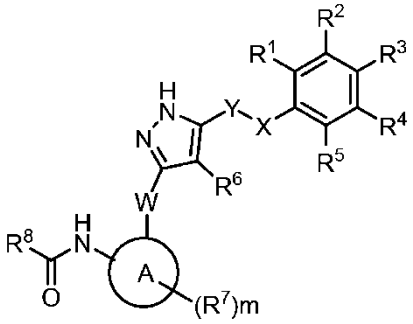
several types of cancer, such as liver cancer. Also, FGFR4 is needed for liver cancer to develop. The offspring of *FGF19* transgenic mice may develop liver cancer, whereas the offspring of FGFR4 knock-out mice will not develop liver cancer. After FGF19 is neutralized by the FGF19 specific antibody, tumor growth is inhibited. In addition, FGFR4 over-expression also occurs in other types of tumor, including breast cancer, colorectal cancer, pancreatic cancer, prostate cancer, lung cancer, and thyroid cancer. FGFR4 mutation occurs in rhabdomyosarcoma. Small molecule targeted inhibition of FGFR4 can be used in cancer treatment. When mice are treated with FGFR-1 inhibitors, it is found that side effects such as calcium phosphate deposition occur in soft tissues (Brown, AP et al., *Toxicol. Pathol.*, 2005, p. 449-455). This indicates that rather than extensive inhibition of FGFR1 to FGFR4 receptors, selective inhibition of the FGFR4 receptor would avoid such side effects.

Although a series of patent applications for FGFR4 inhibitors including WO2014011900, WO2015061572, WO20150197519, WO2015008844, WO2015057938, WO2015059668, WO2012174476, WO2015057963, WO2016064960, WO2016134294, WO2016134314 and WO2016134320 and the like have been disclosed thus far, the development of novel compounds having better efficacy is still needed. Through unremitting efforts, a compound having the structure as shown in the general formula (I) is designed in the present invention, and it is found that compounds with such structure demonstrate excellent results and properties.

SUMMARY

In an aspect of the present disclosure, there is provided a compound as shown in the general formula (I) or a pharmaceutically acceptable salt, tautomer, racemate, enantiomer, diastereomer hydrate or solvate thereof,



(I)

wherein

ring A is not present or is selected from the group consisting of 6-14 membered arylene, 5-10 membered heteroarylene, C_3-C_8 cycloalkylene and 3-10 membered heterocyclylene;

R^1, R^2, R^3, R^4 and R^5 are each independently selected from the group consisting of H, halogen, cyano, NO_2, C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_2-C_6 alkenyl, C_2-C_6 alkynyl, C_3-C_8 cycloalkyl, $-OR^{13}$, $-NR^{11}R^{12}$, $-C(O)R^{13}$, $-C(O)OR^{13}$, $-C(O)NR^{11}R^{12}$, $-NR^{11}C(O)R^{13}$, $-NR^{11}C(O)OR^{13}$, $-NR^{11}C(O)NR^{11}R^{12}$, $-OC(O)R^{13}$, $-OC(O)OR^{13}$, $-OC(O)NR^{11}R^{12}$, $-S(O)_pR^{13}$, $-S(O)_pOR^{13}$, $-S(O)_pNR^{11}R^{12}$, $-OS(O)_pR^{13}$ and $-NR^{11}S(O)_pR^{13}$;

R^6 is each independently selected from the group consisting of H and $-CH_2CH_2-$, and when R^6 is $-CH_2CH_2-$, the other end thereof is connected to X, and optionally one methylene group of $-CH_2CH_2-$ is replaced with -O- or -NH-;

R^7 is each independently selected from the group consisting of H, halogen, cyano, NO_2, C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_2-C_6 alkenyl, C_2-C_6 alkynyl, C_3-C_8 cycloalkyl, $-OR^{13}$ or $-NR^aR^b$, wherein R^a and R^b are each independently selected from the group consisting of H and C_1-C_6 alkyl optionally substituted by $-NR^cR^d$; R^c and R^d are each independently selected from the group consisting of H and C_1-C_6 alkyl; or R^a and R^b together with the N atom connected thereto form 3-10 membered heterocyclyl, which is optionally substituted by C_1-C_6 alkyl or C_1-C_6 haloalkyl;

R^8 is selected from the group consisting of optionally substituted C_2-C_6 alkenyl and C_2-C_6 alkynyl;

R^{11}, R^{12} and R^{13} are each independently selected from the group consisting of H, C_1-C_6 alkyl, C_1-C_6 heteroalkyl, C_3-C_8 cycloalkyl, 3-10 membered heterocyclyl, 5-10 membered heteroaryl and 6-14 membered aryl;

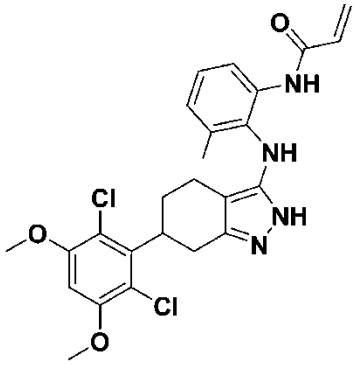
X is selected from the group consisting of -O-, -NH- and $-CH_2-$; and Y is selected from the group consisting of -O-, -NH- and $-CH_2-$; provided that at least one of X and Y is CH_2;

W is selected from the group consisting of a chemical bond, -NH- and $-CH_2-$;

m is 0, 1, 2, 3 or 4; and

p is 1 or 2.

In another aspect of the present disclosure, there is provided a compound or a pharmaceutically acceptable salt, tautomer, racemate, enantiomer, hydrate or solvate thereof, wherein the compound is selected from the group consisting of:



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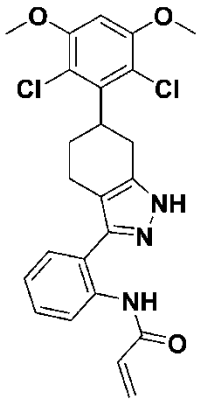

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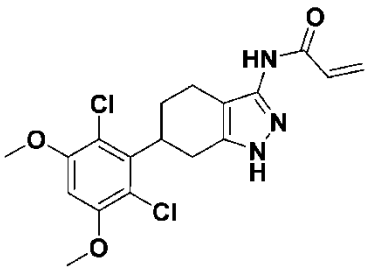

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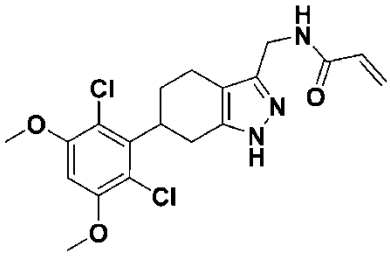

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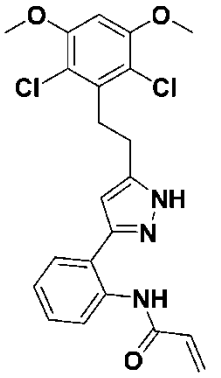

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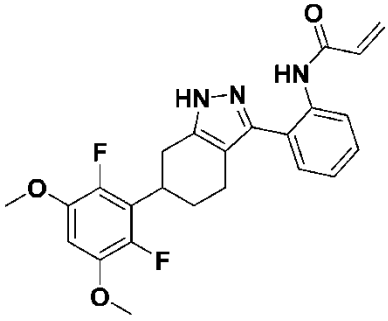

