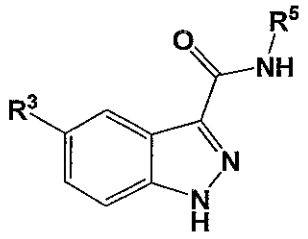
In one aspect, the present invention refers to a compound or pharmaceutically acceptable salt thereof having the structure of formula **Ia**:

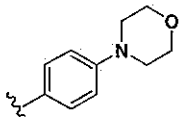
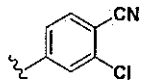
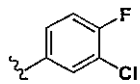
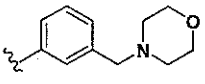


Ia

wherein:

R^3 is selected from the group consisting of arylR^6 and 3-pyridylR^6;

R^5 is selected from the group consisting of -arylR^7, -3-pyridylR^7, -pyrimidinylR^7, -pyridazinylR^7, and -pyrazinylR^7;

with the proviso that R^3 is not 3-pyridylR^6 when R^5 is selected from the group consisting of phenylR^7,  ,  ,  , and  , and R^6 and R^7 are both H;

each R^6 is 1-2 substituents each selected from the group consisting of H, C_{1-3} alkyl, halide, amino, $-OCF_3$, $-CF_3$, -CN, $-OR^{10}$, -(C_{1-2} alkyl)heterocyclylR^8, -heterocyclylR^8, -(C_{1-2} alkyl)arylR^8, $-C(=O)R^{11}$, $-N(R^{10})C(=O)R^{11}$ and -(C_{1-2} alkyl)$N(R^{10})_2$;

each R^7 is 1-2 substituents each selected from the group consisting of H, C_{1-3} alkyl, halide, amino, $-OCF_3$, $-CF_3$, -CN, $-OR^{10}$, -(C_{1-2} alkyl)heterocyclylR^9, -heterocyclylR^9, -arylR^9, -(C_{1-2} alkyl)arylR^9, $-C(=O)R^{11}$, $-N(R^{10})C(=O)R^{11}$, $-N(R^{10})_2$, -(C_{1-2} alkyl)$N(R^{10})_2$, $-N(R^{10})SO_2R^{11}$ and $-SO_2R^{11}$;

each R^8 is 1-2 substituents each selected from the group consisting of H, C_{1-3} alkyl, halide, amino, OCF_3, $-CF_3$ –CN and $-OR^{12}$;

each R^9 is 1-2 substituents each selected from the group consisting of H, C_{1-3} alkyl, halide, amino, $-OCF_3$, $-CF_3$ –CN and $-OR^{12}$;

each R^{10} is independently selected from the group consisting of H, C_{1-3} alkyl, -(C_{1-3} alkyl)$N(R^{14})_2$ and -arylR^8;

each R^{11} is independently selected from the group consisting of C_{1-3} alkyl, $-N(R^{14})_2$, -carbocyclylR^8 and -heterocyclylR^8;

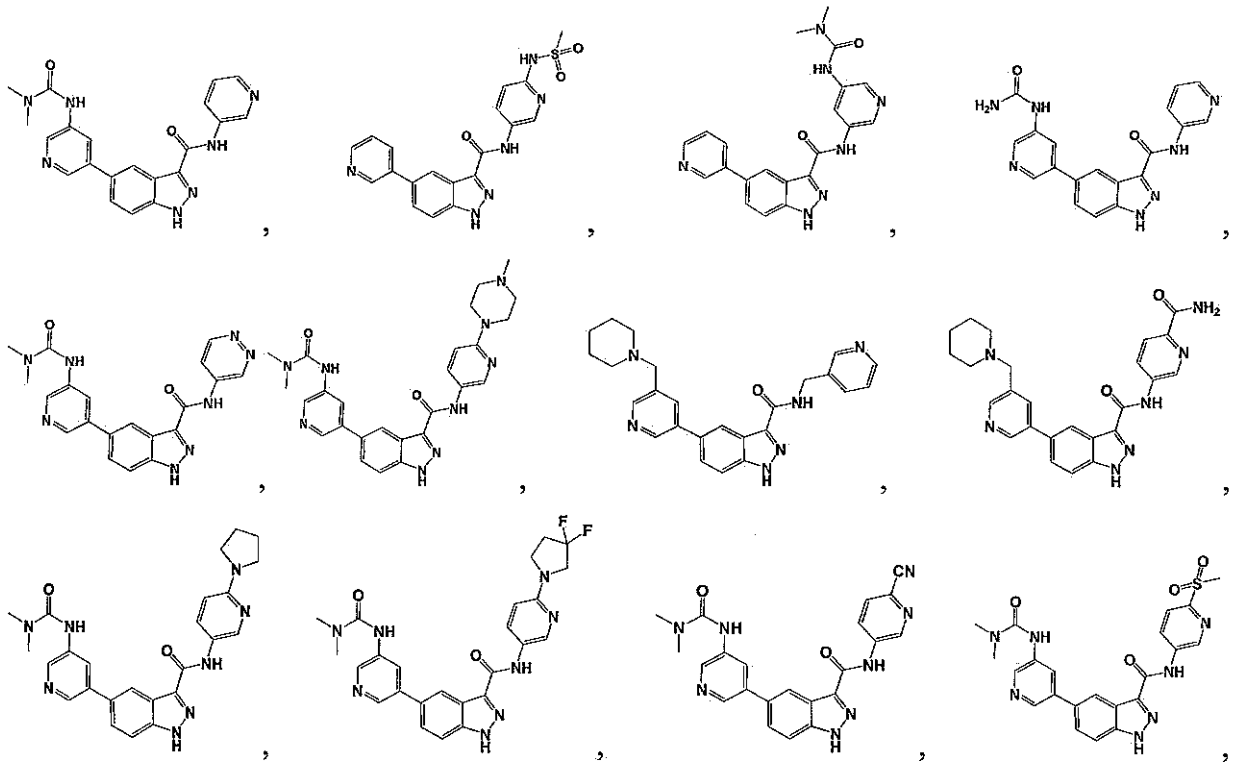
each R^{12} is independently selected from the group consisting of H and C_{1-3} alkyl;

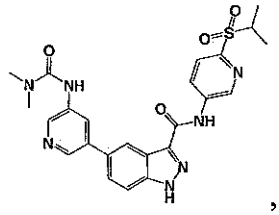
each R^{14} is independently selected from the group consisting of H, C_{1-3} alkyl and carbocyclyl;

wherein "" means a cyclic ring system containing only carbon atoms in the ring system backbone selected from the group consisting of cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl, and cyclohexenyl;

wherein "aryl" means an aromatic radical having a single-ring or multiple condensed rings with only carbon atoms present in the ring backbone; wherein aryl groups are unsubstituted or substituted with one or more substituents selected from the group of alkyl, amino, cyano, hydroxyl, lower alkyl, haloalkyl, alkoxy, nitro, halo, mercapto, and other substituents;

wherein "heterocyclyl" means a cyclic ring system comprising at least one heteroatom in the ring system backbone; wherein heterocyclyls are substituted or unsubstituted with one or more substituents selected from the group consisting of alkyl, halide, alkoxy, acyloxy, amino, amido, cyano, nitro, hydroxyl, mercapto, carboxy, carbonyl, benzyloxy, aryl, heteroaryl and other substituents. In another aspect, the present invention refers to a compound having the structure of:

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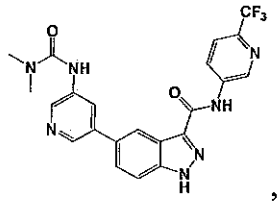
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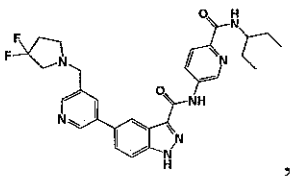
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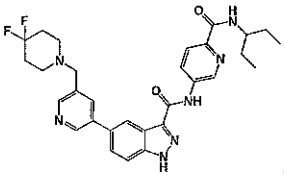
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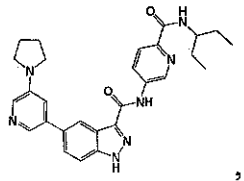
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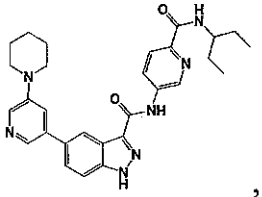
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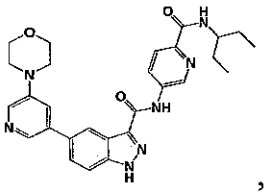
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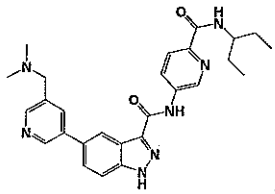
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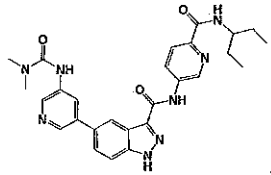
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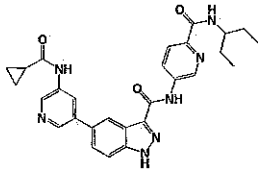
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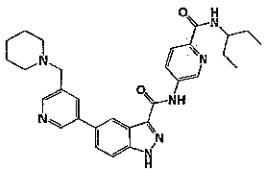
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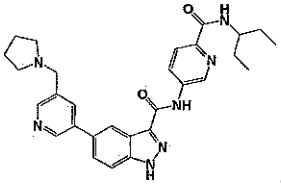
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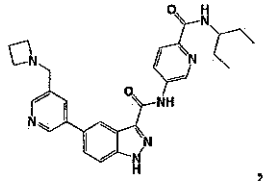
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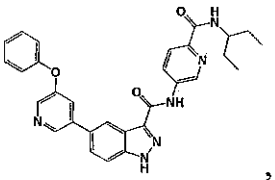
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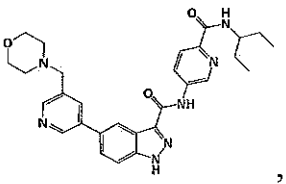
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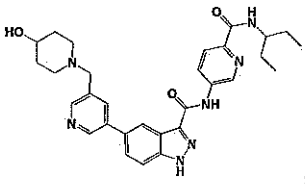
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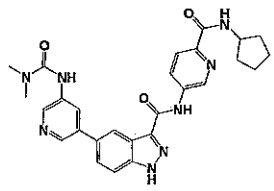
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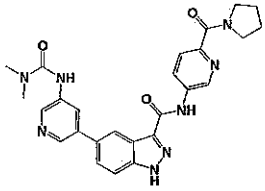
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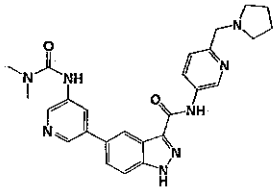
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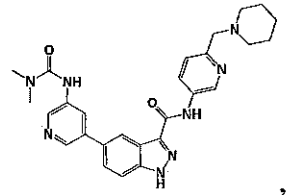
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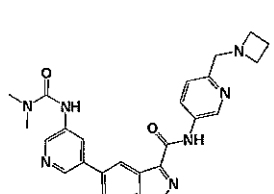
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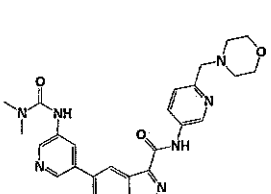
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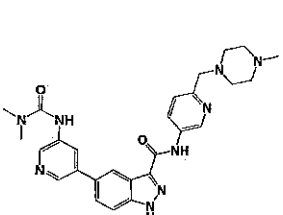
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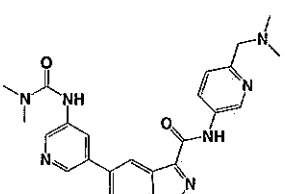
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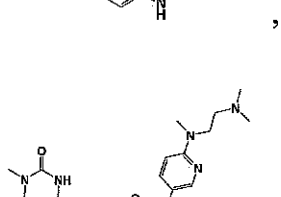
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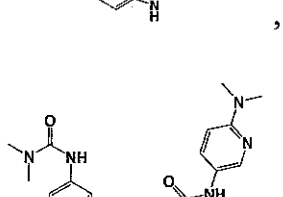
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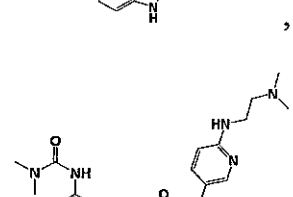
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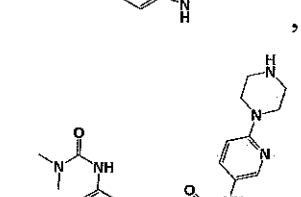
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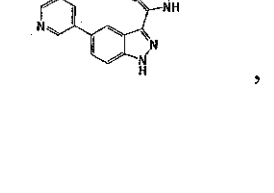
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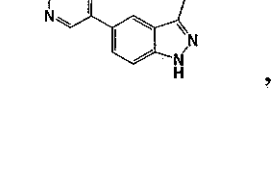
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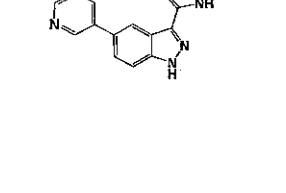
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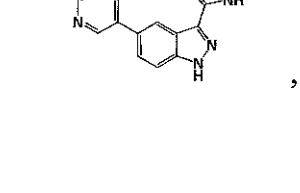
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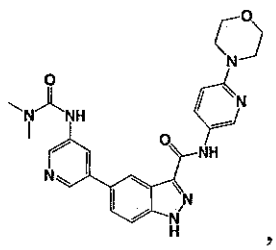
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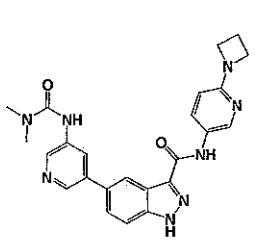
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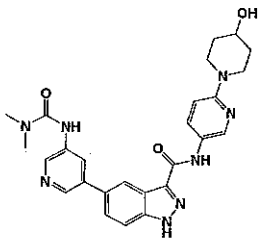
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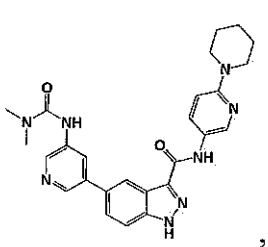
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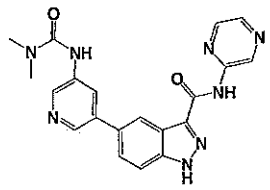
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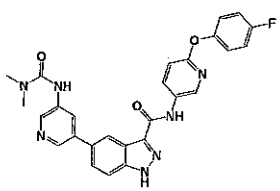
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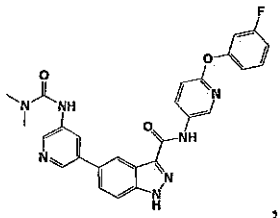
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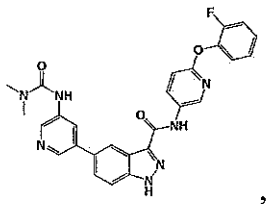
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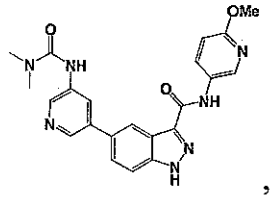
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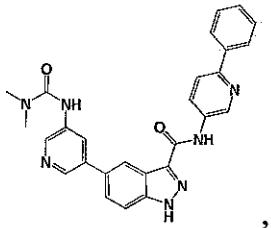
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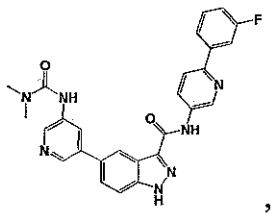
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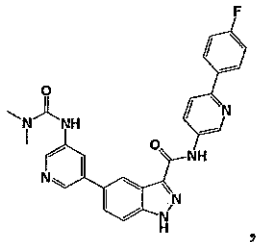
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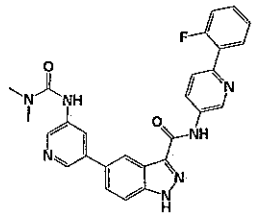
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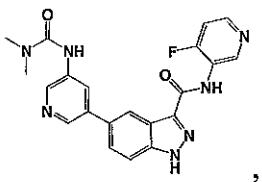
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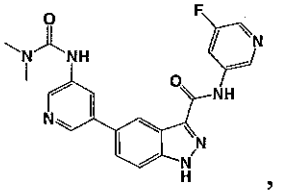
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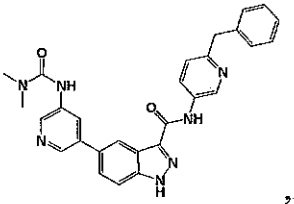
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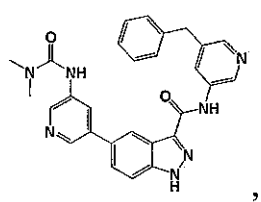
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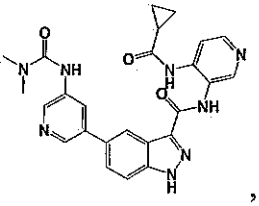
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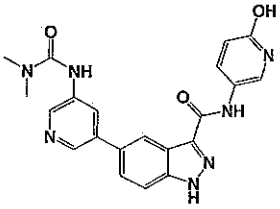
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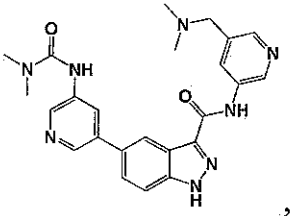
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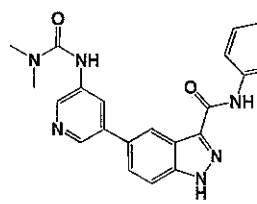
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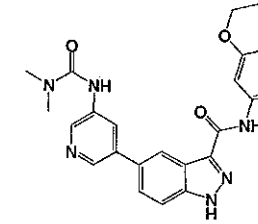
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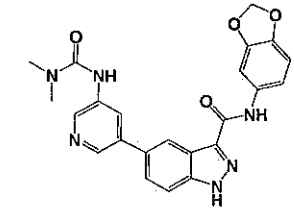
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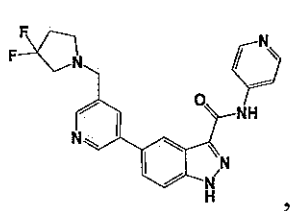
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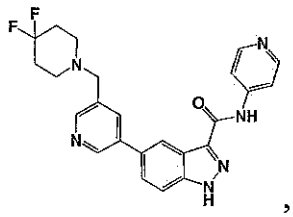
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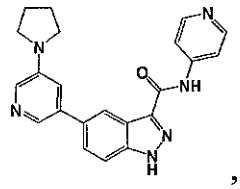
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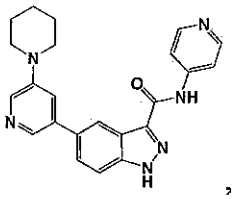
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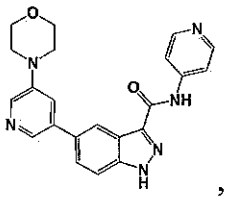
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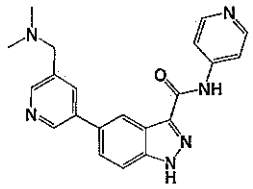
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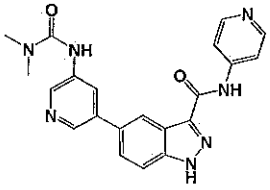
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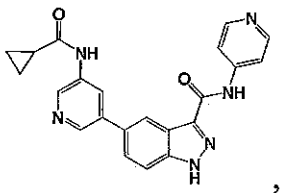
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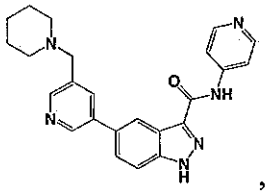
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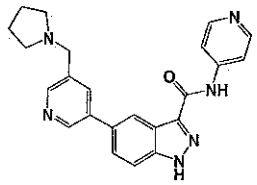
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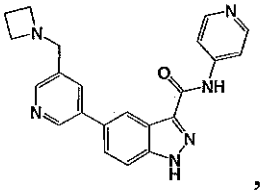
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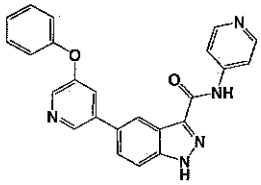
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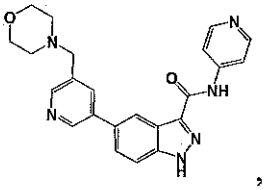
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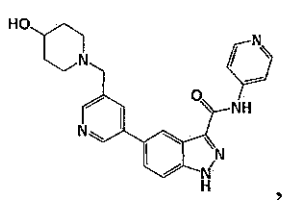
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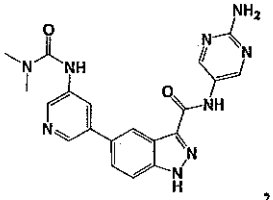
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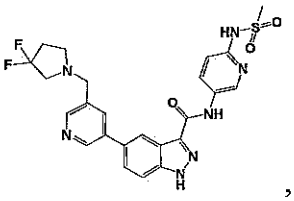
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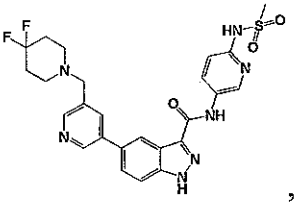
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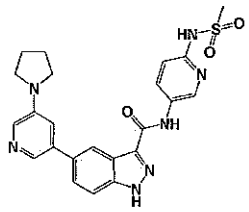
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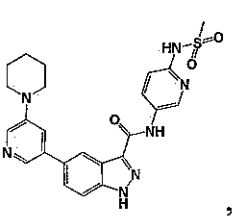
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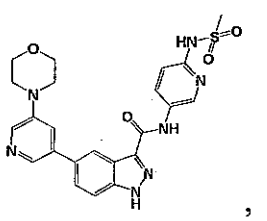
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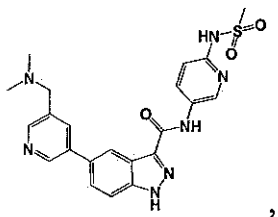
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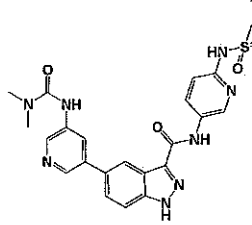
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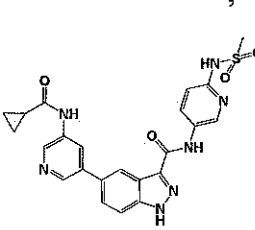
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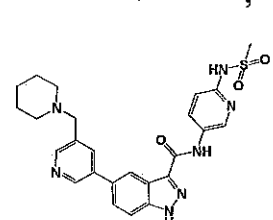
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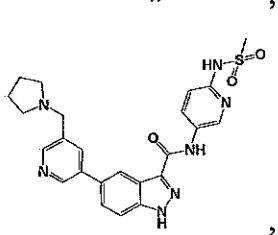
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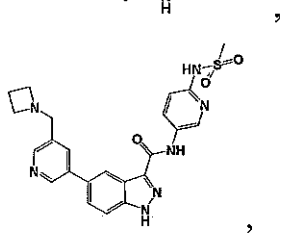
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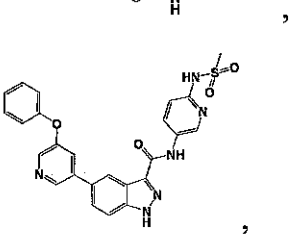
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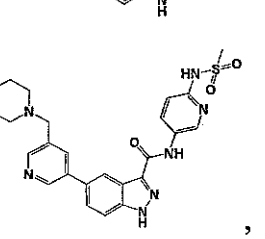
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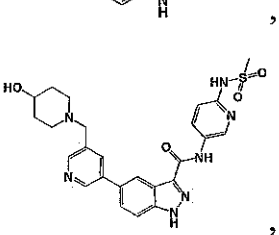
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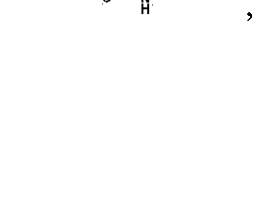
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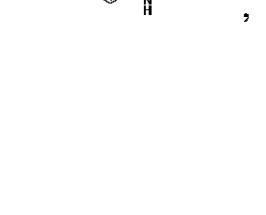
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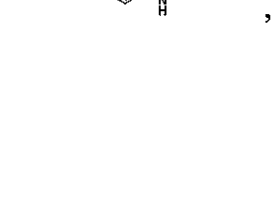
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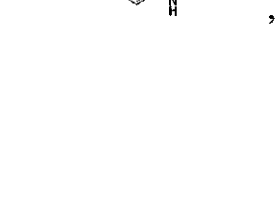
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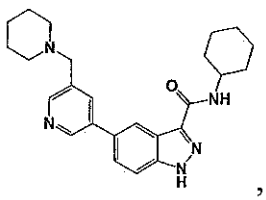
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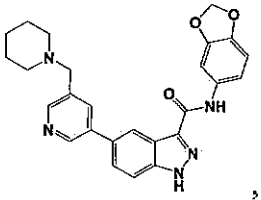
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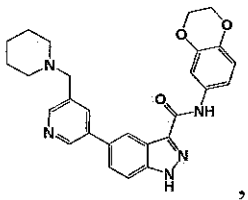
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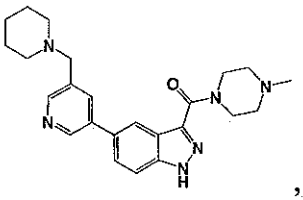
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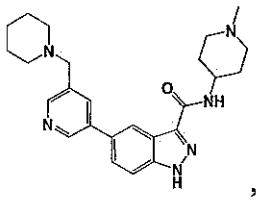
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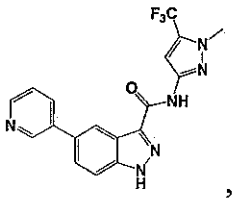
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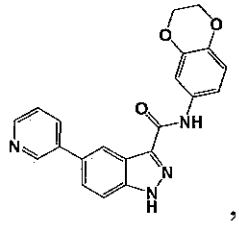
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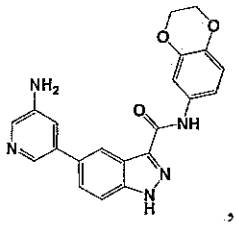
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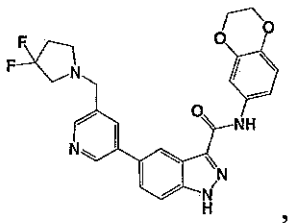
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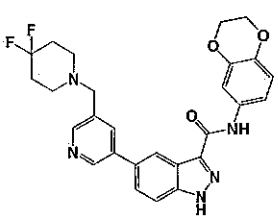
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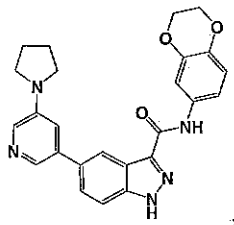
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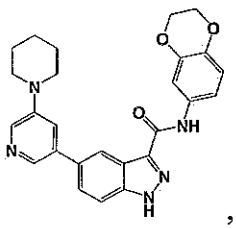
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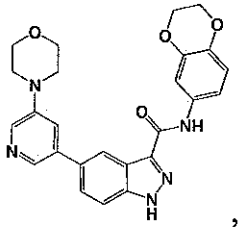
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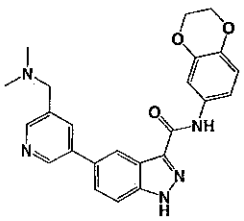
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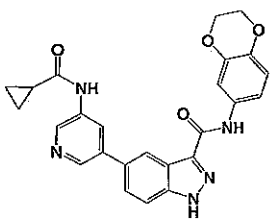
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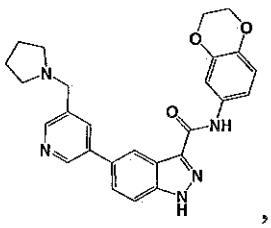
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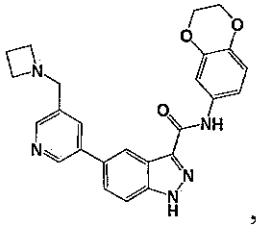
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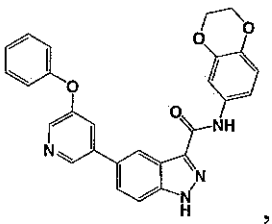
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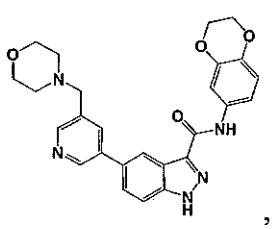
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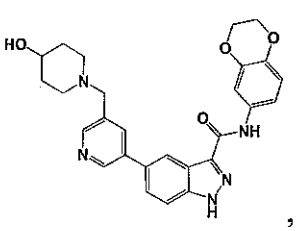
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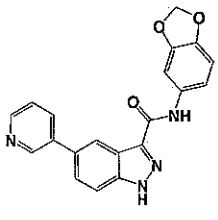
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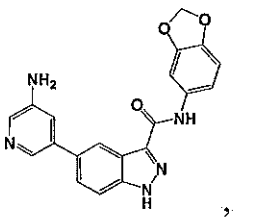
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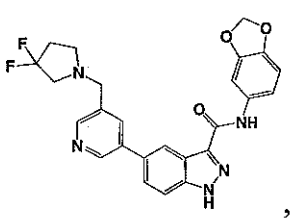
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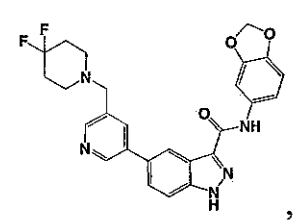
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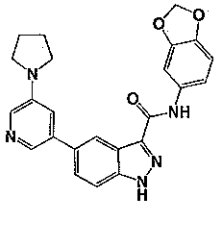
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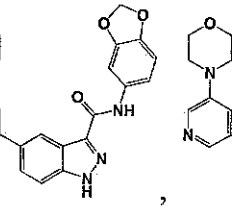
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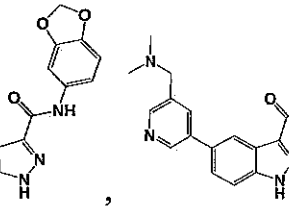
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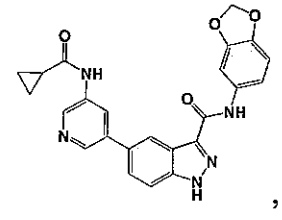
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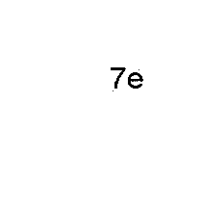
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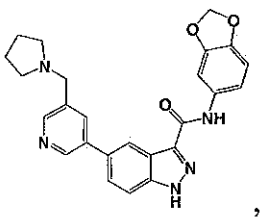
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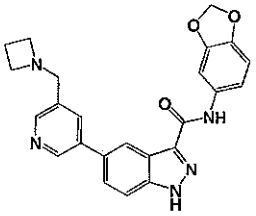
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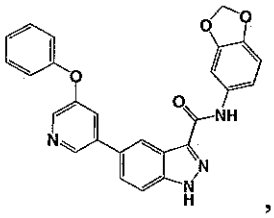
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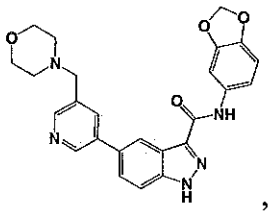
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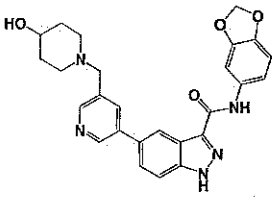