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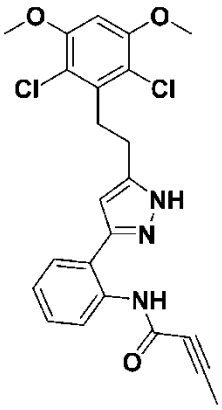
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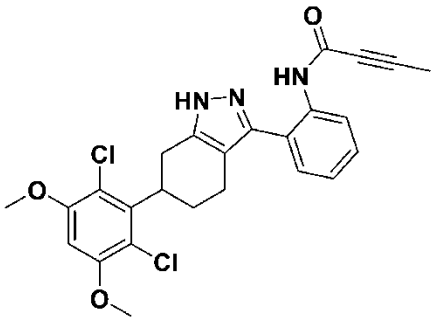
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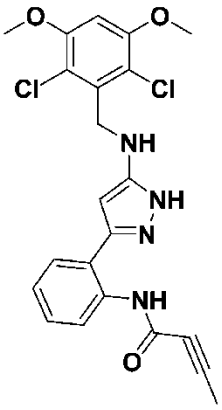
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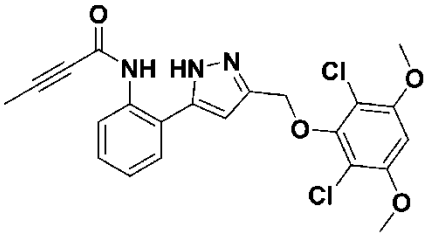
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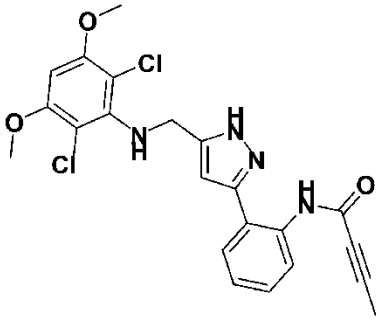
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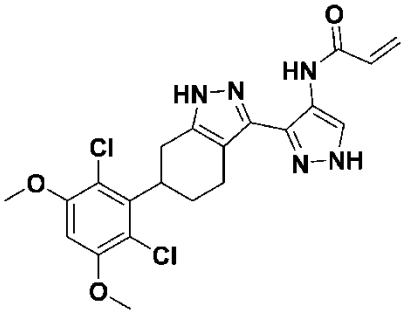
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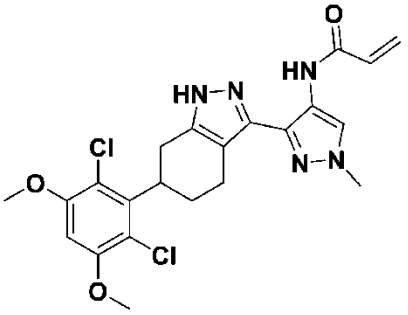
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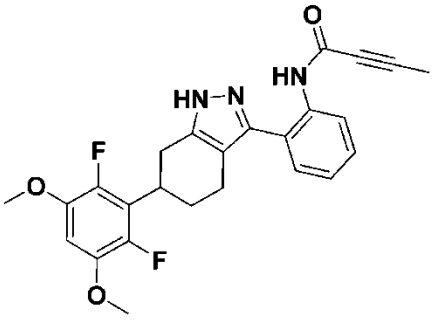
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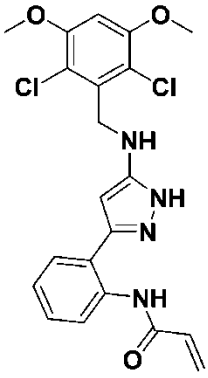
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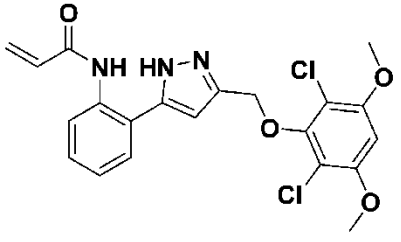
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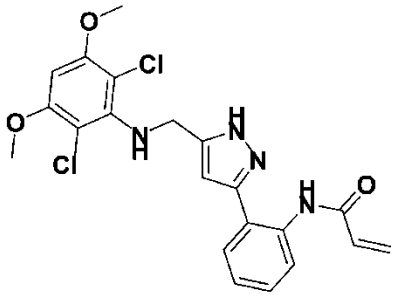
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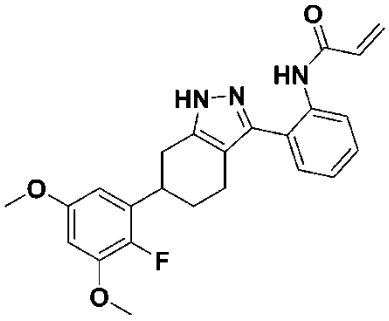
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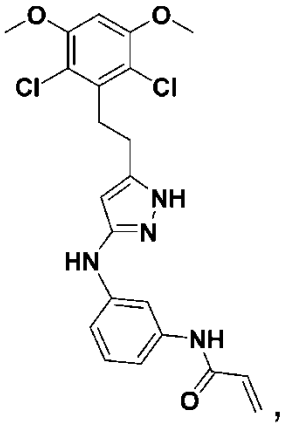
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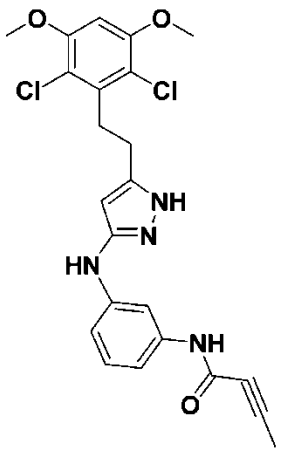
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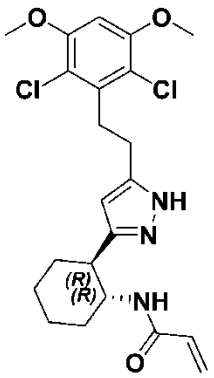
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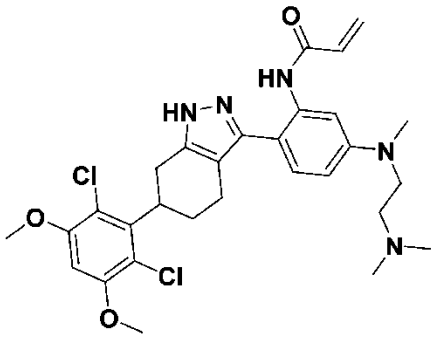
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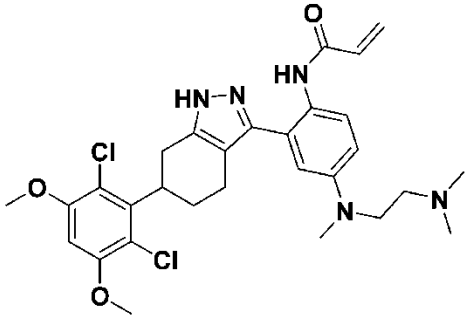
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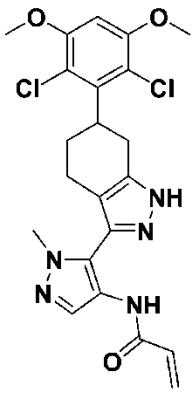
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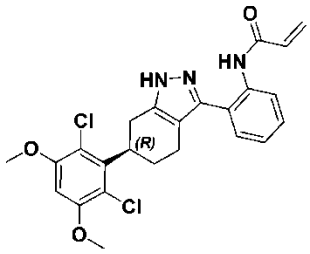
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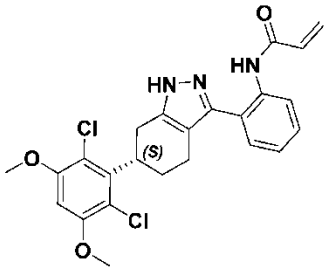
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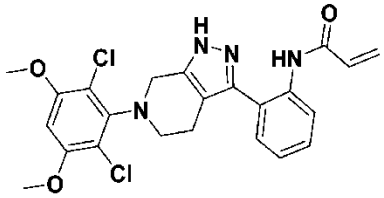
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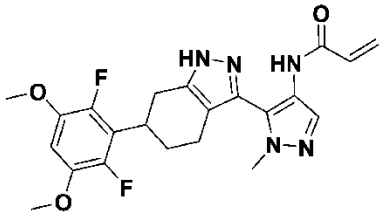
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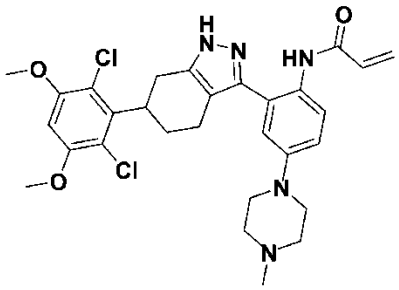
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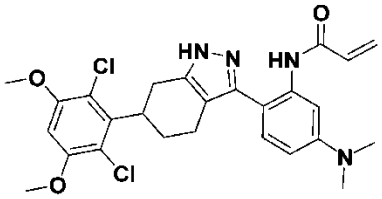
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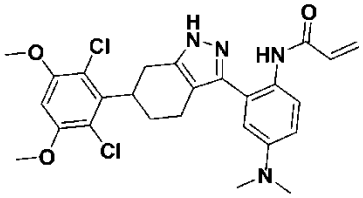
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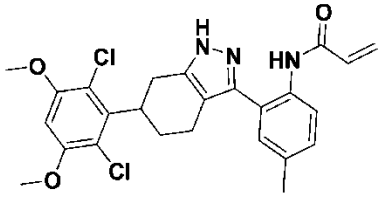
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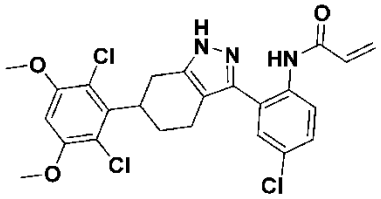
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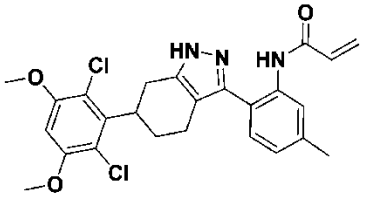
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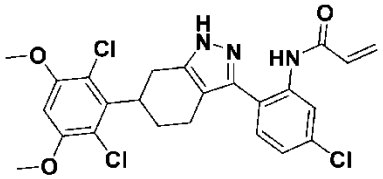
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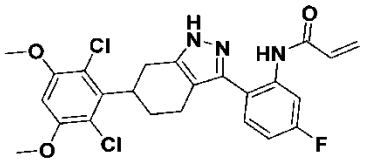
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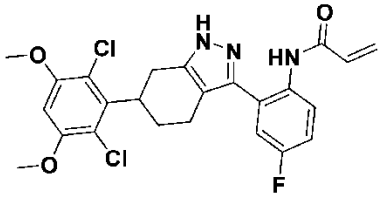
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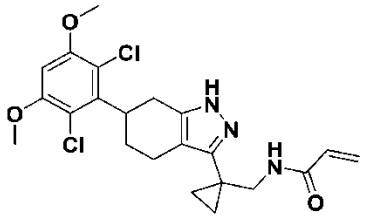
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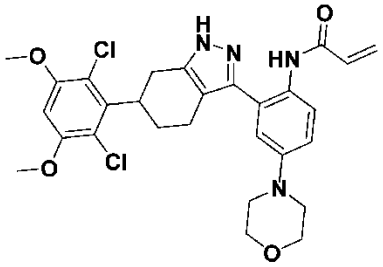
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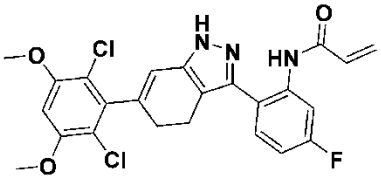
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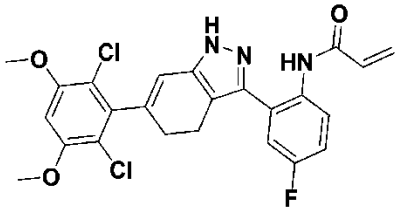
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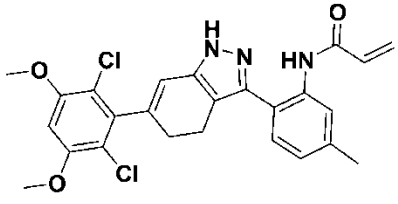
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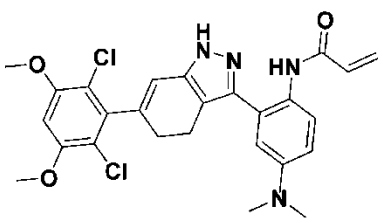
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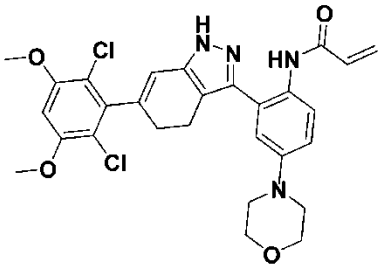
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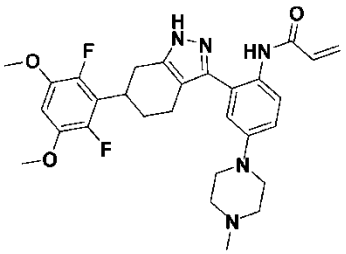
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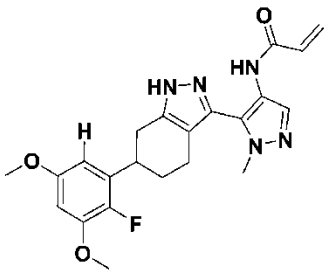
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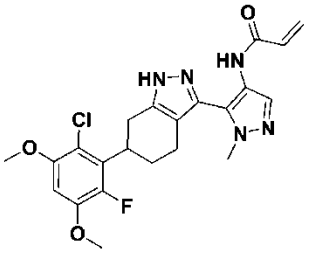
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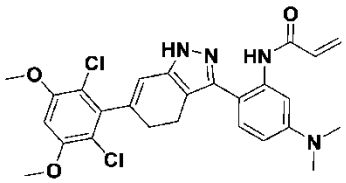
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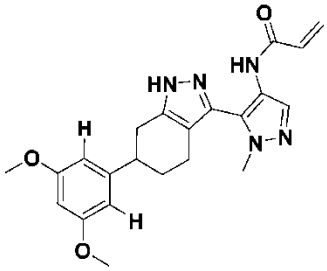
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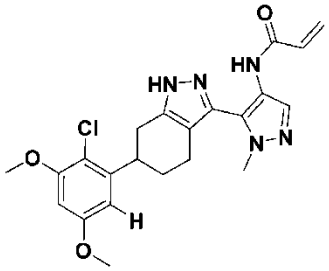
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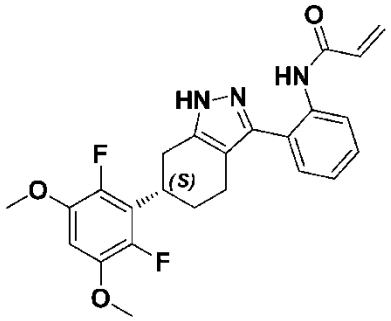
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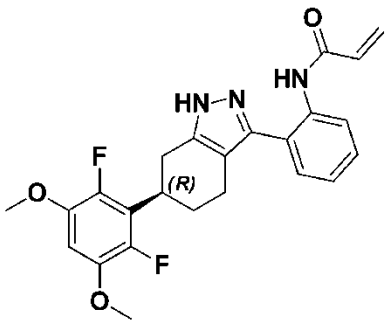
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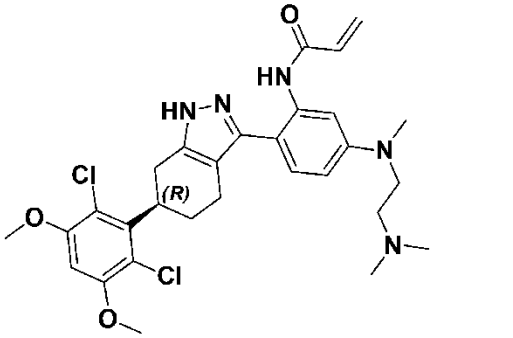
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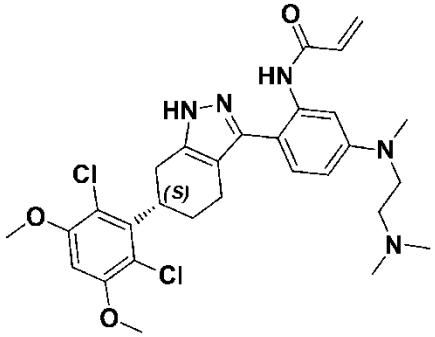
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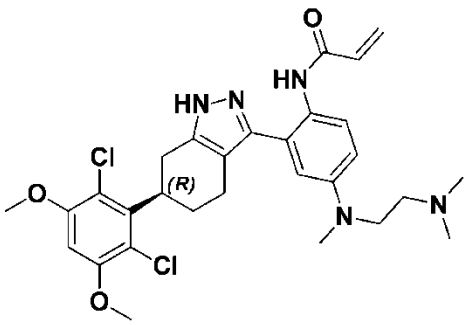
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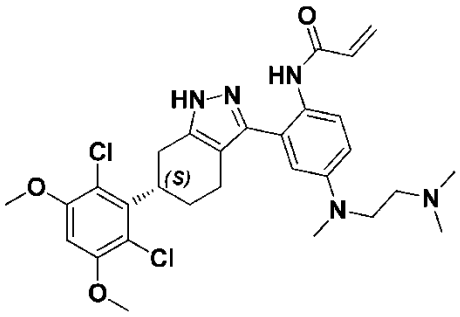
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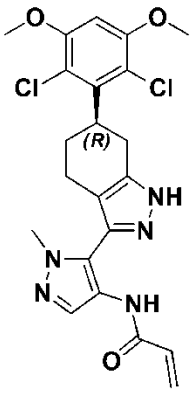
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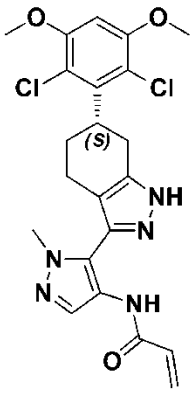
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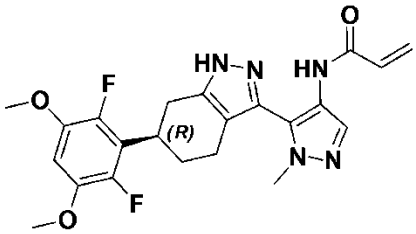
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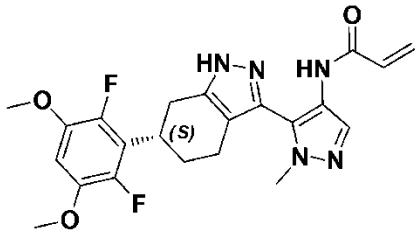
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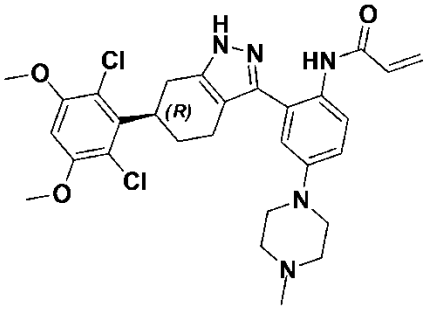
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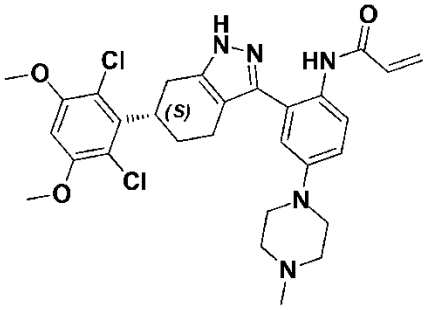
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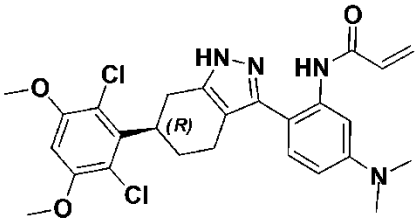
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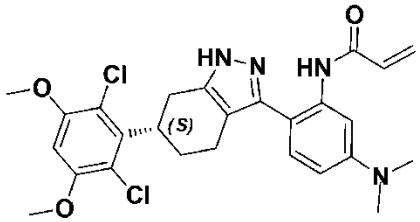
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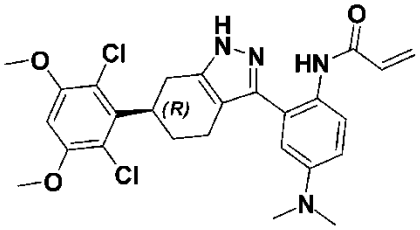
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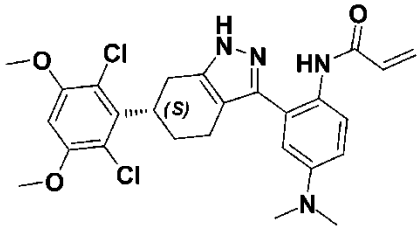
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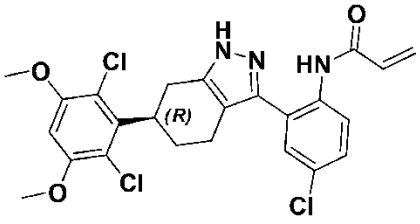
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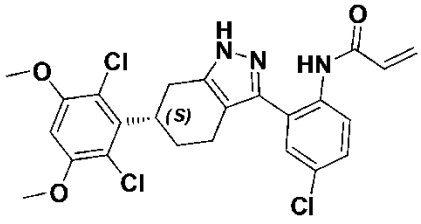
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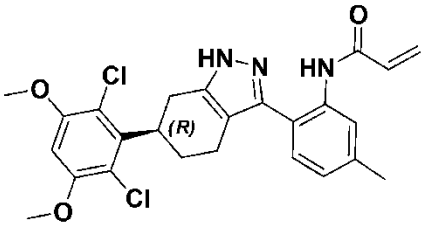
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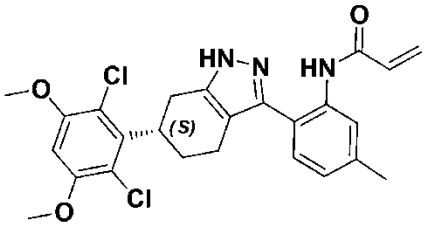
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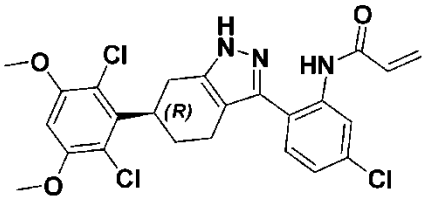
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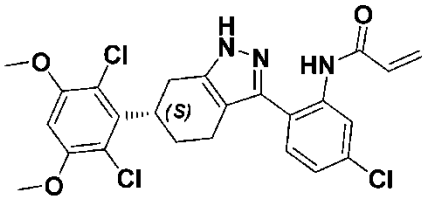
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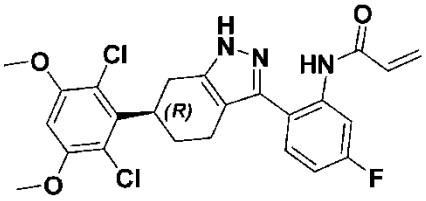
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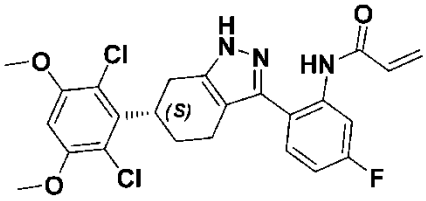
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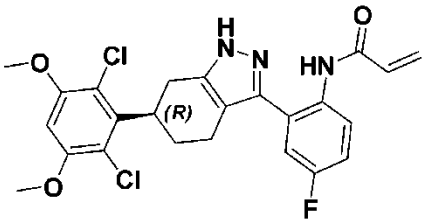
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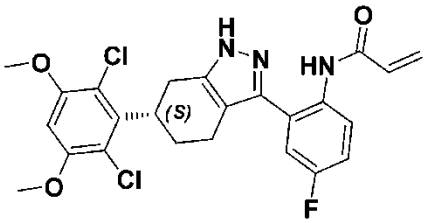
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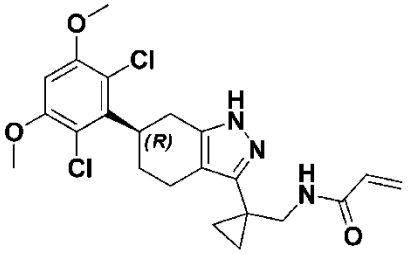
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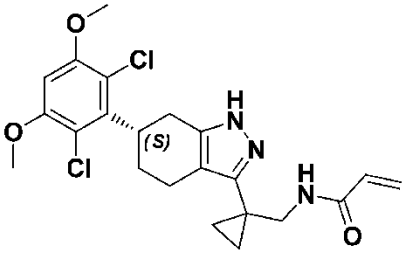
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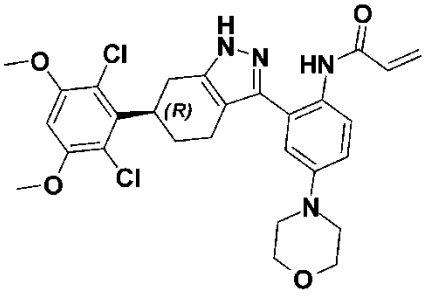
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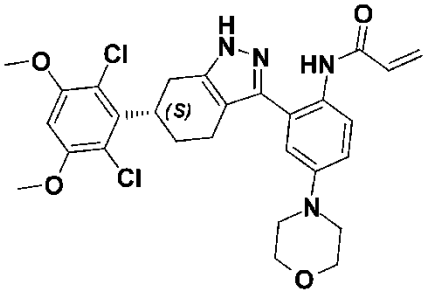
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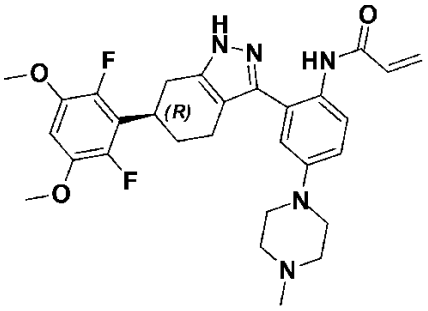
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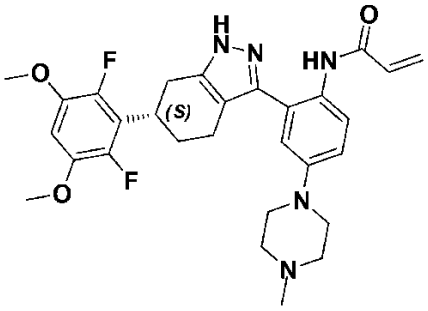
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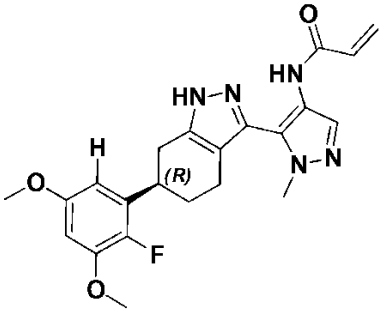
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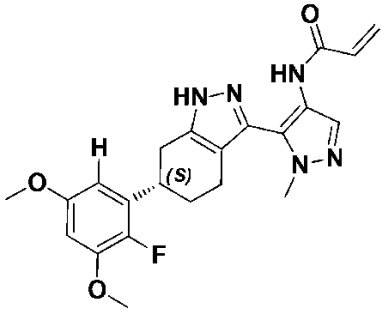
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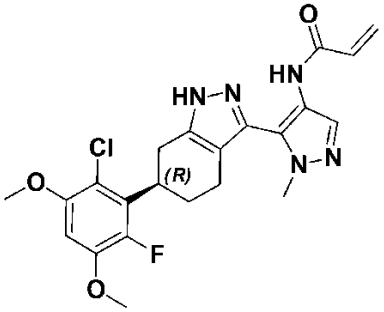
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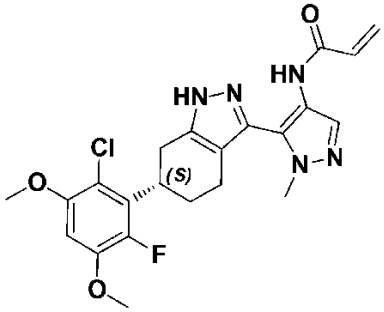
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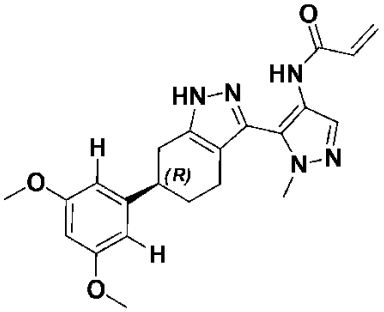
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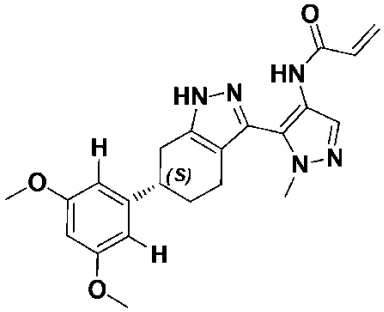
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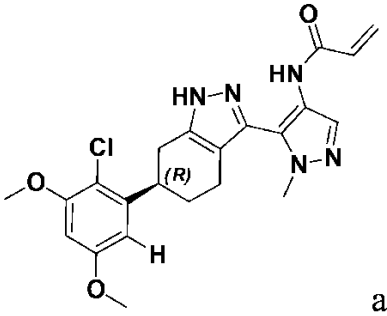
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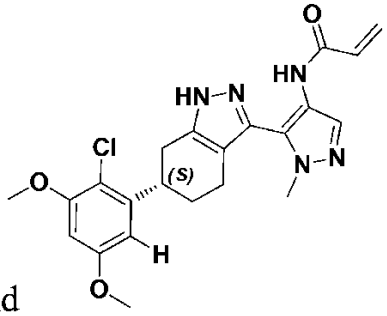
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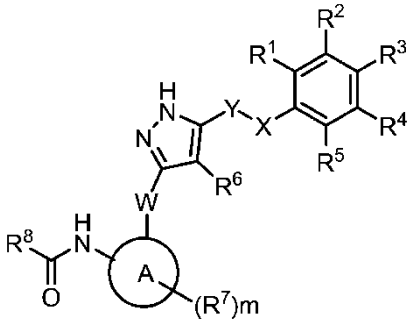
In a further aspect of the present disclosure, there is provided a pharmaceutical composition containing the compound or a pharmaceutically acceptable salt, tautomer, racemate, enantiomer, hydrate or solvate thereof disclosed herein, and a pharmaceutically acceptable excipient.