, or a pharmaceutically acceptable salt thereof.

In still another aspect, the present invention refers to a a pharmaceutical composition comprising a therapeutically effective amount of at least one compound according to the present invention, or a pharmaceutically acceptable salt thereof, and a pharmaceutically acceptable excipient. In one other aspect, the present invention refers to the use of at least one compound according to any one of claims 1-36, or a pharmaceutically acceptable salt thereof for the manufacture of a medicament for treating a disorder or disease in a patient, wherein the disorder or disease is selected from the group consisting of cancer, diabetic retinopathy, rheumatoid arthritis, a mycotic or viral infection, a bone or cartilage disease, a neurological condition, lung disease, and a fibrotic disorder.

[0013] Some embodiments include stereoisomers and pharmaceutically acceptable salts of a compound of general formula (**I**).

[0014] Some embodiments include pro-drugs of a compound of general formula (**I**).

[0015] Some embodiments of the present disclosureinclude pharmaceutical compositions comprising a compound of general formula (**I**) or in a pharmaceutically acceptable carrier, diluent, or excipient.

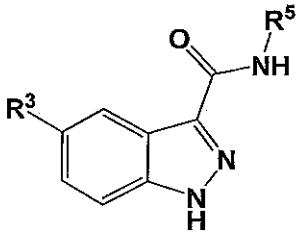
In one aspect, there is provided a pharmaceutical composition comprising a therapeutically effective amount of at least one compound as defined herein, or a pharmaceutically acceptable salt thereof, and a pharmaceutically acceptable excipient.

[0016] Other embodiments disclosed herein include methods of inhibiting one or more members of the Wnt pathway, including one or more Wnt proteins by administering to a subject affected by a disorder or disease in which aberrant Wnt signaling is implicated, such as cancer and other diseases associated with abnormal angiogenesis, cellular proliferation, cell cycling and mutations in Wnt signaling components, a compound according to formula (I). Accordingly, the

compounds and compositions provided herein can be used to treat cancer, to reduce or inhibit angiogenesis, to reduce or inhibit cellular proliferation and correct a genetic disorder due to mutations in Wnt signaling components. Non-limiting examples of diseases which can be treated with the compounds and compositions provided herein include a variety of cancers, diabetic retinopathy, pulmonary fibrosis, rheumatoid arthritis, scleroderma, mycotic and viral infections, osteochondrodysplasia, Alzheimer's disease, lung disease, osteoarthritis, polyposis coli, osteoporosis-pseudoglioma syndrome, familial exudative vitreoretinopathy, retinal angiogenesis, early coronary disease, tetra-ameliasyndrome, Müllerian-duct regression and virilization, SERKAL syndrome, diabetes mellitus type 2, Fuhrmann syndrome, Al-Awadi/Raas-Rothschild/Schinzel phocomelia syndrome, odonto-onycho-dermal dysplasia, obesity, split-hand/foot malformation, caudal duplication syndrome, tooth agenesis, Wilms tumor, skeletal dysplasia, focal dermal hypoplasia, autosomal recessive anonychia, neural tube defects, alpha-thalassemia (ATRX) syndrome, fragile X syndrome, ICF syndrome, Angelman syndrome, Prader-Willi syndrome, Beckwith-Wiedemann Syndrome, Norrie disease and Rett syndrome.

WHAT IS CLAIMED IS:

1. A compound or pharmaceutically acceptable salt thereof having the structure of formula **Ia**:

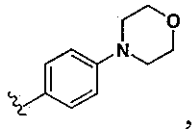
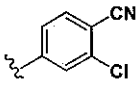
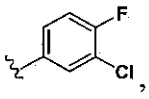
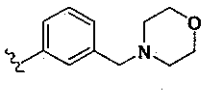


Ia

wherein:

R^3 is selected from the group consisting of arylR^6 and 3-pyridylR^6;

R^5 is selected from the group consisting of -arylR^7, -3-pyridylR^7, -pyrimidinylR^7, -pyridazinylR^7, and -pyrazinylR^7;

with the proviso that R^3 is not 3-pyridylR^6 when R^5 is selected from the group consisting of phenylR^7,  ,  ,  , and  , and R^6 and R^7 are both H;

each R^6 is 1-2 substituents each selected from the group consisting of H, C_{1-3} alkyl, halide, amino, $-OCF_3$, $-CF_3$, -CN, $-OR^{10}$, -(C_{1-2} alkyl)heterocyclylR^8, -heterocyclylR^8, -(C_{1-2} alkyl)arylR^8, $-C(=O)R^{11}$, $-N(R^{10})C(=O)R^{11}$ and -(C_{1-2} alkyl)$N(R^{10})_2$;

each R^7 is 1-2 substituents each selected from the group consisting of H, C_{1-3} alkyl, halide, amino, $-OCF_3$, $-CF_3$, -CN, $-OR^{10}$, -(C_{1-2} alkyl)heterocyclylR^9, -heterocyclylR^9, -arylR^9, -(C_{1-2} alkyl)arylR^9, $-C(=O)R^{11}$, $-N(R^{10})C(=O)R^{11}$, $-N(R^{10})_2$, -(C_{1-2} alkyl)$N(R^{10})_2$, $-N(R^{10})SO_2R^{11}$ and $-SO_2R^{11}$;

each R^8 is 1-2 substituents each selected from the group consisting of H, C_{1-3} alkyl, halide, amino, OCF_3, $-CF_3$ –CN and $-OR^{12}$;

each R^9 is 1-2 substituents each selected from the group consisting of H, C_{1-3} alkyl, halide, amino, $-OCF_3$, $-CF_3$ –CN and $-OR^{12}$;

each R^{10} is independently selected from the group consisting of H, C_{1-3} alkyl, -(C_{1-3} alkyl)$N(R^{14})_2$ and -arylR^8;

each R^{11} is independently selected from the group consisting of C_{1-3} alkyl, $-N(R^{14})_2$, -carbocyclylR^8 and -heterocyclylR^8;

each R^{12} is independently selected from the group consisting of H and C_{1-3} alkyl;

each R^{14} is independently selected from the group consisting of H, C_{1-3} alkyl and carbocyclyl;

wherein "" means a cyclic ring system containing only carbon atoms in the ring system backbone selected from the group consisting of cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl, and cyclohexenyl;

wherein "aryl" means an aromatic radical having a single-ring or multiple condensed rings with only carbon atoms present in the ring backbone; wherein aryl groups are unsubstituted or substituted with one or more substituents selected from the group of alkyl, amino, cyano, hydroxyl, lower alkyl, haloalkyl, alkoxy, nitro, halo, mercapto, and other substituents;

wherein "heterocyclyl" means a cyclic ring system comprising at least one heteroatom in the ring system backbone; wherein heterocyclyls are substituted or unsubstituted with one or more substituents selected from the group consisting of alkyl, halide, alkoxy, acyloxy, amino, amido, cyano, nitro, hydroxyl, mercapto, carboxy, carbonyl, benzyloxy, aryl, heteroaryl and other substituents.

2. The compound of claim 1 wherein the R^3 is 3-pyridylR^6.

3. The compound according to any one of claims 1-2, wherein R^6 is one substituent and is selected from the group consisting of H and $-N(R^{10})C(=O)R^{11}$.

4. The compound according to any one of claims 1-3, wherein R^5 is selected from the group consisting of -3-pyridylR^7, -pyrimidinylR^7, -pyridazinylR^7, and -pyrazinylR^7.

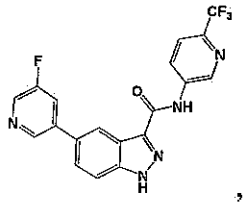
5. The compound according to any one of claims 1-4, wherein the R^5 is 3-pyridylR^7.

6. The compound according to any one of claims 1-4, wherein the R^5 is 5-pyrimidinylR^7.

7. The compound according to any one of claims 1-4, wherein the R^5 is 4-pyridazinylR^7.

8. The compound according to any one of claims 1-7, wherein R^7 is one substituent and is selected from the group consisting of H, halide, $-OCF_3$, $-CF_3$, -(C_{1-2} alkyl)heterocyclylR^9, -heterocyclylR^9, -(C_{1-9} alkyl)$_n$N(R^{10})$_2$, and $-N(R^{10})C(=O)R^{11}$.