In another aspect of the present disclosure, there is provided a compound or a pharmaceutically acceptable salt, tautomer, racemate, enantiomer, hydrate or solvate thereof disclosed herein, for use in treating FGFR4 tyrosine kinase-mediated diseases in a subject, wherein the disease is selected from the group consisting of gastric cancer, thyroid cancer, prostate cancer, breast cancer, sarcoma, skin cancer, liver cancer, pancreatic cancer, lung cancer, kidney cancer, colorectal cancer, and ovarian cancer.

In a further aspect of the present disclosure, there is provided a use of a compound or a pharmaceutically acceptable salt, tautomer, racemate, enantiomer, hydrate or solvate thereof disclosed herein, in the manufacture of a medicament for treating FGFR4 tyrosine kinase-mediated diseases in a subject, wherein the disease is selected from the group consisting of gastric cancer, thyroid cancer, prostate cancer, breast cancer, sarcoma, skin cancer, liver cancer, pancreatic cancer, lung cancer, kidney cancer, colorectal cancer, and ovarian cancer.

The present disclosure relates to the following technical solutions:

In one example, the present disclosure provides a compound as shown in the general formula (I) or a pharmaceutically acceptable salt, tautomer, racemate, enantiomer, diastereoisomer, prodrug, hydrate or solvate thereof, and a mixture thereof: (I)



(I)

wherein

ring A is not present or is selected from the group consisting of 6-14 membered arylene, 5-10 membered heteroarylene, C_3-C_8 cycloalkylene and 3-10 membered heterocyclylene;

R^1, R^2, R^3, R^4 and R^5 are each independently selected from the group consisting of H, halogen, cyano, NO_2, C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_2-C_6 alkenyl, C_2-C_6 alkynyl, C_3-C_8 cycloalkyl, $-OR^{13}$, $-NR^{11}R^{12}$, $-C(O)R^{13}$, $-C(O)OR^{13}$, $-C(O)NR^{11}R^{12}$, $-NR^{11}C(O)R^{13}$, $-NR^{11}C(O)OR^{13}$, $-NR^{11}C(O)NR^{11}R^{12}$, $-OC(O)R^{13}$, $-OC(O)OR^{13}$, $-OC(O)NR^{11}R^{12}$, $-S(O)_pR^{13}$, $-S(O)_pOR^{13}$, $-S(O)_pNR^{11}R^{12}$, $-OS(O)_pR^{13}$ and $-NR^{11}S(O)_pR^{13}$;

R^6 is each independently selected from the group consisting of H and $-CH_2CH_2-$, and when R^6 is $-CH_2CH_2-$, the other end thereof is connected to X, and optionally one methylene group of $-CH_2CH_2-$ is replaced with -O- or -NH-;

R^7 is each independently selected from the group consisting of H, halogen, cyano, NO_2, C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_2-C_6 alkenyl, C_2-C_6 alkynyl, C_3-C_8 cycloalkyl, $-OR^{13}$ or $-NR^aR^b$, wherein R^a and R^b are each independently selected from the group consisting of H and C_1-C_6 alkyl optionally substituted by $-NR^cR^d$; and R^c and R^d are each independently selected from the group consisting of H and C_1-C_6 alkyl;

R^8 is selected from the group consisting of optionally substituted C_2-C_6 alkenyl and C_2-C_6 alkynyl;

R^{11}, R^{12} and R^{13} are each independently selected from the group consisting of H, C_1-C_6 alkyl, C_1-C_6 heteroalkyl, C_3-C_8 cycloalkyl, 3-10 membered heterocyclyl, 5-10 membered heteroaryl and 6-14 membered aryl;

X is selected from the group consisting of -O-, -NH- and $-CH_2-$; and Y is selected from the group consisting of -O-, -NH- and $-CH_2-$; provided that at least one of X and Y is CH_2;

W is selected from the group consisting of a chemical bond, -NH- and $-CH_2-$;

m is 0, 1, 2, 3 or 4; and

p is 1 or 2.

In another example, the present disclosure provides a pharmaceutical composition, containing the compound of the present disclosure or a pharmaceutically acceptable salt, tautomer, racemate, enantiomer, diastereoisomer, prodrug, hydrate or solvate thereof, and a mixture thereof, and a

pharmaceutically acceptable excipient. In particular examples, the compound of the present disclosure is provided in the pharmaceutical composition in an effective amount. In particular examples, the compound of the present disclosure is provided in a therapeutically effective amount. In particular examples, the compound of the present disclosure is provided in a prophylactically effective amount. In another example, the pharmaceutical composition of the present disclosure further contains other therapeutic agents.

In another example, the present disclosure provides a kit, comprising: a first container containing the compound of the present disclosure or a pharmaceutically acceptable salt, tautomer, racemate, enantiomer, diastereoisomer, prodrug, hydrate or solvate thereof, and a mixture thereof; and optionally, a second container containing other therapeutic agents; and optionally, a third container containing a pharmaceutically acceptable excipient for diluting or suspending the compound and/or other therapeutic agents.

In another example, the present disclosure further provides the compound of the present disclosure or a pharmaceutically acceptable salt, tautomer, racemate, enantiomer, diastereoisomer, prodrug, hydrate or solvate thereof, and a mixture thereof, or use of the pharmaceutical composition of the present disclosure in the preparation of FGFR4 tyrosine kinase inhibitors.

In another example, the present disclosure further provides the compound of the present disclosure or a pharmaceutically acceptable salt, tautomer, racemate, enantiomer, diastereoisomer, prodrug, hydrate or solvate thereof, and a mixture thereof, or use of the pharmaceutical composition of the present disclosure in the preparation of a drug for treating and/or preventing FGFR4 tyrosine kinase-mediated diseases.

In another example, the present disclosure further provides the compound of the present disclosure or a pharmaceutically acceptable salt, tautomer, racemate, enantiomer, diastereoisomer, prodrug, hydrate or solvate thereof, and a mixture thereof, or the pharmaceutical composition of the present disclosure, for use in the treatment and/or prevention of FGFR4 tyrosine kinase-mediated diseases.

In another example, the present disclosure further provides a method for treating and/or preventing FGFR4 tyrosine kinase-mediated diseases in a subject, comprising administering to the subject the compound of the present disclosure or a pharmaceutically acceptable salt, tautomer, racemate, enantiomer, diastereoisomer, prodrug, hydrate or solvate thereof and a mixture thereof, or the pharmaceutical composition of the present disclosure.

In the particular examples above, the disease is tumor, e.g., gastric cancer, thyroid cancer, prostate cancer, breast cancer, sarcoma (e.g., rhabdomyosarcoma), skin cancer (e.g., melanoma), liver cancer (e.g., hepatocellular cancer and cholangiocarcinoma), pancreatic cancer (e.g., intraepithelial neoplasia of pancreas and ductal adenocarcinoma of pancreas), lung cancer (e.g., non-small-cell lung cancer and pulmonary adenocarcinoma), kidney cancer (e.g., renal cell carcinom), colorectal cancer and ovarian cancer.

DETAILED DESCRIPTION

Definition

The terms used in the present invention have the meanings well known to those of skill in the art. When a definition is given in the present invention, the definition in the present invention is employed preferentially.

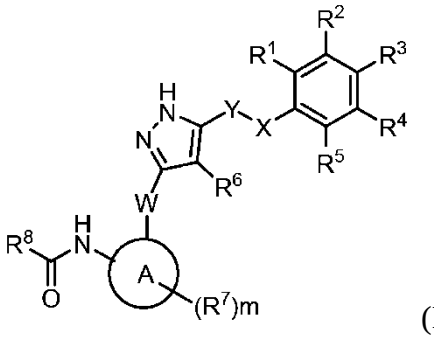
When a range of values is listed, it is established to include each value and subranges within the range. For example, "C_1-C_6 alkyl" includes C_1, C_2, C_3, C_4, C_5, C_6, C_1-C_6, C_1-C_5, C_1-C_4, C_1-C_3, C_1-C_2, C_2-C_6, C_2-C_5, C_2-C_4, C_2-C_3, C_3-C_6, C_3-C_5, C_3-C_4, C_4-C_6, C_4-C_5 and C_5-C_6 alkyl.

"C_1-C_6 alkyl"refers to a linear or branched saturated hydrocarbon group with 1 to 6 carbon atoms, and is also known as "lower alkyl." In some embodiments, C_1-C_4 alkyl is particularly preferred. Examples of alkenyl include, but are not limited to, methyl, ethyl, n-propyl, i-propyl, n-butyl, i-butyl, t-butyl, s- butyl, n-pentyl, 1,1-dimethylpropyl, 1,2-dimethylpropyl, 2,2-dimethylpropyl, 1-ethylpropyl, 2-methylbutyl, 3-methylbutyl, n-hexyl, 1-ethyl-2-methylpropyl, 1,1,2-trimethylpropyl, 1,1-dimethylbutyl, 1,2-dimethylbutyl, 2,2-dimethylbutyl, 1,3-dimethylbutyl, 2-ethylbutyl, and various branched isomers thereof. Alkyl may be optionally substituted or unsubstituted.

"C_2-C_6 alkenyl" refers to a linear or branched hydrocarbon group having 2 to 6 carbon atoms and one or more carbon-carbon double bonds (e.g., 1, 2 or 3 carbon-carbon carbon double bonds). The one or more carbon-carbon double bonds may be inside (e.g., in 2-butenyl) or at the end (e.g., in 1-butenyl). In some embodiments, C_2-C_4 alkenyl is particularly preferred. Examples of alkenyl include, but are not limited to, vinyl, 1-propenyl, 2-propenyl, 1-butenyl, 2-butenyl, butadienyl, pentenyl, pentadienyl, hexenyl, and various branched isomers thereof. Alkenyl may be optionally substituted or unsubstituted.

CLAIMS

1. A compound as shown in the general formula (I) or a pharmaceutically acceptable salt, tautomer, racemate, enantiomer, diastereomer hydrate or solvate thereof,



(I)

wherein

ring A is not present or is selected from the group consisting of 6-14 membered arylene, 5-10 membered heteroarylene, C_3-C_8 cycloalkylene and 3-10 membered heterocyclylene;

R^1, R^2, R^3, R^4 and R^5 are each independently selected from the group consisting of H, halogen, cyano, NO_2, C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_2-C_6 alkenyl, C_2-C_6 alkynyl, C_3-C_8 cycloalkyl, $-OR^{13}$, $-NR^{11}R^{12}$, $-C(O)R^{13}$, $-C(O)OR^{13}$, $-C(O)NR^{11}R^{12}$, $-NR^{11}C(O)R^{13}$, $-NR^{11}C(O)OR^{13}$, $-NR^{11}C(O)NR^{11}R^{12}$, $-OC(O)R^{13}$, $-OC(O)OR^{13}$, $-OC(O)NR^{11}R^{12}$, $-S(O)_pR^{13}$, $-S(O)_pOR^{13}$, $-S(O)_pNR^{11}R^{12}$, $-OS(O)_pR^{13}$ and $-NR^{11}S(O)_pR^{13}$;

R^6 is each independently selected from the group consisting of H and $-CH_2CH_2-$, and when R^6 is $-CH_2CH_2-$, the other end thereof is connected to X, and optionally one methylene group of $-CH_2CH_2-$ is replaced with -O- or -NH-;

R^7 is each independently selected from the group consisting of H, halogen, cyano, NO_2, C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_2-C_6 alkenyl, C_2-C_6 alkynyl, C_3-C_8 cycloalkyl, $-OR^{13}$ or $-NR^aR^b$, wherein R^a and R^b are each independently selected from the group consisting of H and C_1-C_6 alkyl optionally substituted by $-NR^cR^d$; R^c and R^d are each independently selected from the group consisting of H and C_1-C_6 alkyl; or R^a and R^b together with the N atom connected thereto form 3-10 membered heterocyclyl, which is optionally substituted by C_1-C_6 alkyl or C_1-C_6 haloalkyl;

R^8 is selected from the group consisting of optionally substituted C_2-C_6 alkenyl and C_2-C_6 alkynyl;

R^{11}, R^{12} and R^{13} are each independently selected from the group consisting of H, C_1-C_6 alkyl, C_1-C_6 heteroalkyl, C_3-C_8 cycloalkyl, 3-10 membered heterocyclyl, 5-10 membered heteroaryl and 6-14 membered aryl;

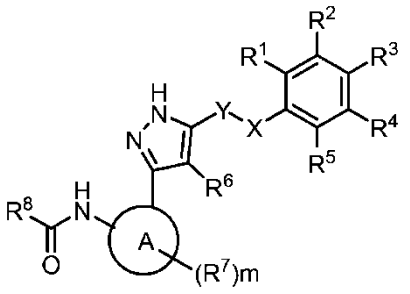
X is selected from the group consisting of -O-, -NH- and -CH_2-; and Y is selected from the group consisting of -O-, -NH- and -CH_2-; provided that at least one of X and Y is CH_2;

W is selected from the group consisting of a chemical bond, -NH- and -CH_2-;

m is 0, 1, 2, 3 or 4; and

p is 1 or 2.

2. A compound as shown in the general formula (I) or a pharmaceutically acceptable salt, tautomer, racemate, enantiomer, diastereomer hydrate or solvate thereof according to claim 1, which is a compound as shown in the general formula (II):



(II)

wherein

ring A is selected from the group consisting of 6-10 membered arylene, 5-6 membered heteroarylene or C_3-C_8 cycloalkylene;

R^1, R^2, R^3, R^4 and R^5 are each independently selected from the group consisting of H, halogen, C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_1-C_6 alkoxy or C_1-C_6 haloalkoxy;

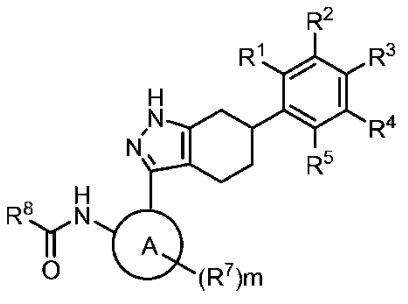
R^6 is each independently selected from the group consisting of H and -CH_2CH_2-, and when R^6 is -CH_2CH_2-, the other end thereof is connected to X;

R^7 is each independently selected from the group consisting of H, C_1-C_6 alkyl, C_1-C_6 haloalkyl and -NR^aR^b, wherein R^a and R^b are each independently selected from the group consisting of H and C_1-C_6 alkyl optionally substituted by -NR^cR^d; and R^c and R^d are each independently selected from the group consisting of H and C_1-C_6 alkyl;

R^8 is selected from the group consisting of optionally substituted C_2-C_6 alkenyl and C_2-C_6 alkynyl; and

X is selected from the group consisting of -O-, -NH- and -CH_2-; and Y is selected from the group consisting of -O-, -NH- and -CH_2-; provided that at least one of X and Y is CH_2; m is 0, 1, 2, 3 or 4.

3. A compound as shown in the general formula (I) or a pharmaceutically acceptable salt, tautomer, racemate, enantiomer, diastereomer hydrate or solvate thereof according to claim 1, which is a compound as shown in the general formula (III):



(III)

wherein

ring A is 6-10 membered arylene, 5-6 membered heteroarylene or C_3-C_8 cycloalkylene;

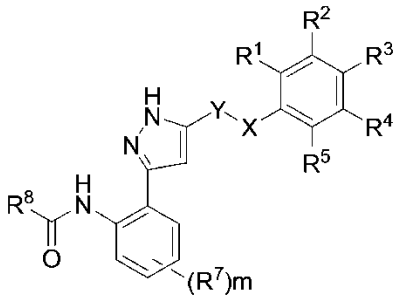
R^1, R^2, R^3, R^4 and R^5 are each independently selected from the group consisting of H, halogen, C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_1-C_6 alkoxy or C_1-C_6 haloalkoxy;

R^7 is each independently selected from the group consisting of H, halogen, C_1-C_6 alkyl, C_1-C_6 haloalkyl and -NR^aR^b, wherein R^a and R^b are each independently selected from the group consisting of H and C_1-C_6 alkyl optionally substituted by -NR^cR^d; R^c and R^d are each independently selected from the group consisting of H and C_1-C_6 alkyl; or R^a and R^b together with the N atom connected thereto form 3-10 membered heterocyclyl, which is optionally substituted by C_1-C_6 alkyl or C_1-C_6 haloalkyl;

R^8 is selected from the group consisting of optionally substituted C_2-C_6 alkenyl and C_2-C_6 alkynyl; and

m is 0, 1, 2, 3 or 4.

4. A compound as shown in the general formula (I) or a pharmaceutically acceptable salt, tautomer, racemate, enantiomer, diastereomer hydrate or solvate thereof according to claim 1, which is a compound as shown in the general formula (IV):



(IV)

wherein

R^1, R^2, R^3, R^4 and R^5 are each independently selected from the group consisting of H, halogen, C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_1-C_6 alkoxy or C_1-C_6 haloalkoxy;

R^7 is each independently selected from the group consisting of H, C_1-C_6 alkyl or C_1-C_6 haloalkyl;

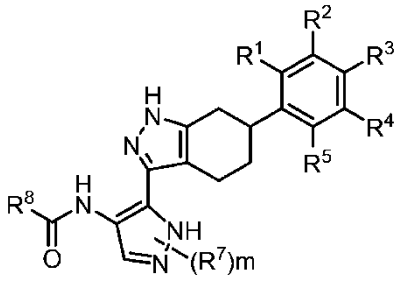
R^8 is selected from the group consisting of C_2-C_6 alkenyl and C_2-C_6 alkynyl;

X is -NH-, and Y is -CH_2-; or

X is -CH_2-, and Y is -NH-; and

m is 0, 1, 2, 3 or 4.

5. A compound as shown in the general formula (I) or a pharmaceutically acceptable salt, tautomer, racemate, enantiomer, diastereomer hydrate or solvate thereof according to claim 1, which is a compound as shown in the general formula (V):



(V)

wherein

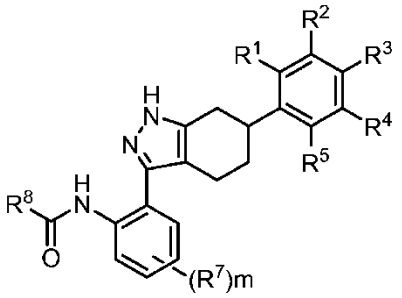
R^1, R^2, R^3, R^4 and R^5 are each independently selected from the group consisting of H, halogen, C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_1-C_6 alkoxy or C_1-C_6 haloalkoxy;

R^7 is each independently selected from the group consisting of H, C_1-C_6 alkyl or C_1-C_6 haloalkyl;

R^8 is selected from the group consisting of C_2-C_6 alkenyl and C_2-C_6 alkynyl; and

m is 0, 1 or 2.

6. A compound as shown in the general formula (I) or a pharmaceutically acceptable salt, tautomer, racemate, enantiomer, hydrate or solvate thereof according to claim 1, which is a compound as shown in the general formula (VI):



(VI)

wherein

R^1, R^2, R^3, R^4 and R^5 are each independently selected from the group consisting of H, halogen, C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_1-C_6 alkoxy or C_1-C_6 haloalkoxy;

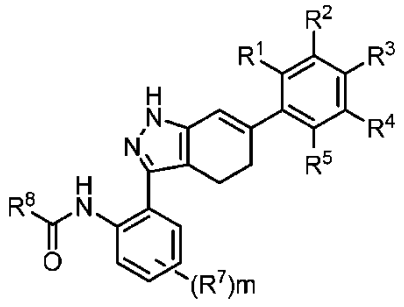
R^7 is each independently selected from the group consisting of H, halogen, C_1-C_6 alkyl, C_1-C_6 haloalkyl, C_1-C_6 alkoxy, C_1-C_6 haloalkoxy or -NR^aR^b, wherein R^a and R^b are each independently selected from the group consisting of H and C_1-C_6 alkyl optionally substituted by -

NR^cR^d; R^c and R^d are each independently selected from the group consisting of H and C_1-C_6 alkyl; or R^a and R^b together with the N atom connected thereto form 3-10 heterocyclyl, which is optionally substituted by C_1-C_6 alkyl or C_1-C_6 haloalkyl;

R^8 is selected from the group consisting of optionally substituted C_2-C_6 alkenyl and C_2-C_6 alkynyl; and

m is 0, 1, 2, 3 or 4.

7. A compound as shown in the general formula (I) or a pharmaceutically acceptable salt, tautomer, racemate, enantiomer, hydrate or solvate thereof according to claim 1, which is a compound as shown in the general formula (VII):



(VII)

wherein

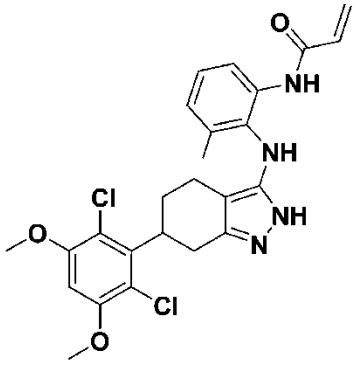
R^1 and R^5 are each independently halogen;

R^2 and R^4 are each independently C_1-C_6 alkoxy;

R^3 is H;

R^7 is each independently selected from the group consisting of halogen, C_1-C_6 alkyl, C_1-C_6 haloalkyl and $-NR^aR^b$, wherein R^a and R^b are each independently selected from the group consisting of H and C_1-C_6 alkyl optionally substituted by $-NR^cR^d$; R^c and R^d are each independently selected from the group consisting of H and C_1-C_6 alkyl; or R^a and R^b together with the N atom connected thereto form 3-10 membered heterocyclyl.