9. The compound of claim 1 having a structure selected from the group consisting of: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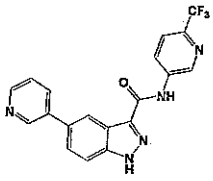
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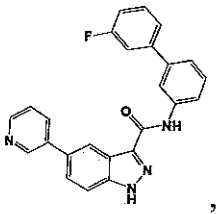
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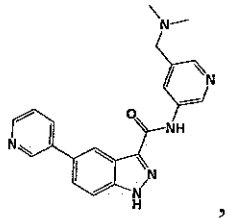
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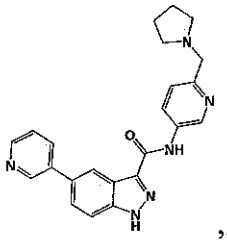
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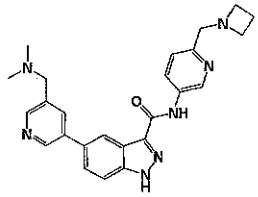
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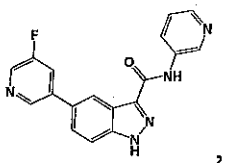
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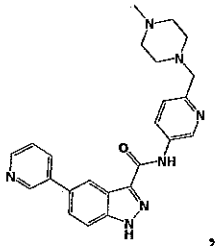
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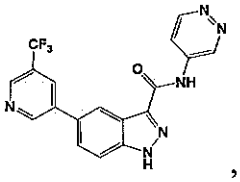
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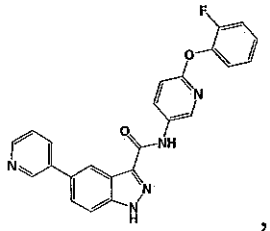
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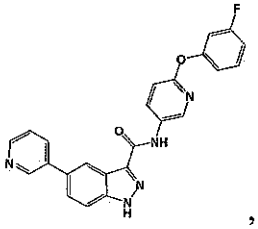
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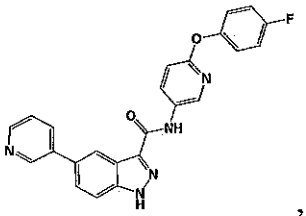
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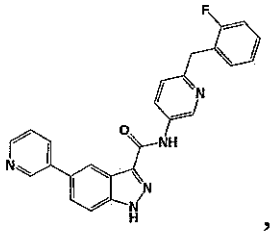
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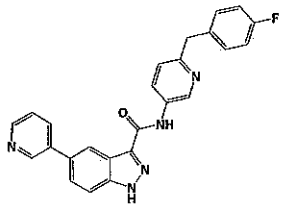
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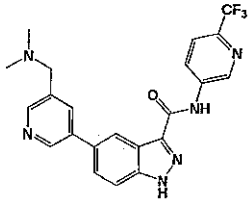
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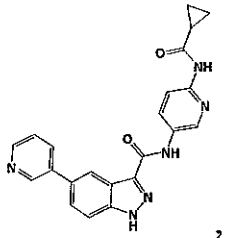
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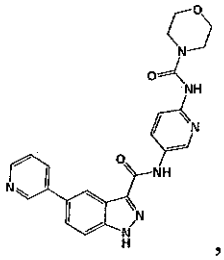
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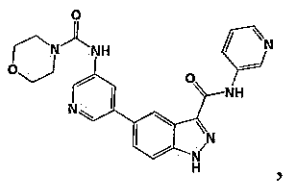
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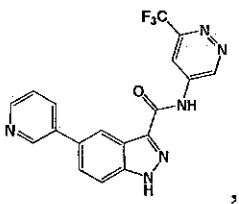
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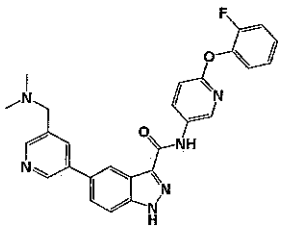
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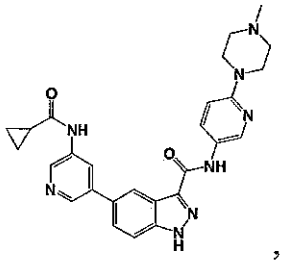
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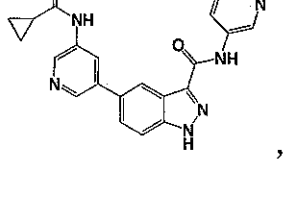
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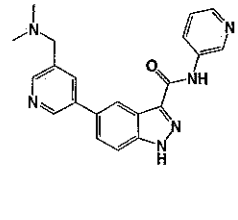
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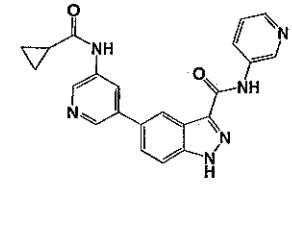
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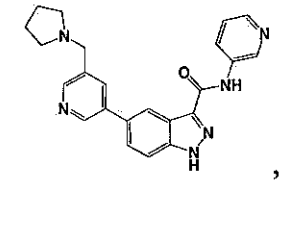
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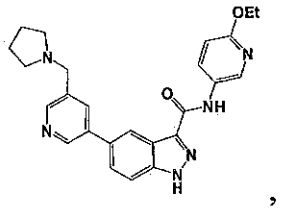
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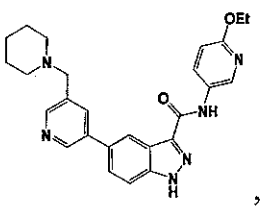
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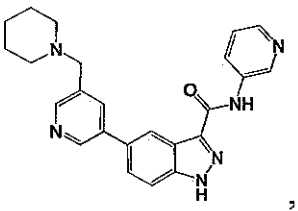
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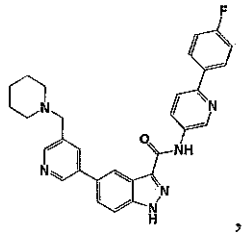
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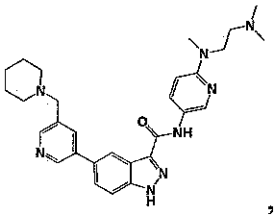
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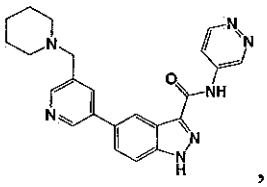
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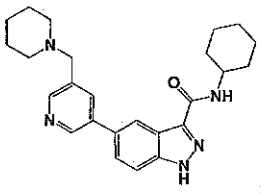
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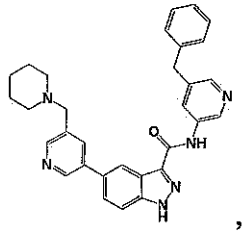
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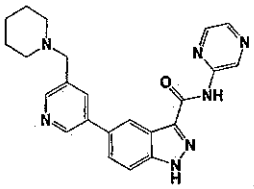
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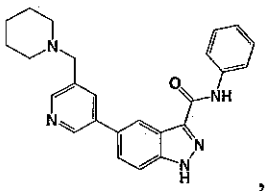
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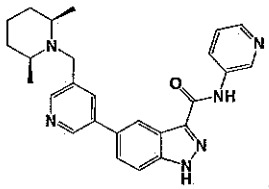
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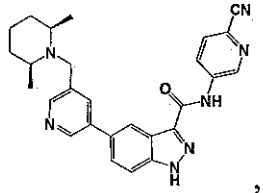
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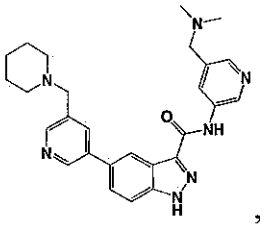
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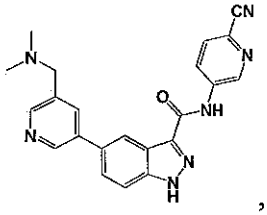
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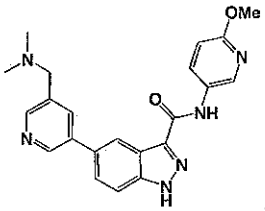
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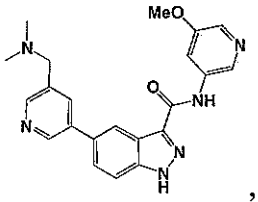
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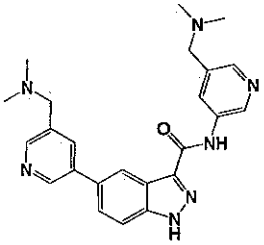
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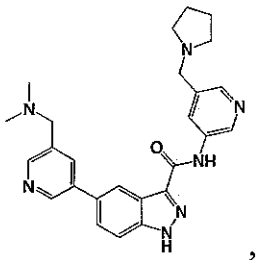
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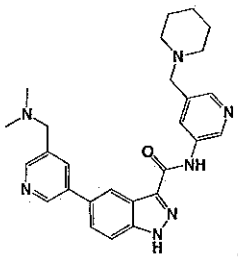
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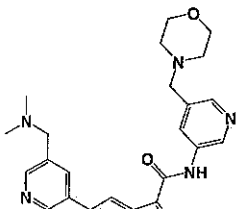
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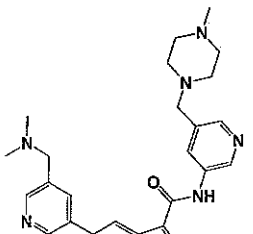
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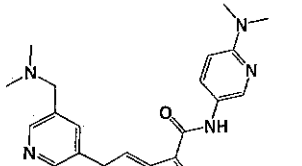
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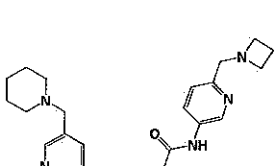
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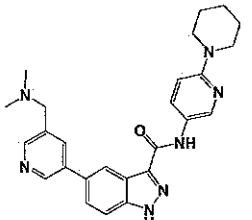
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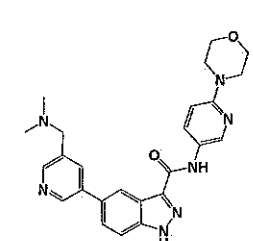
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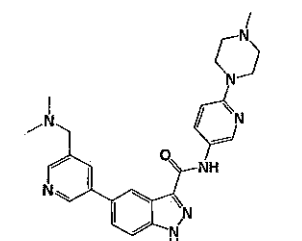
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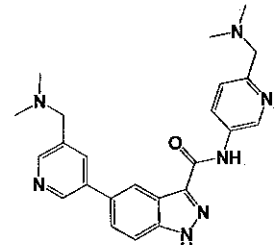
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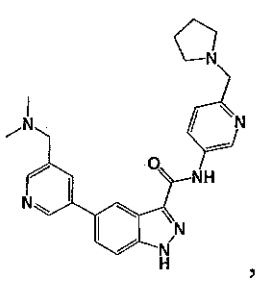
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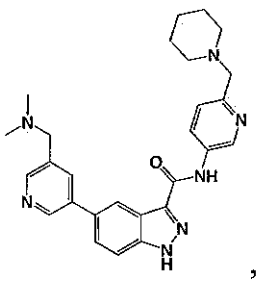
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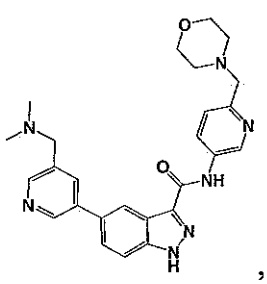
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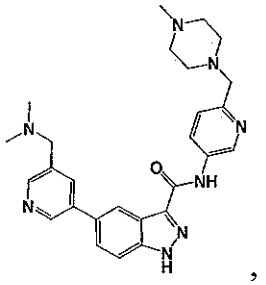
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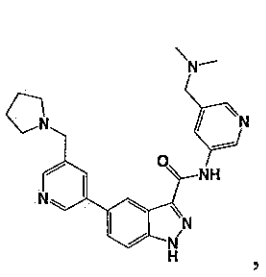
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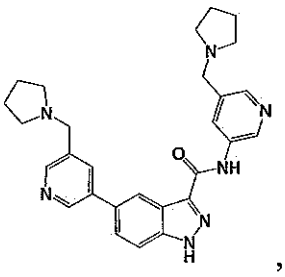
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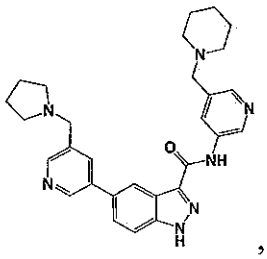
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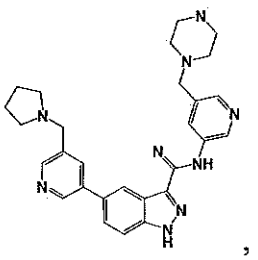
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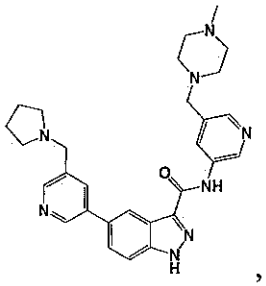
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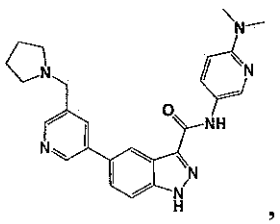
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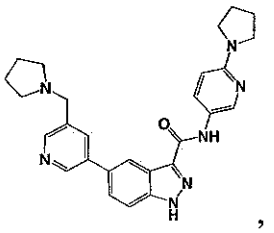
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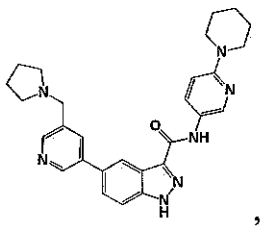
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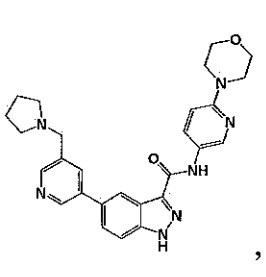
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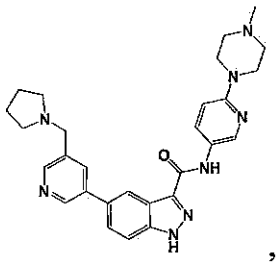
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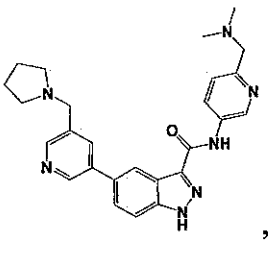
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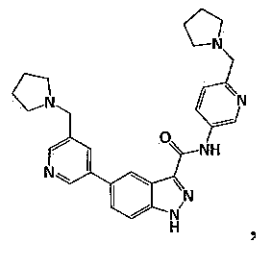
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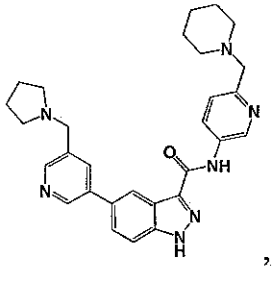
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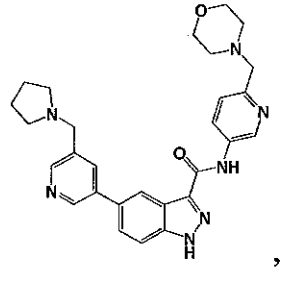
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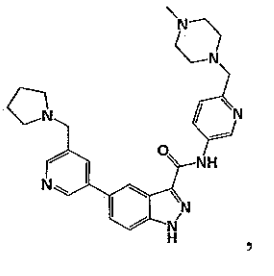
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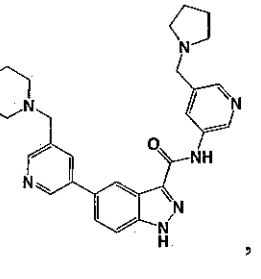