8. A compound or a pharmaceutically acceptable salt, tautomer, racemate, enantiomer, hydrate or solvate thereof, wherein the compound is selected from the group consisting of: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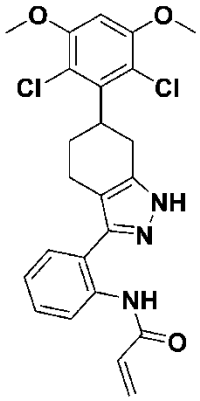
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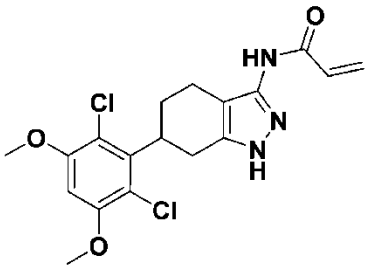
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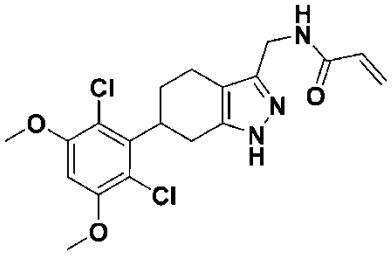
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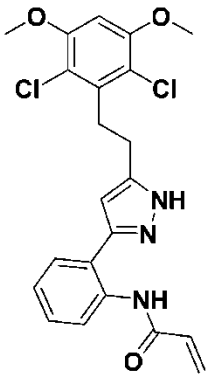
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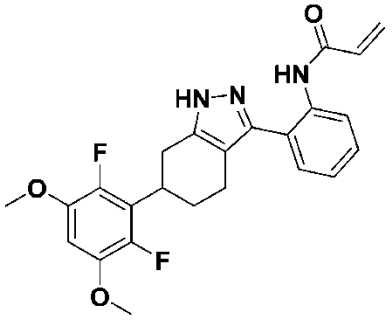
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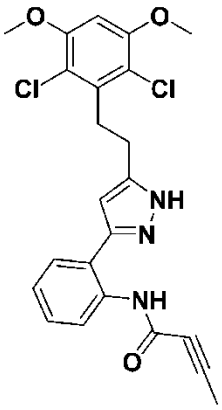
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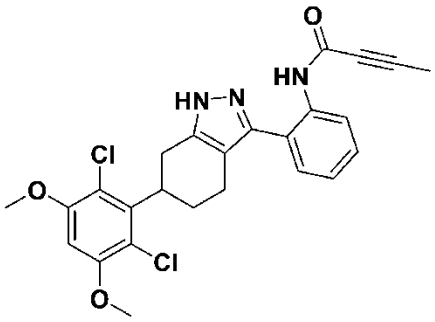
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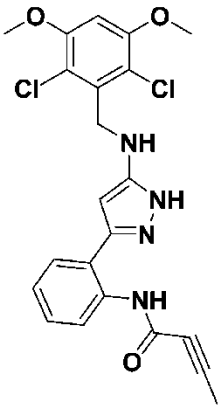
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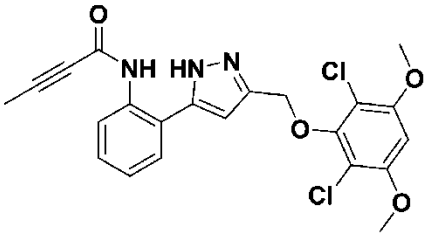
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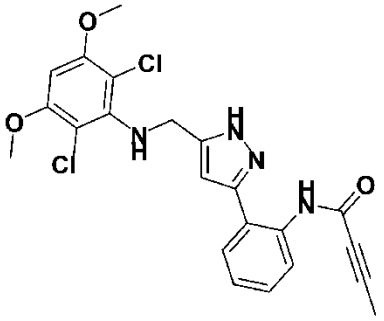
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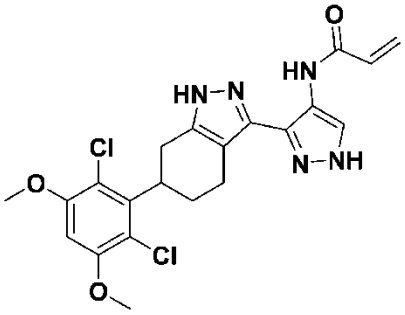
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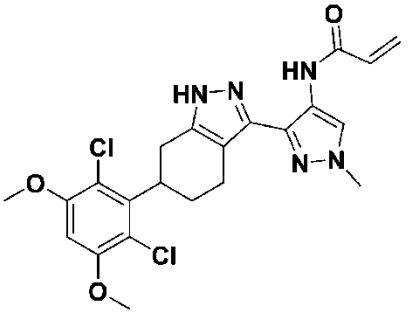
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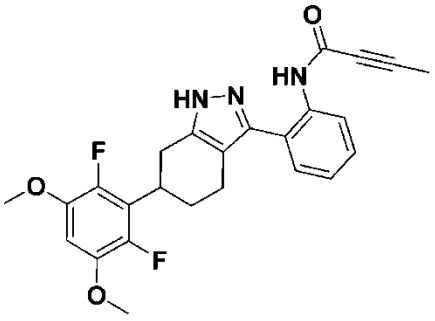
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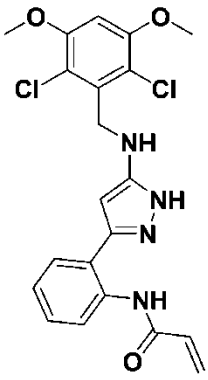
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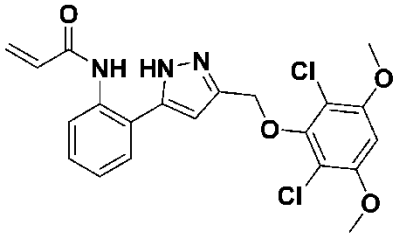
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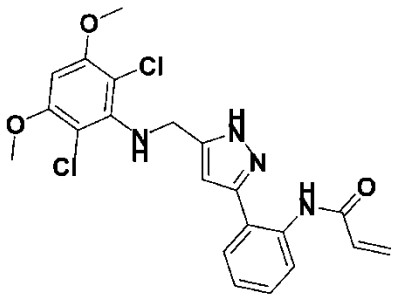
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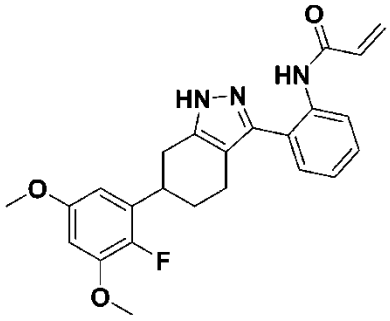
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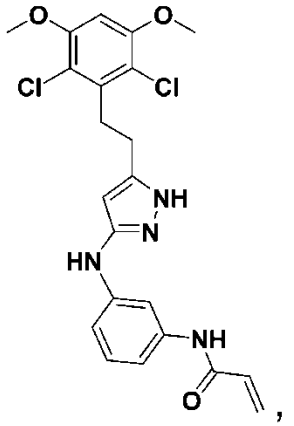
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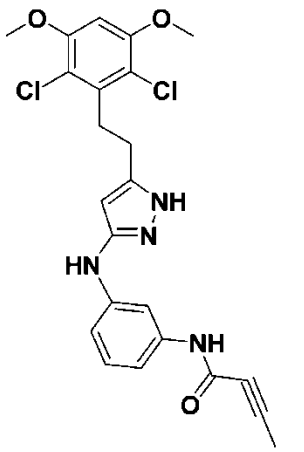
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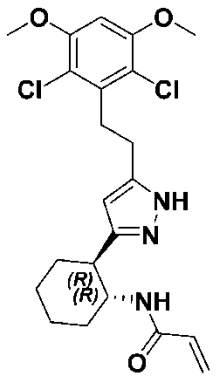
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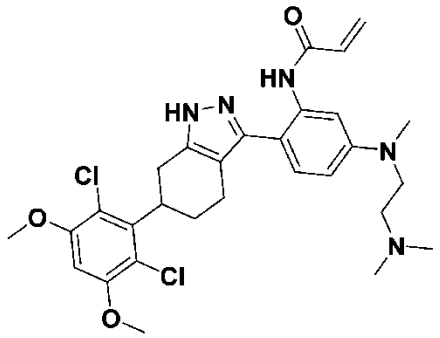
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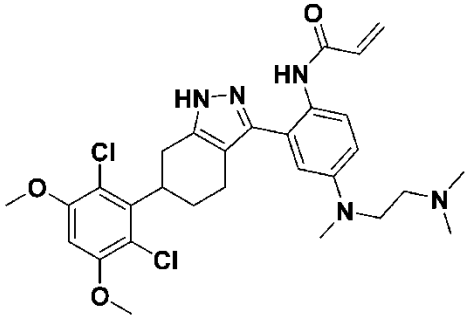
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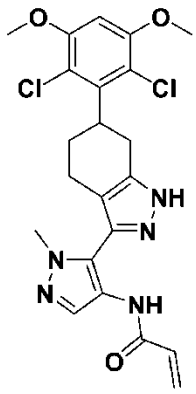
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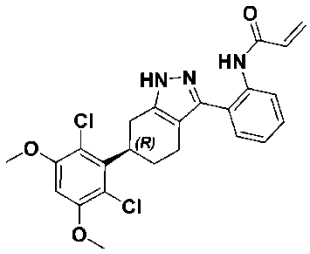
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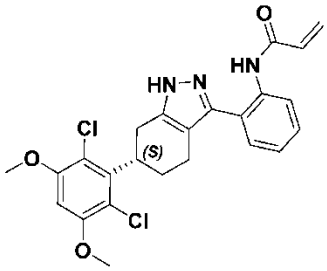
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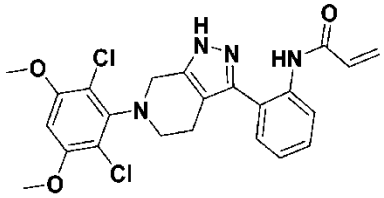
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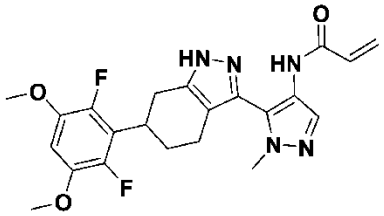
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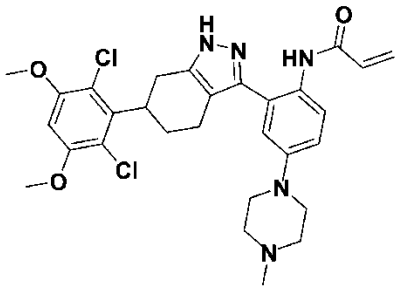
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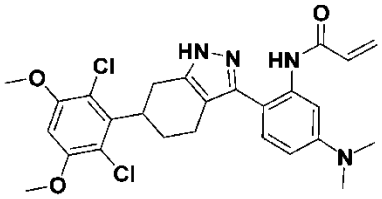
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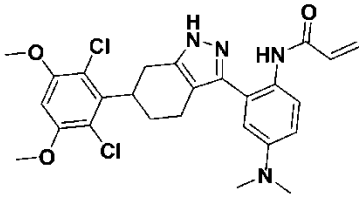
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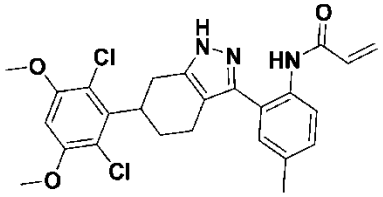
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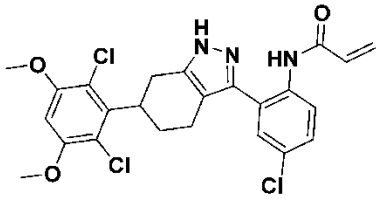
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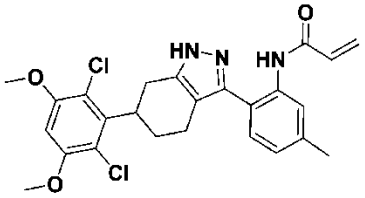
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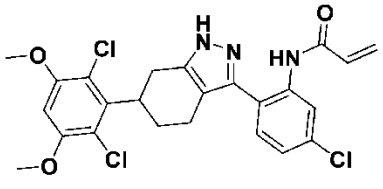
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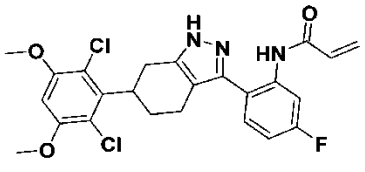
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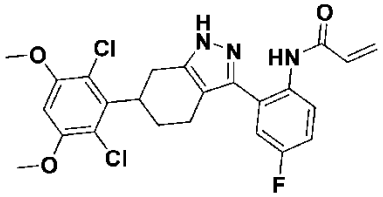
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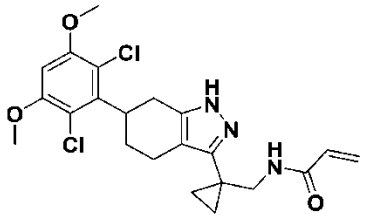
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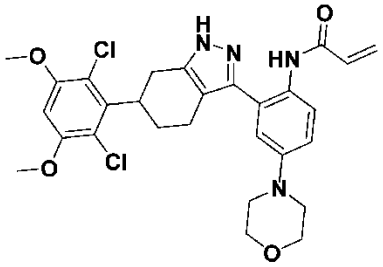
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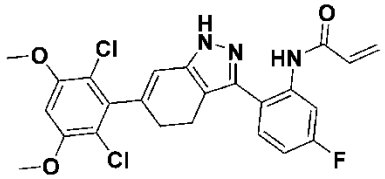
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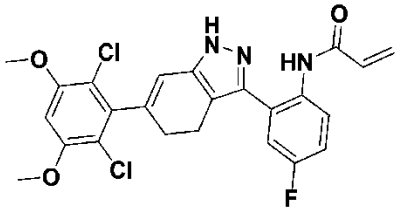
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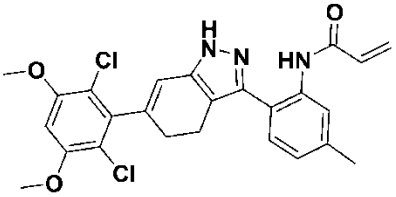
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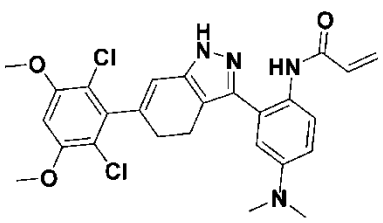
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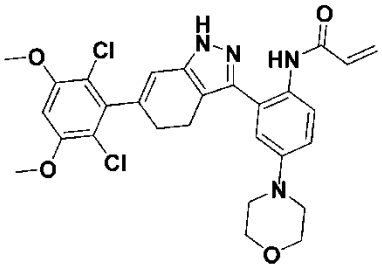
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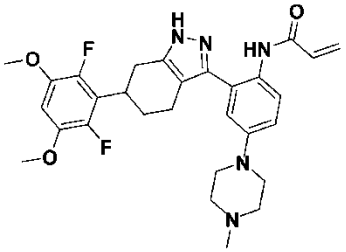
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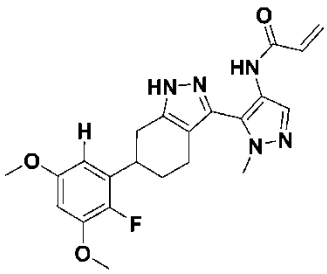
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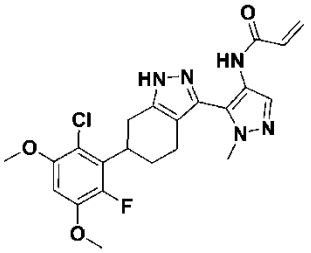
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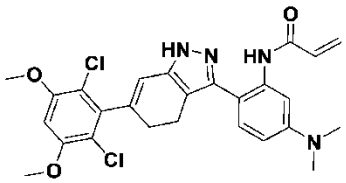
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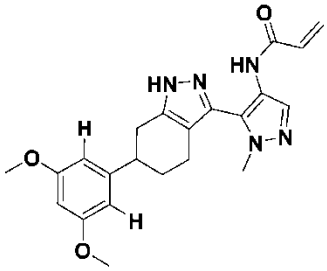
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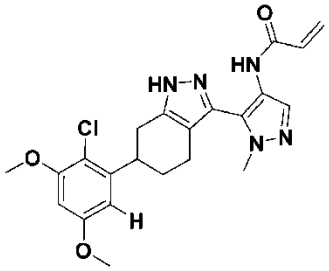
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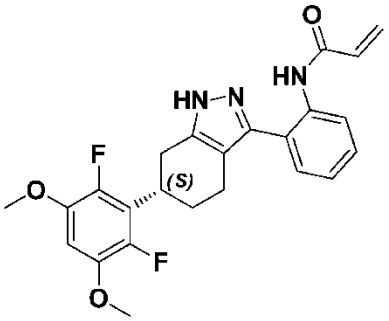
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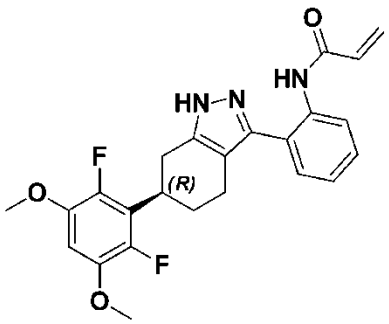
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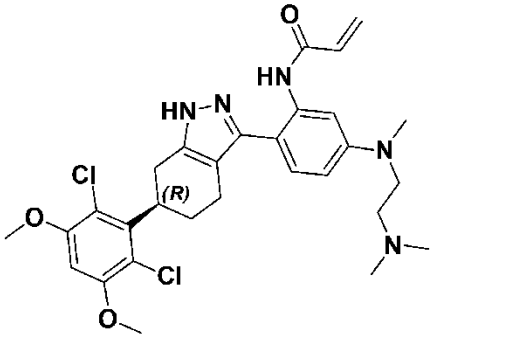
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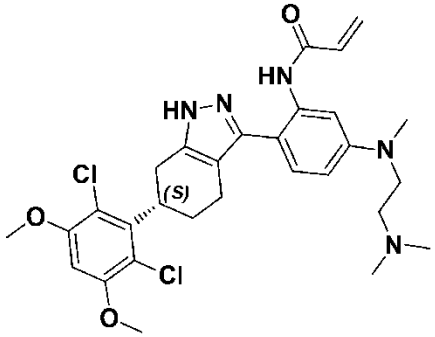
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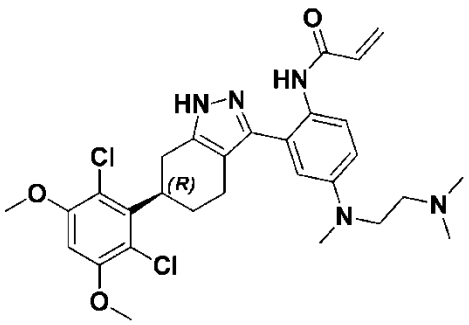
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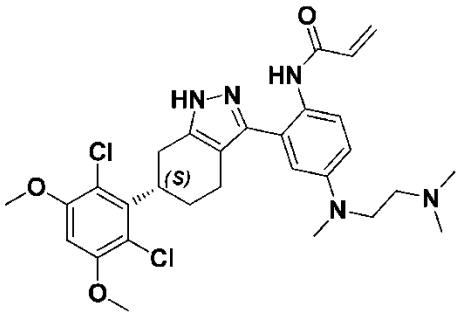
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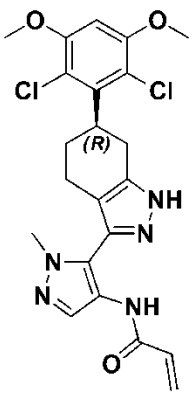
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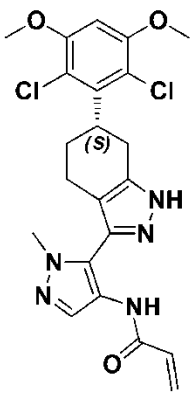
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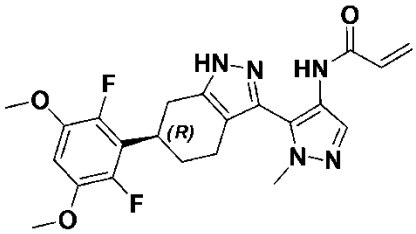
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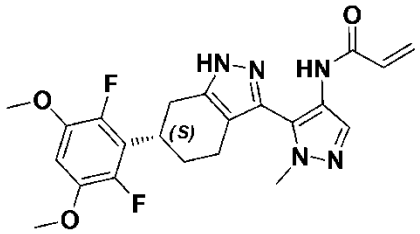
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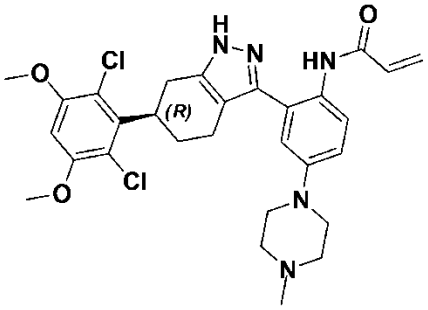
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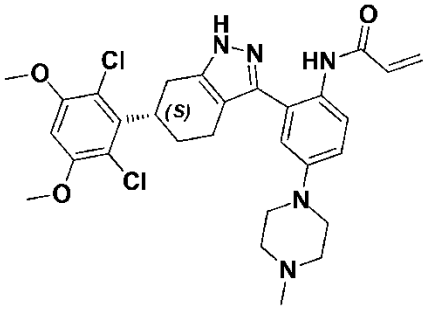
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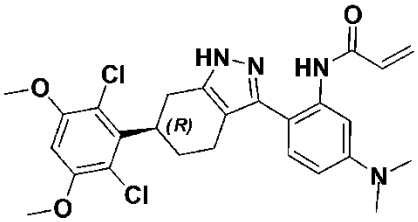
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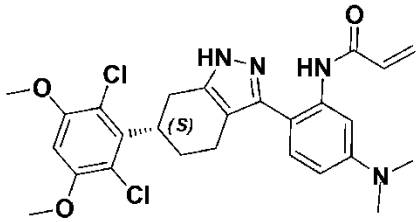
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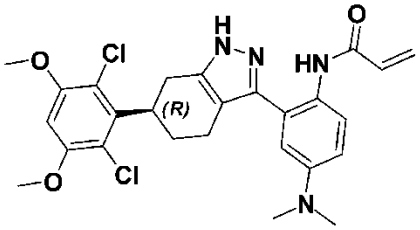
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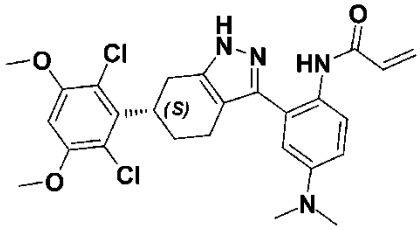
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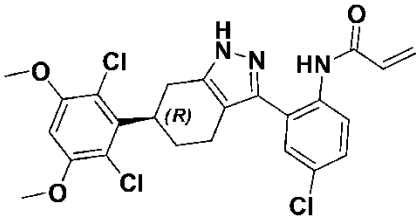
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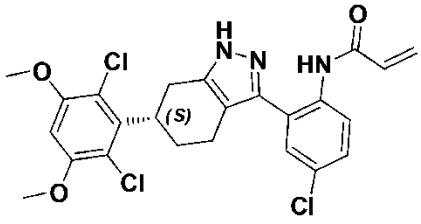
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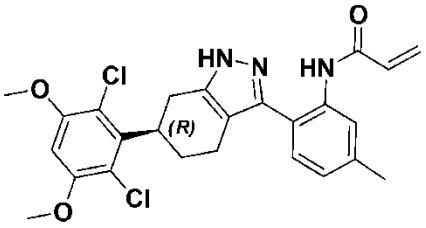
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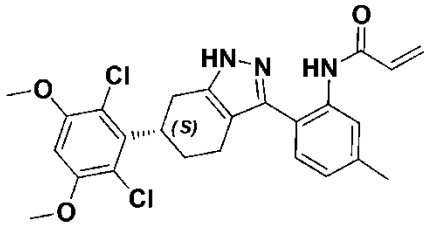
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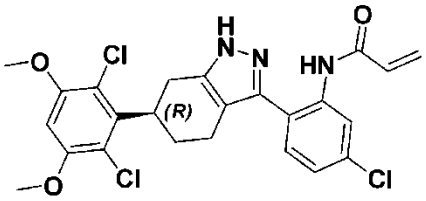
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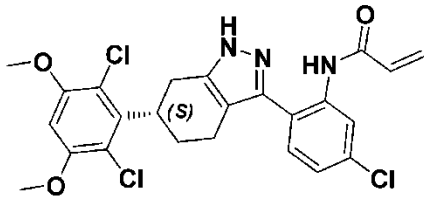
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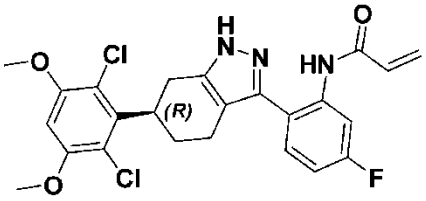
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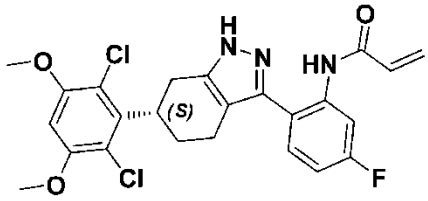
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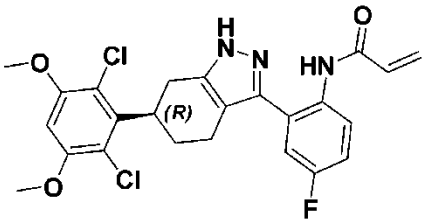
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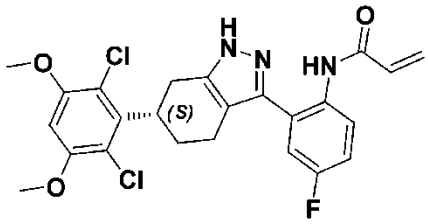
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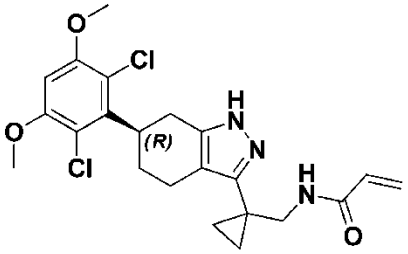
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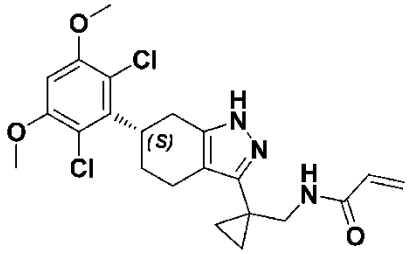
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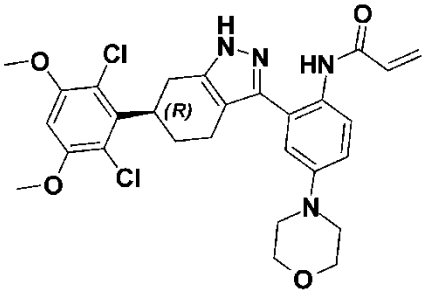
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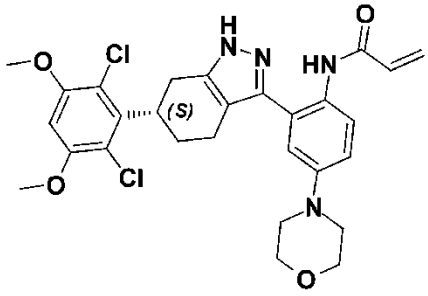
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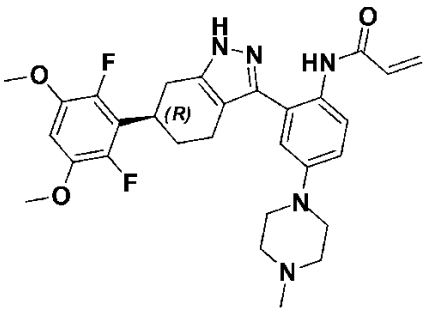
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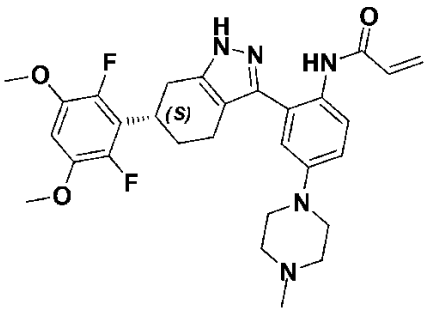
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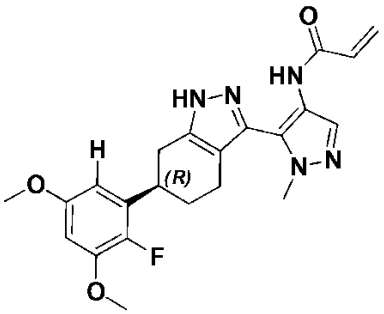
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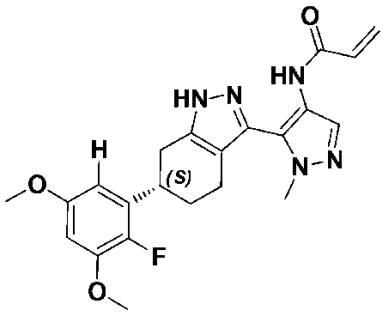
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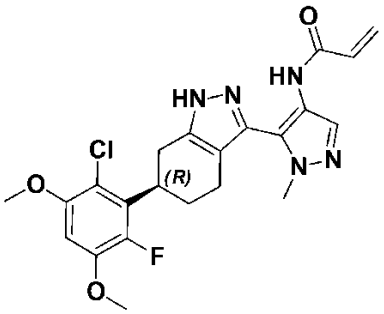
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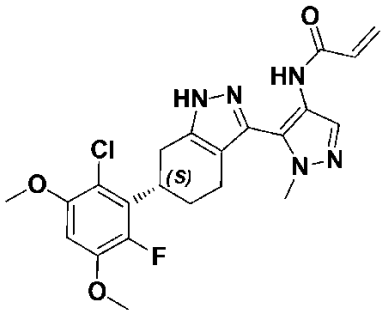
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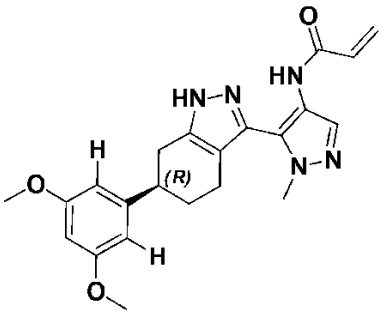
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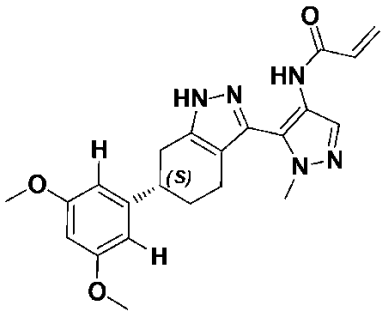
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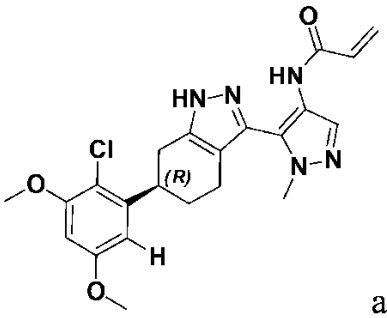
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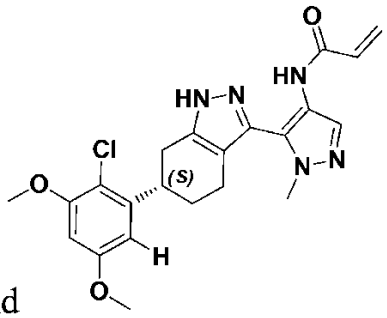
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9. A pharmaceutical composition containing the compound or a pharmaceutically acceptable salt, tautomer, racemate, enantiomer, hydrate or solvate thereof according to claim 1, and a pharmaceutically acceptable excipient.