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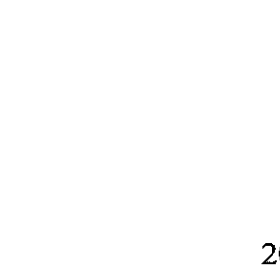
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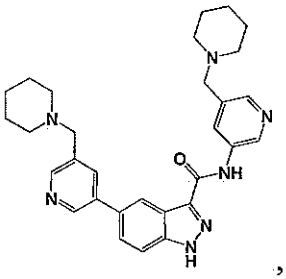
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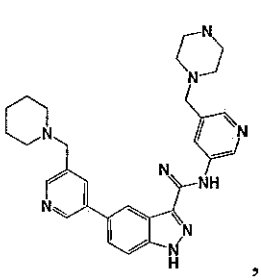
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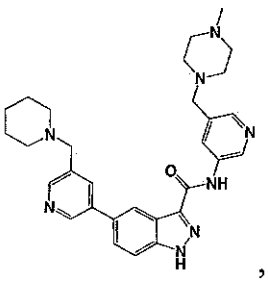
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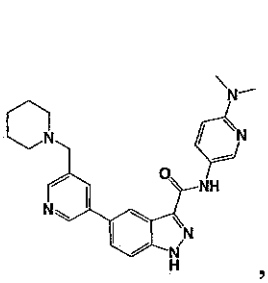
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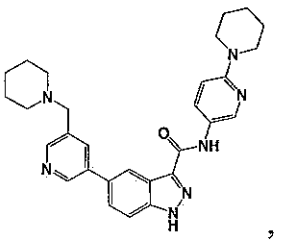
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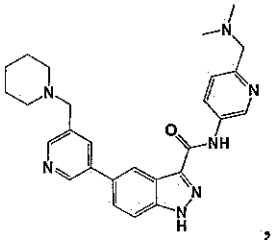
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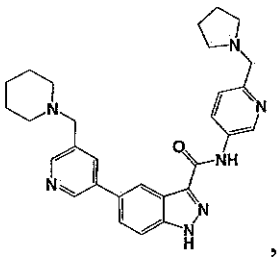
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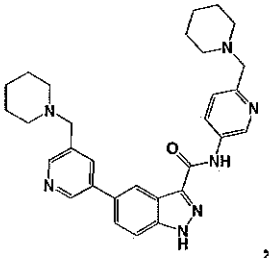
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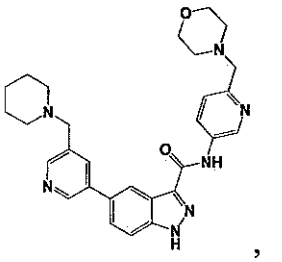
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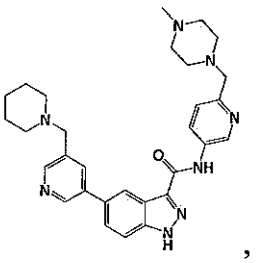
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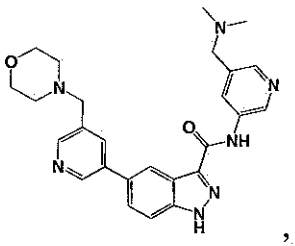
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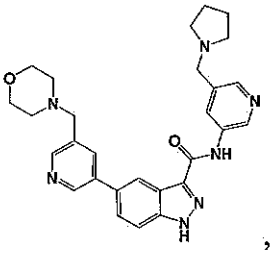
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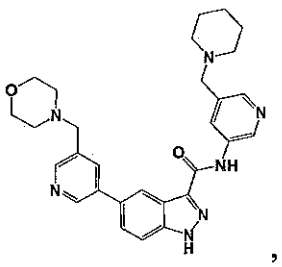
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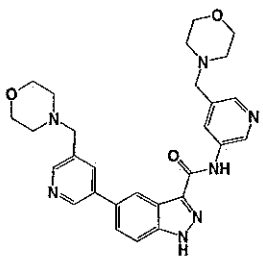
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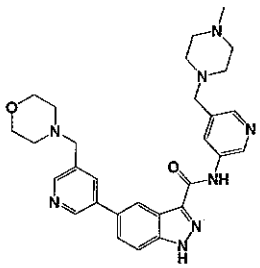
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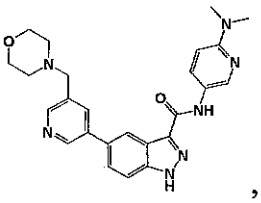
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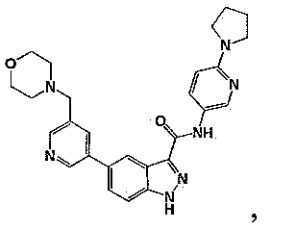
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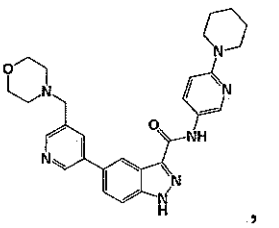
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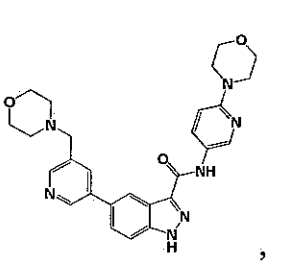
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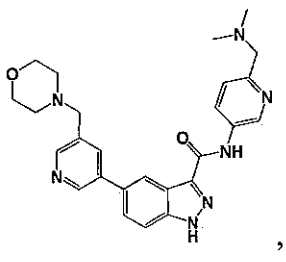
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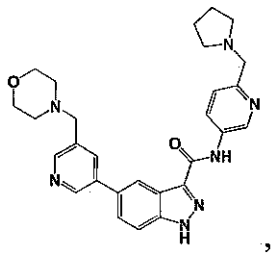
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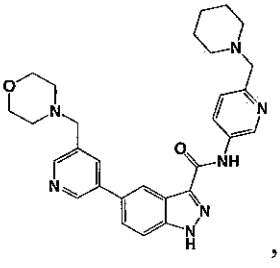
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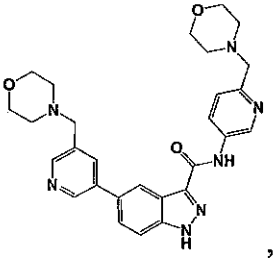
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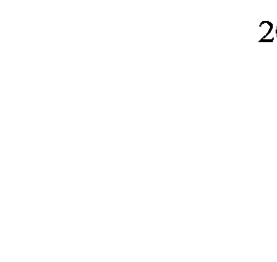
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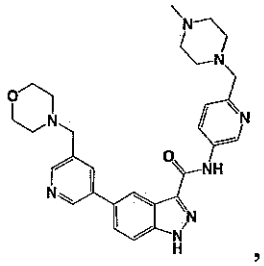
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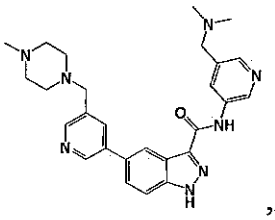
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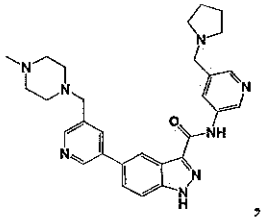
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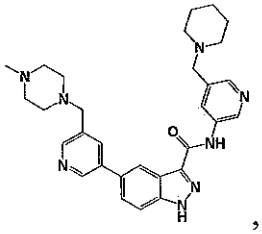
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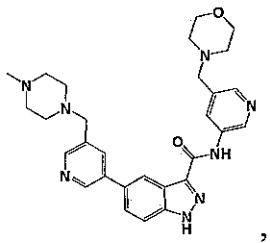
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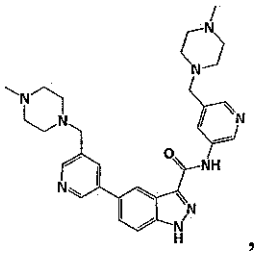
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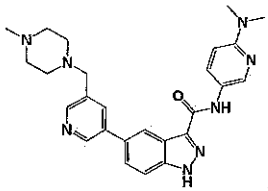
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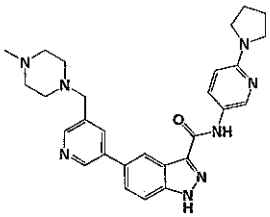
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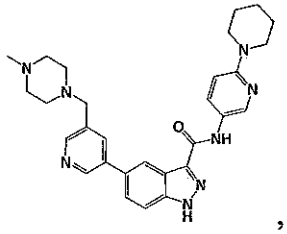
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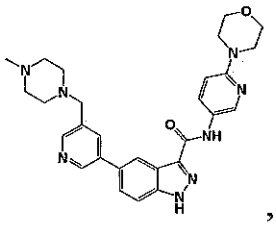
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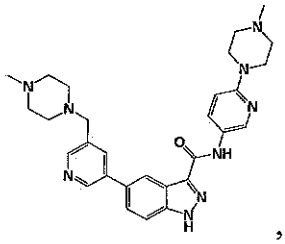
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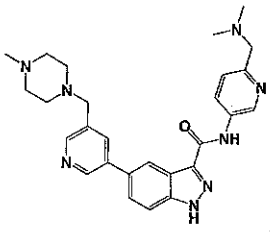
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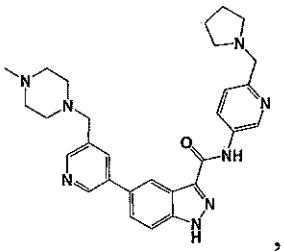
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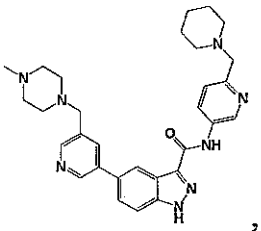
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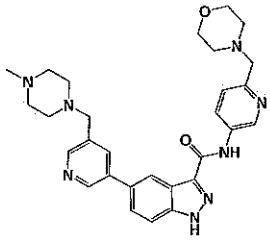
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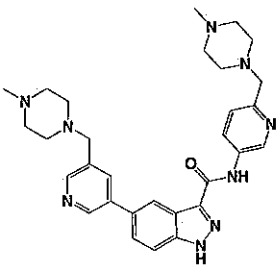
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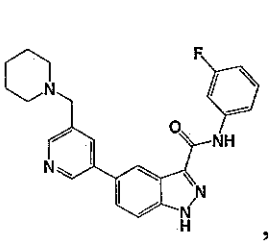
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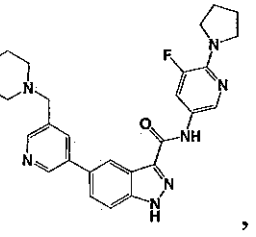
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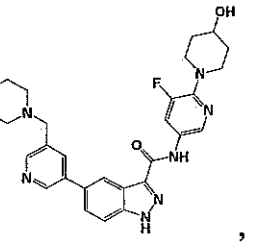
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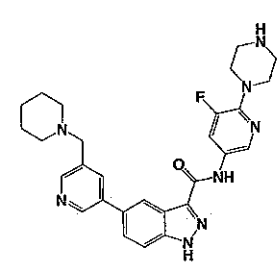
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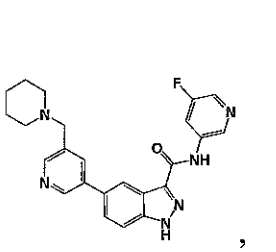
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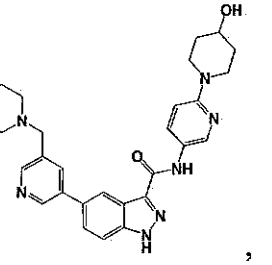
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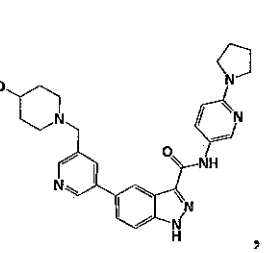
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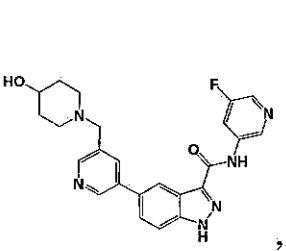
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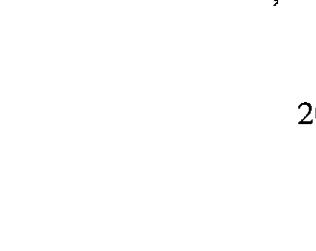
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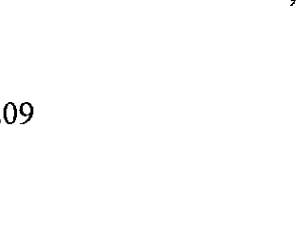
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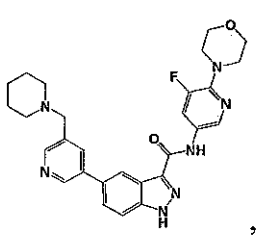
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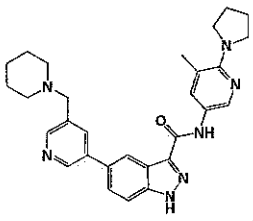
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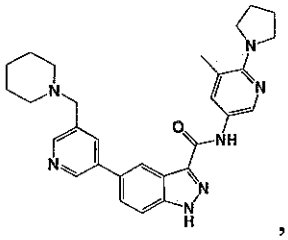
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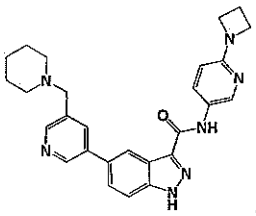
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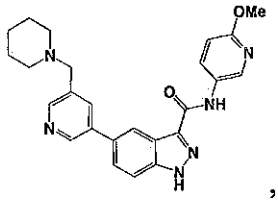
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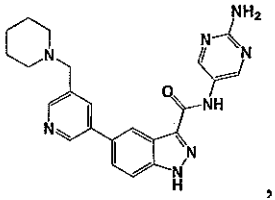
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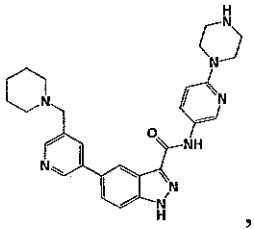
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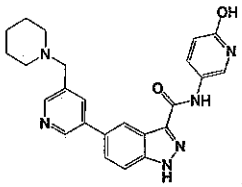
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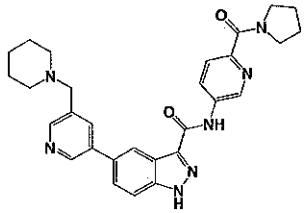
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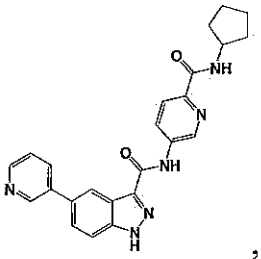
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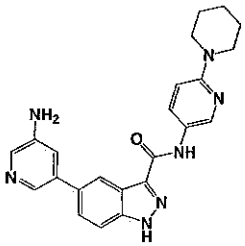
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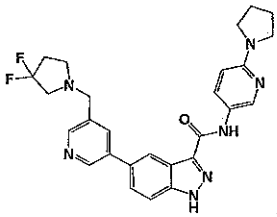
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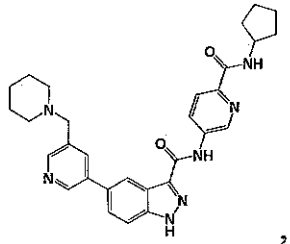
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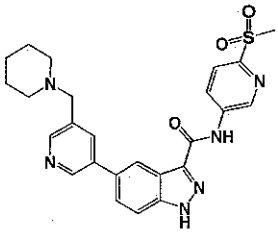
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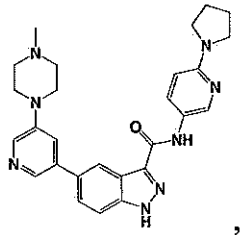
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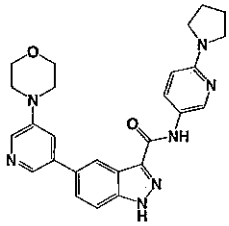
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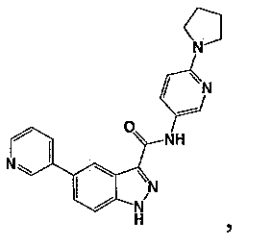
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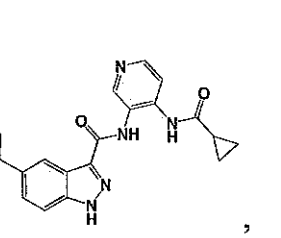
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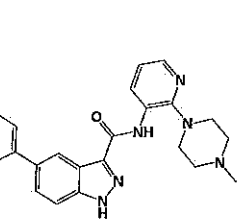
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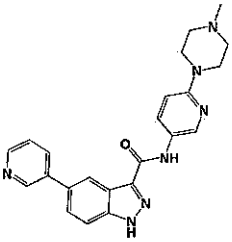
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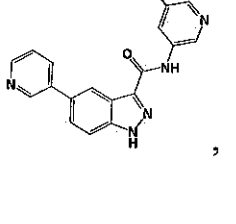
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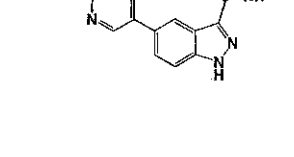
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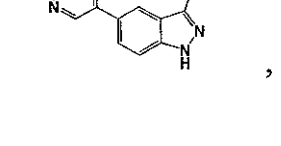
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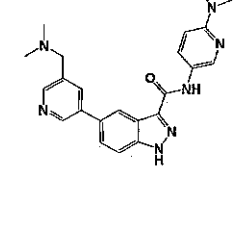
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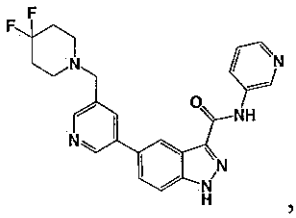
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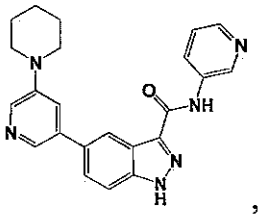
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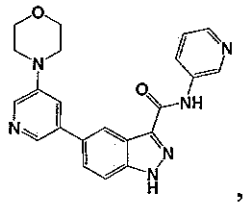
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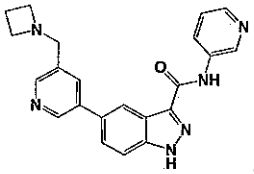
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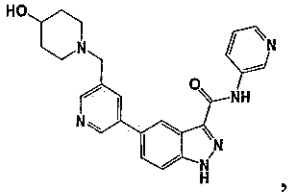
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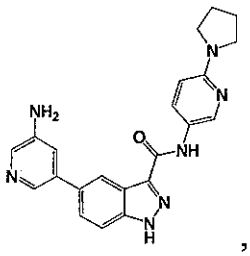
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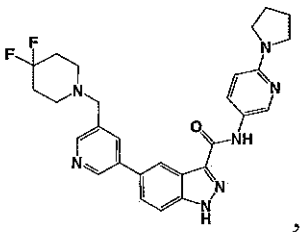
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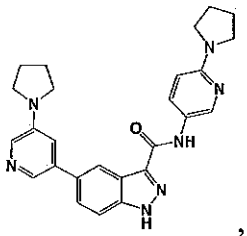
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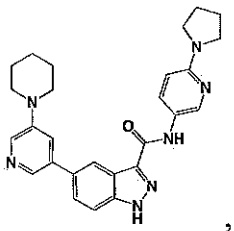
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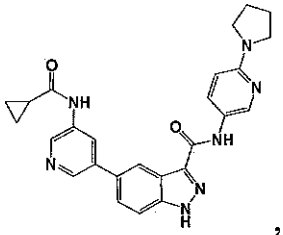
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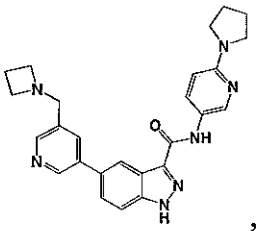
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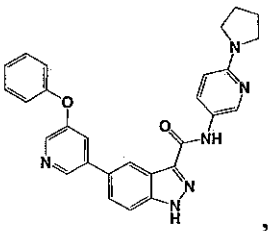
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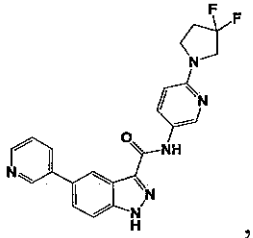
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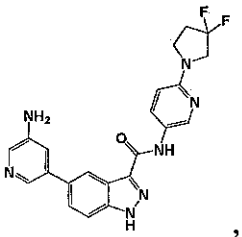
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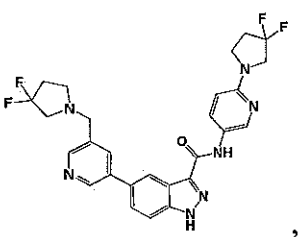
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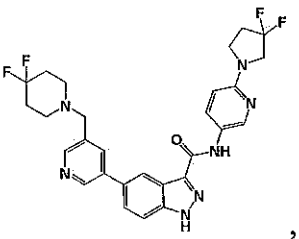
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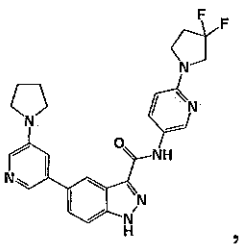
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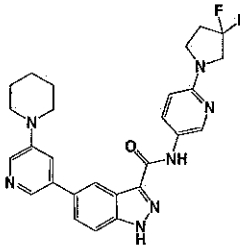
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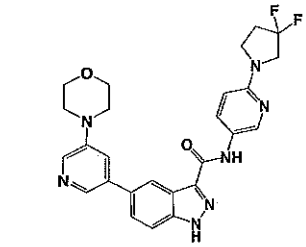
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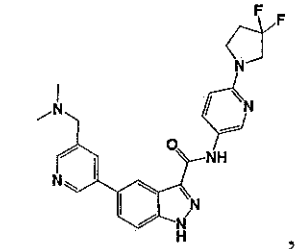
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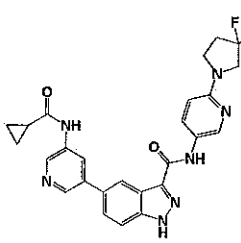
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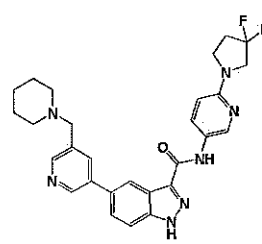
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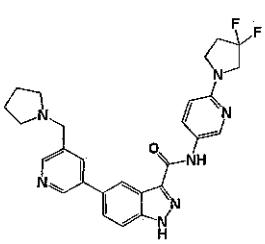
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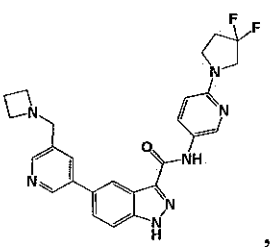
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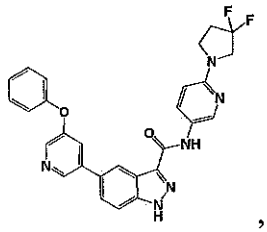
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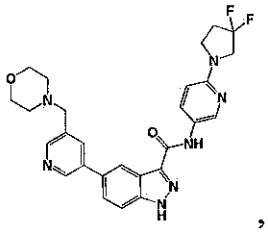
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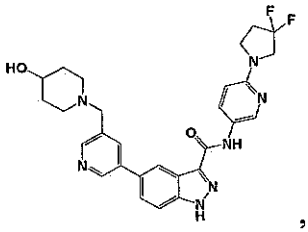
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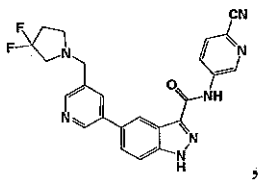
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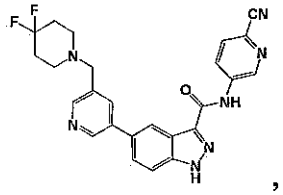
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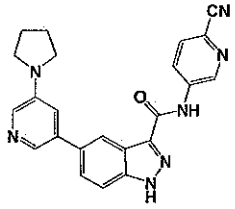
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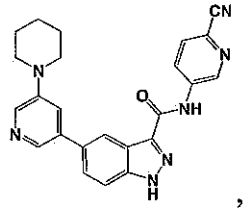
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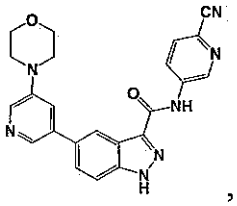
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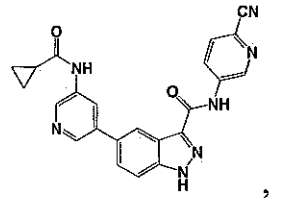
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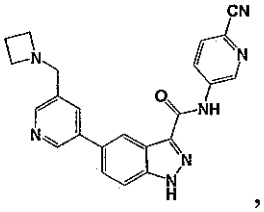
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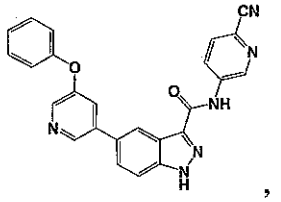
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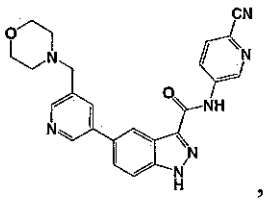
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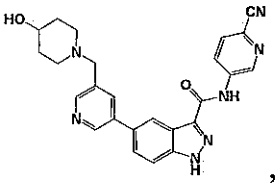
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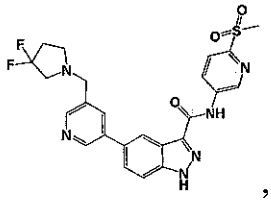
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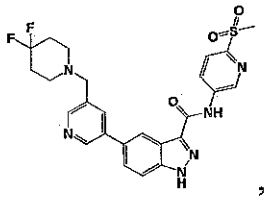
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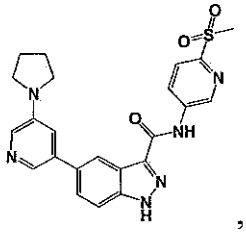
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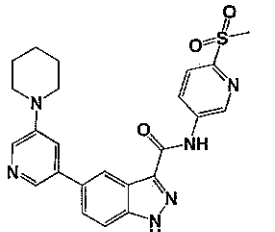
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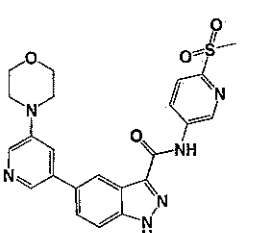
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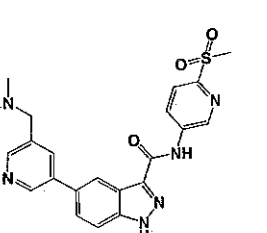
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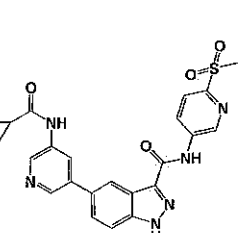
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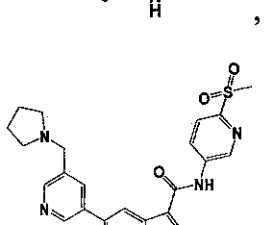
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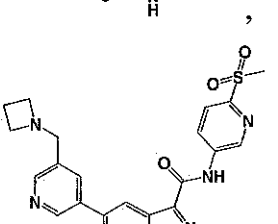
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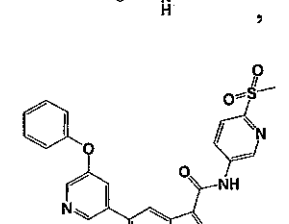
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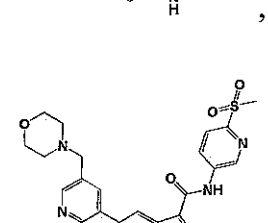
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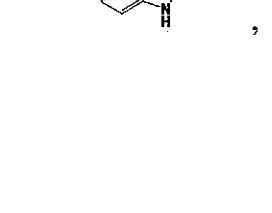
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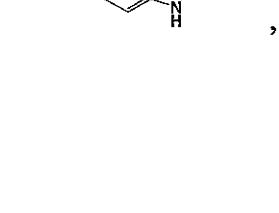
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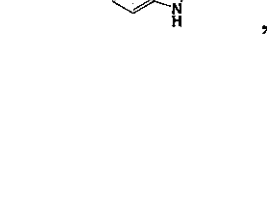
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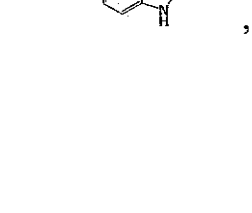
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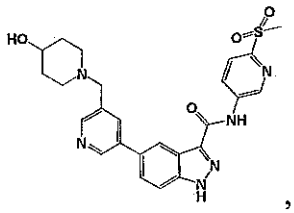
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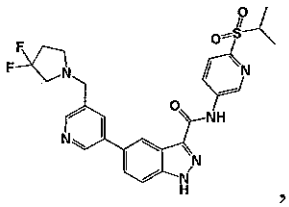
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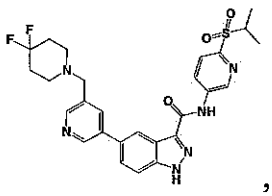
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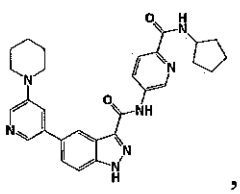
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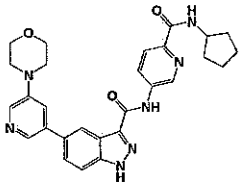
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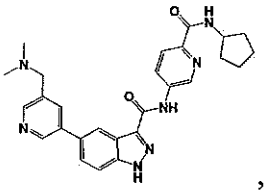
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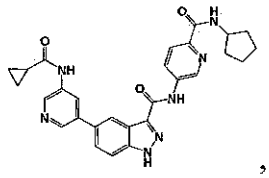
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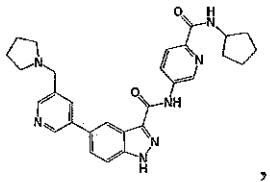
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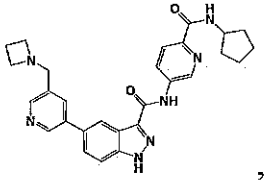
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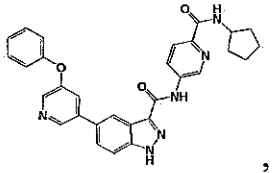
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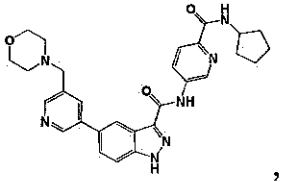
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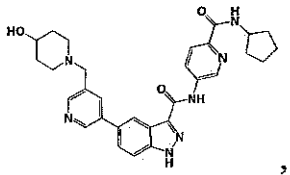
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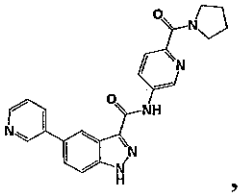
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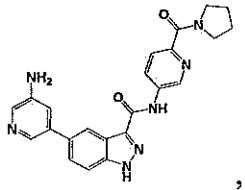
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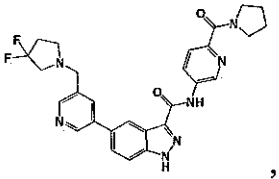
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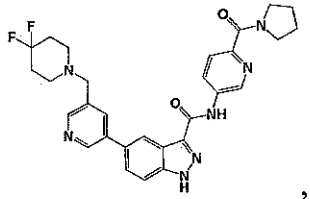
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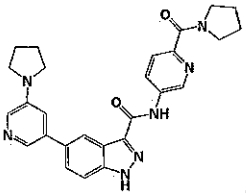
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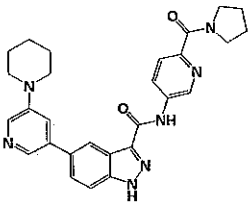