10. A compound or a pharmaceutically acceptable salt, tautomer, racemate, enantiomer, hydrate or solvate thereof according to claim 1, for use in treating FGFR4 tyrosine kinase-mediated diseases in a subject, wherein the disease is selected from the group consisting of gastric cancer, thyroid cancer, prostate cancer, breast cancer, sarcoma, skin cancer, liver cancer, pancreatic cancer, lung cancer, kidney cancer, colorectal cancer, and ovarian cancer.

11. Use of a compound or a pharmaceutically acceptable salt, tautomer, racemate, enantiomer, hydrate or solvate thereof according to claim 1, in the manufacture of a medicament for treating FGFR4 tyrosine kinase-mediated diseases in a subject, wherein the disease is selected from the group consisting of gastric cancer, thyroid cancer, prostate cancer, breast cancer, sarcoma, skin cancer, liver cancer, pancreatic cancer, lung cancer, kidney cancer, colorectal cancer, and ovarian cancer.

12. The compound for use of claim 10, or the use of claim 11, wherein the sarcoma is rhabdomyosarcoma, the skin cancer is melanoma, the liver cancer is hepatocellular carcinoma or cholangiocarcinoma, the pancreatic cancer is pancreatic intraepithelial neoplasia or pancreatic ductal adenocarcinoma, the lung cancer is non-small-cell lung cancer or pulmonary adenocarcinoma, or the kidney cancer is renal cell carcinoma.

13. The compound or a pharmaceutically acceptable salt, tautomer, racemate, enantiomer, diastereomer, hydrate or solvate thereof according to claim 3, wherein

ring A is phenylene or 5-6 membered heteroarylene;

R^1 and R^5 are each independently H or halogen;

R^2 and R^4 are each independently C_1-C_6 alkoxy;

R^3 is H;

R^7 is each independently selected from the group consisting of H, halogen, C_1-C_6 alkyl, C_1-C_6 haloalkyl and $-NR^aR^b$, wherein R^a and R^b are each independently selected from the group

consisting of H and C_1-C_6 alkyl optionally substituted by -NR^cR^d; R^c and R^d are each independently selected from the group consisting of H and C_1-C_6 alkyl; or R^a and R^b together with the N atom connected thereto form 3-10 membered heterocyclyl, which is optionally substituted by C_1-C_6 alkyl or C_1-C_6 haloalkyl;

R^8 is selected from the group consisting of optionally substituted C_2-C_6 alkenyl and C_2-C_6 alkynyl; and

m is 0, 1, 2, 3 or 4.

14. The compound or a pharmaceutically acceptable salt, tautomer, racemate, enantiomer, diastereomer, hydrate or solvate thereof according to claim 5, wherein

ring A is phenylene or 5-6 membered heteroarylene;

R^1 and R^5 are each independently Cl or F;

R^2 and R^4 are each independently -OCH_3;

R^3 is H;

R^7 is H and C_1-C_6 alkyl;

R^8 is vinyl; and

m is 1.

15. The compound or a pharmaceutically acceptable salt, tautomer, racemate, enantiomer, diastereomer, hydrate or solvate thereof according to claim 1, wherein ring A is phenylene or pyrazolylene.

16. The compound or a pharmaceutically acceptable salt, tautomer, racemate, enantiomer, diastereomer, hydrate or solvate thereof according to claim 1, wherein R^1 and R^5 are each independently halogen.

17. The compound or a pharmaceutically acceptable salt, tautomer, racemate, enantiomer, diastereomer, hydrate or solvate thereof according to claim 1, wherein R^2 and R^4 are each independently C_1-C_6 alkoxy.

18. The compound or a pharmaceutically acceptable salt, tautomer, racemate, enantiomer, diastereomer, hydrate or solvate thereof according to claim 1, wherein R^7 is each independently selected from the group consisting of H, halogen, C_1-C_6 alkyl, C_1-C_6 haloalkyl and -NR^aR^b, wherein R^a and R^b together with the N atom connected thereto form 6 membered heterocyclyl, which is optionally substituted by C_1-C_6 alkyl or C_1-C_6 haloalkyl.

19. The compound or a pharmaceutically acceptable salt, tautomer, racemate, enantiomer, diastereomer, hydrate or solvate thereof according to claim 1, wherein R^7 is each independently selected from the group consisting of H, halogen, methyl, -$N(CH_3)CH_2CH_2N(CH_3)_2$, -$N(CH_3)_2$, 4-methyl-piperazinyl and morpholinyl.

20. The compound or a pharmaceutically acceptable salt, tautomer, racemate, enantiomer, diastereomer, hydrate or solvate thereof according to claim 1, wherein R^8 is vinyl or propynyl.

21. The compound or a pharmaceutically acceptable salt, tautomer, racemate, enantiomer, diastereomer, hydrate or solvate thereof according to claim 1, wherein X is -CH_2-; and Y is selected from the group consisting of -O-, -NH- and -CH_2-.

22. The compound or a pharmaceutically acceptable salt, tautomer, racemate, enantiomer, diastereomer, hydrate or solvate thereof according to claim 1, wherein W is selected from the group consisting of a chemical bond and -CH_2-.

23. The compound or a pharmaceutically acceptable salt, tautomer, racemate, enantiomer, diastereomer, hydrate or solvate thereof according to claim 1, wherein m is 0 or 1.