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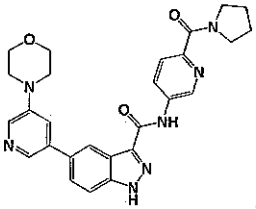
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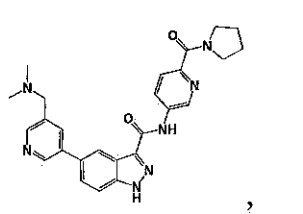
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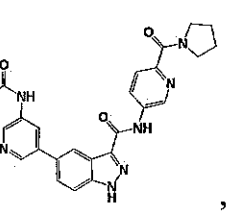
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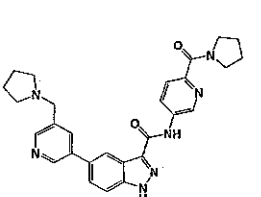
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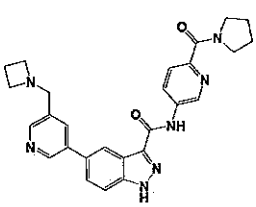
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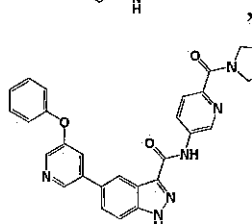
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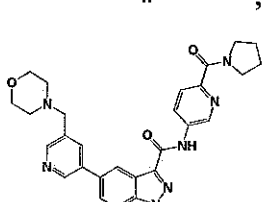
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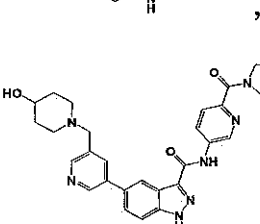
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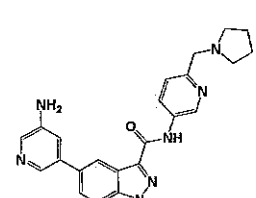
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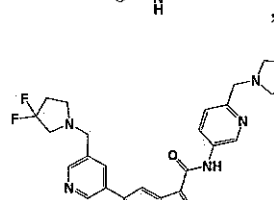
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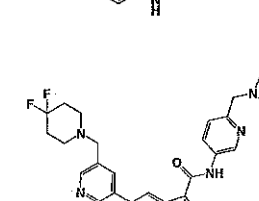
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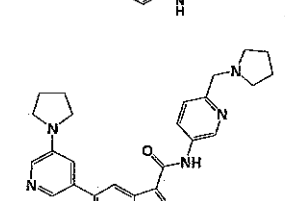
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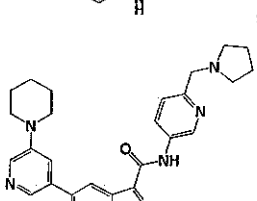
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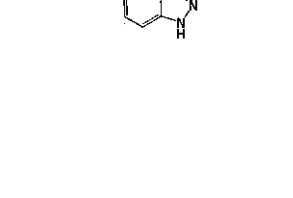
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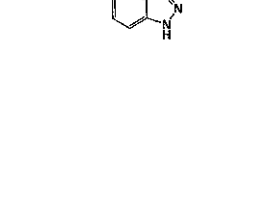
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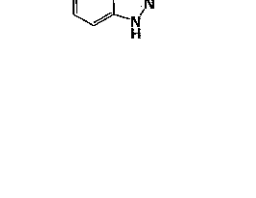
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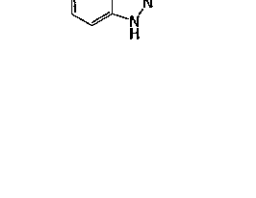
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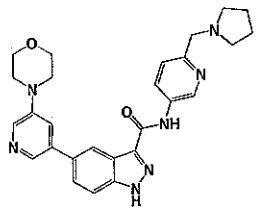
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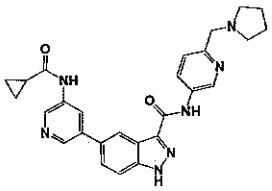
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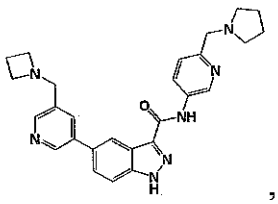
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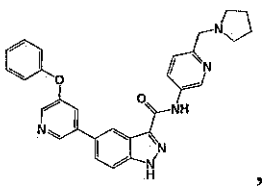
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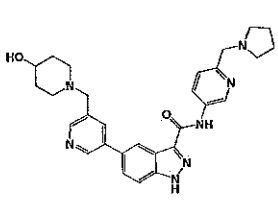
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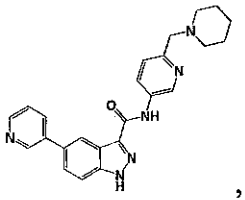
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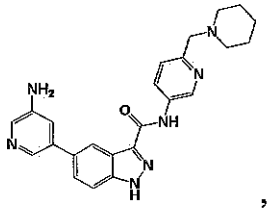
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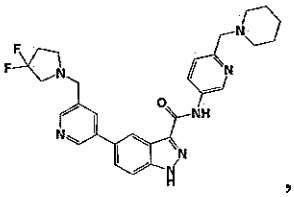
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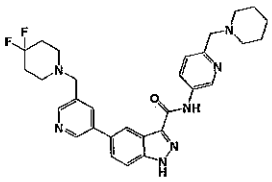
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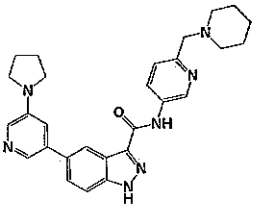
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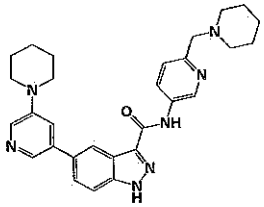
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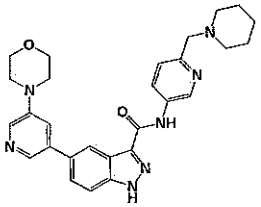
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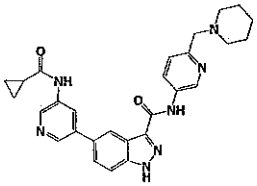
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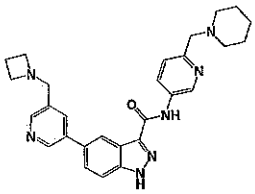
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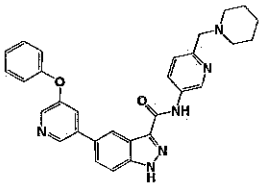
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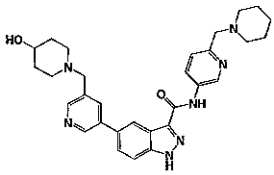
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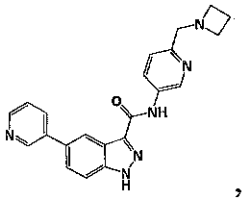
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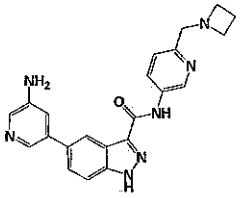
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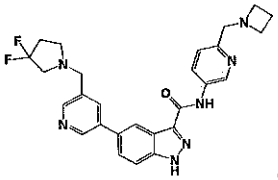
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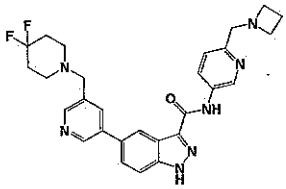
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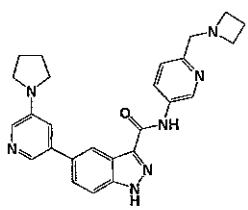
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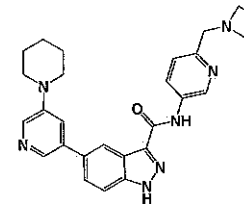
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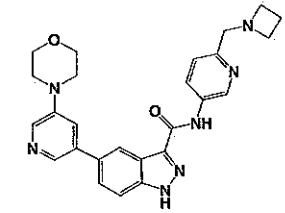
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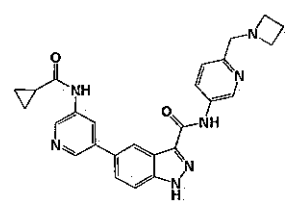
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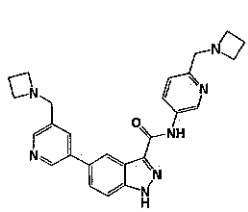
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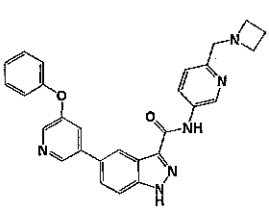
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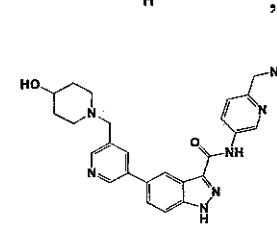
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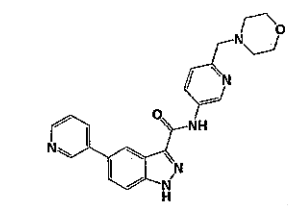
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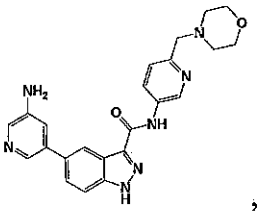
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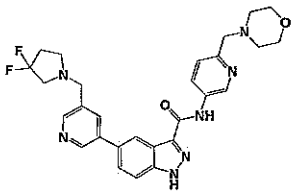
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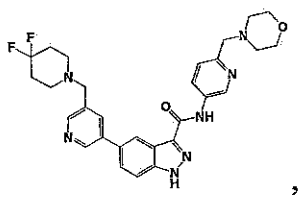
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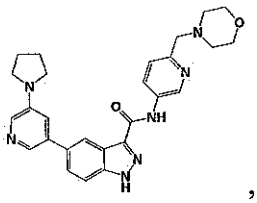
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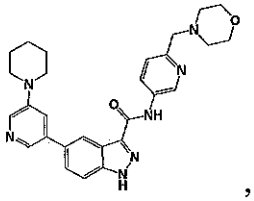
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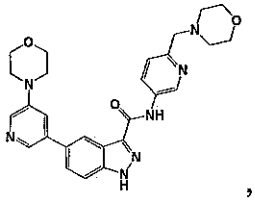
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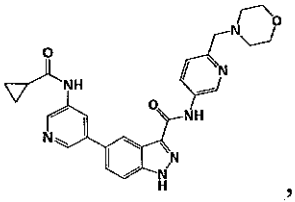
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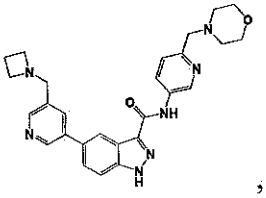
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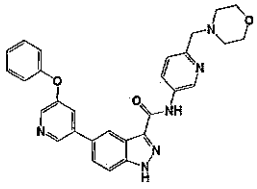
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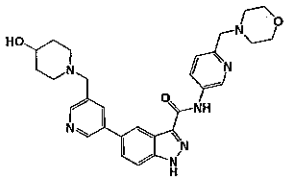
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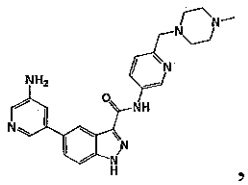
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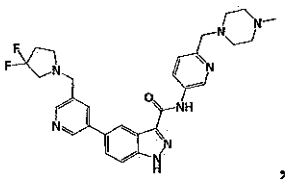
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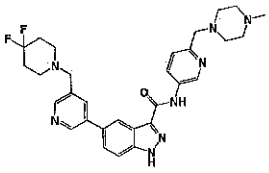
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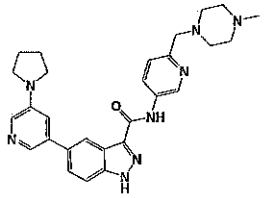
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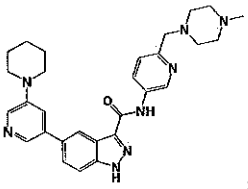
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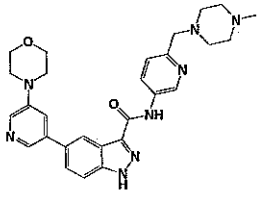
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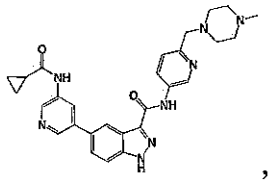
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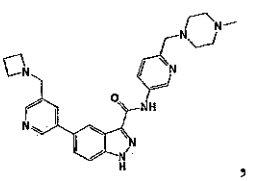
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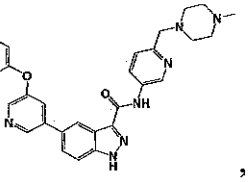
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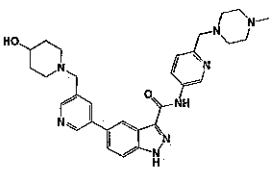
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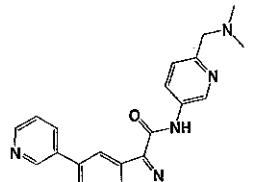
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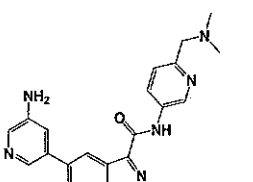
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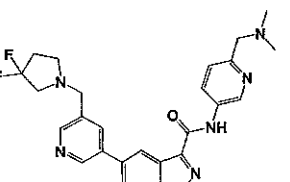
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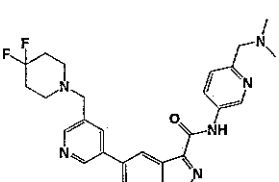
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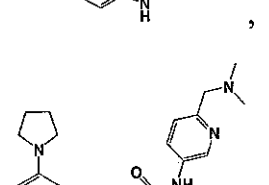
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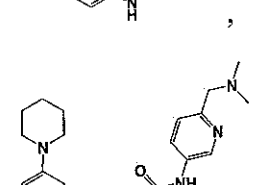
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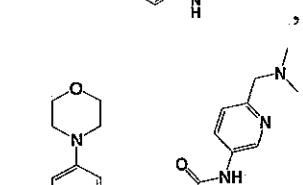
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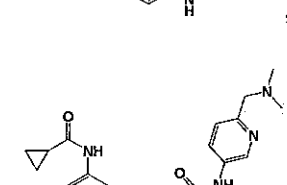
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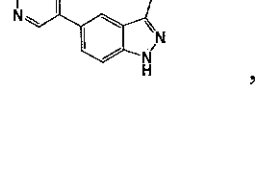
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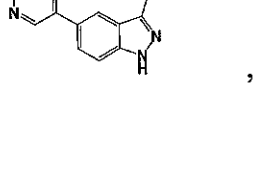
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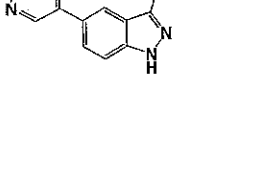
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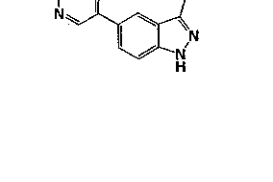
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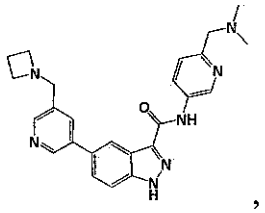
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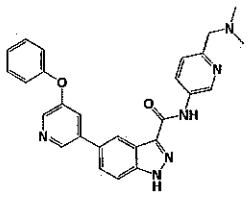
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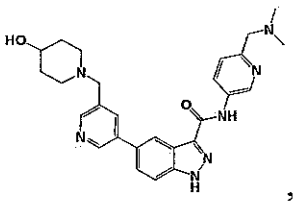
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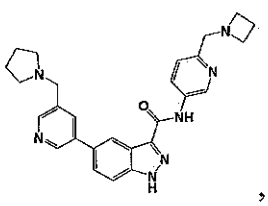
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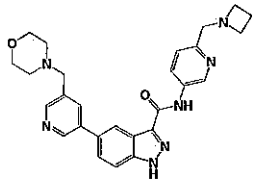
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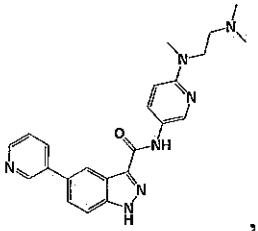
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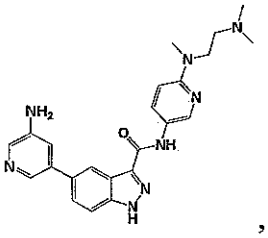
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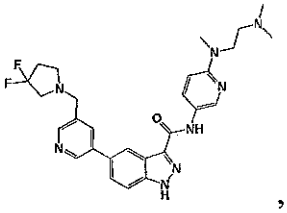
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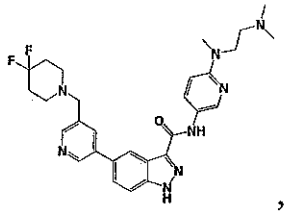
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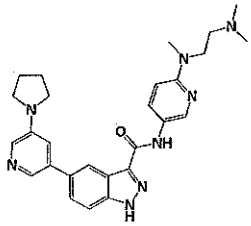
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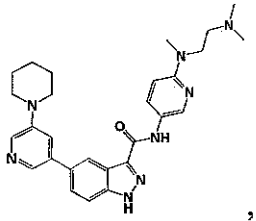
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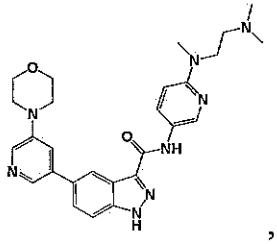
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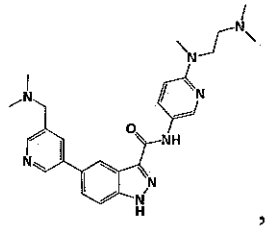
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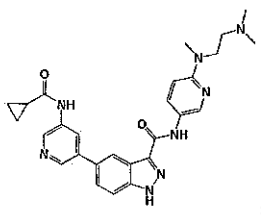
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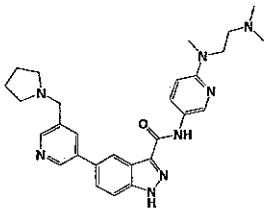
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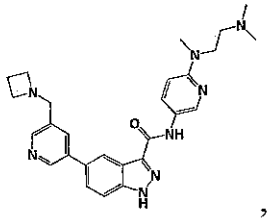
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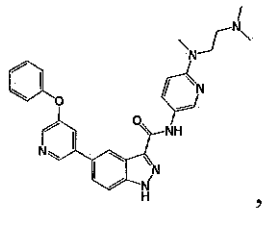
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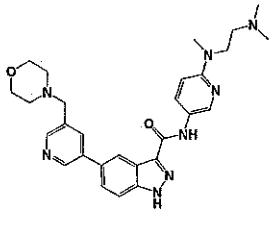
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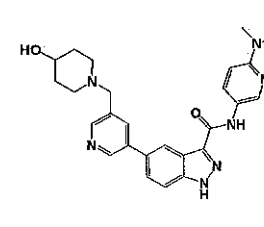
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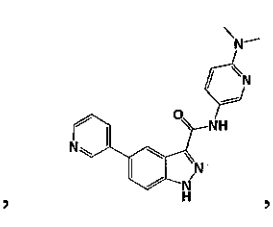
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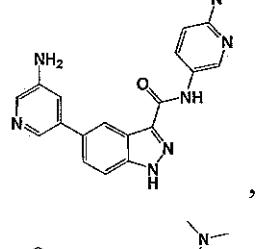
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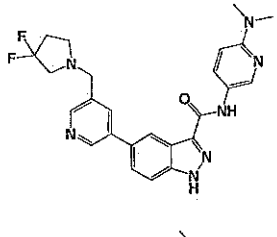
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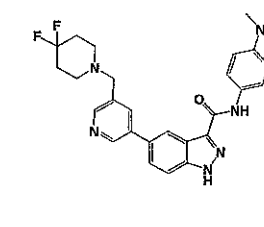
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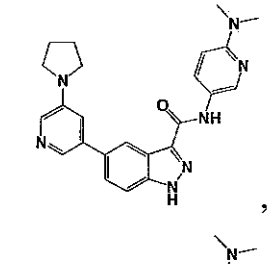
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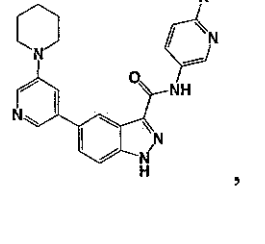
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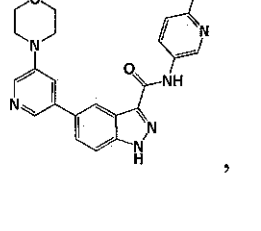
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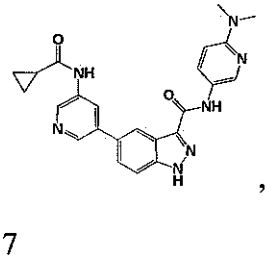
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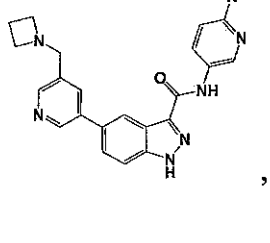
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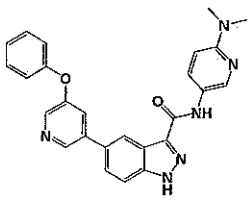
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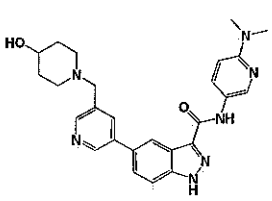
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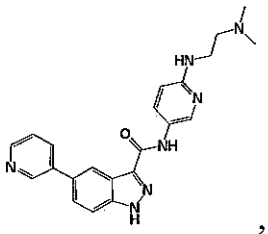
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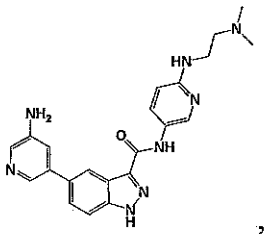
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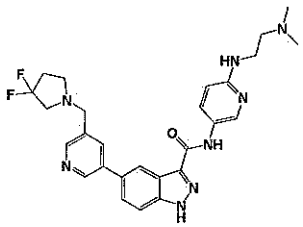
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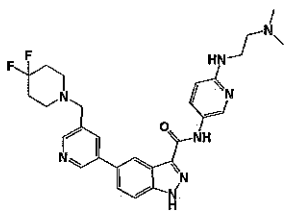
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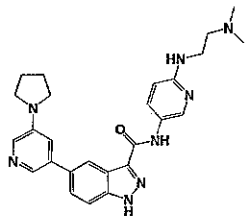
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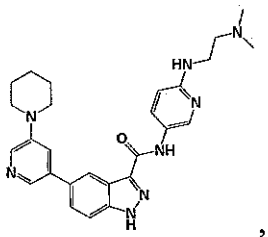
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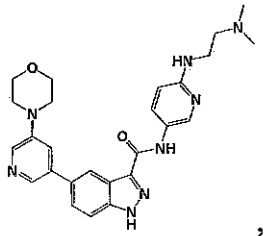
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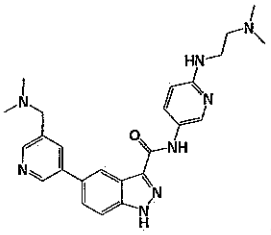
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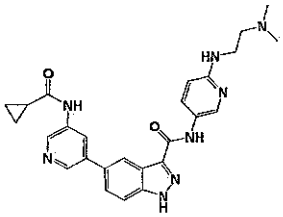
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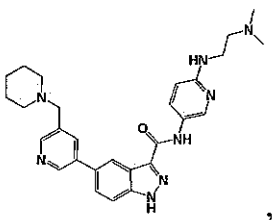
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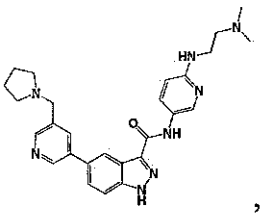
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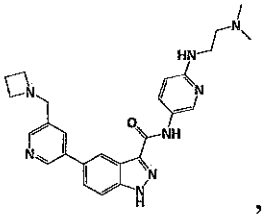
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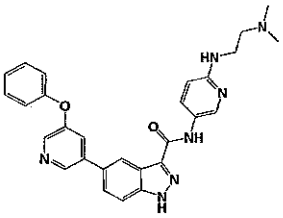
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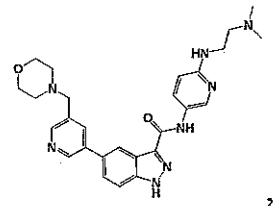
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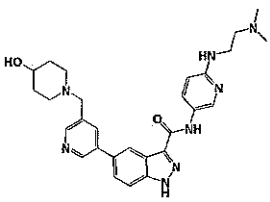
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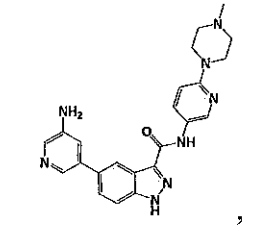
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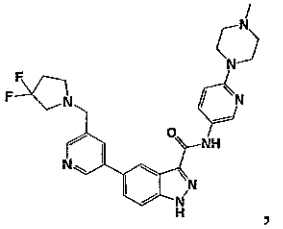
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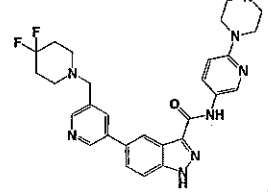
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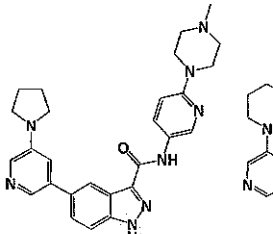
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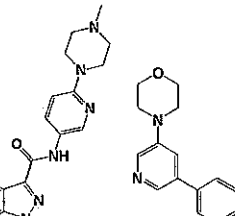
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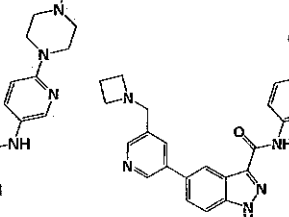
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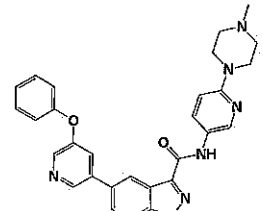
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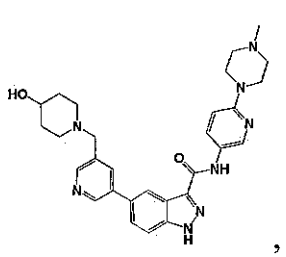
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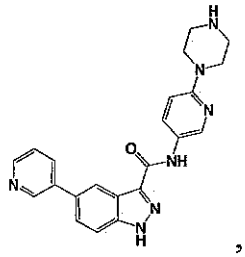
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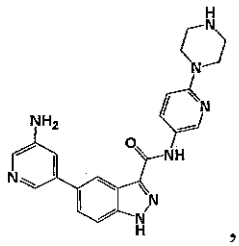
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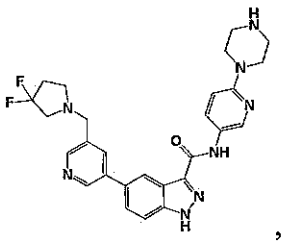
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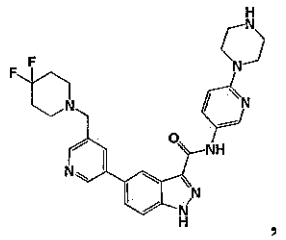
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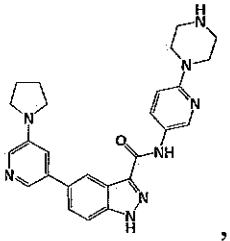
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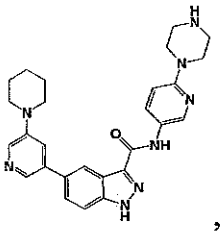
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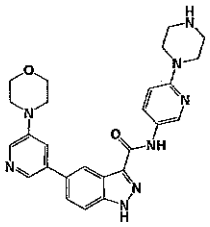
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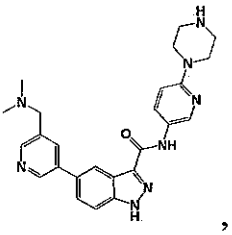
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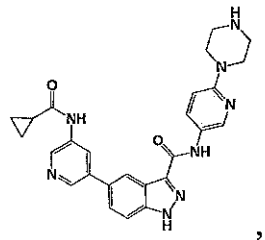
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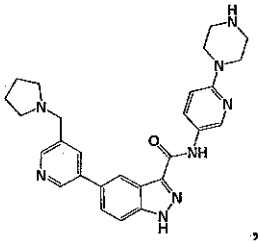
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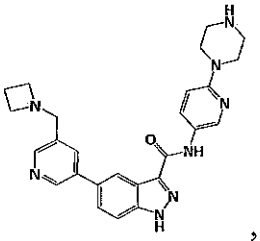
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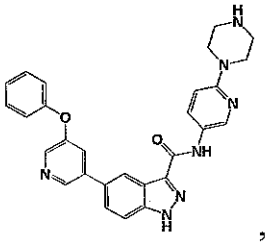
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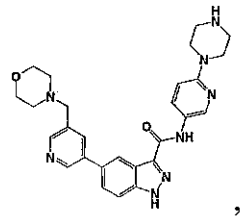
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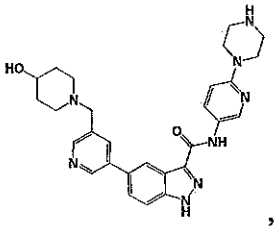
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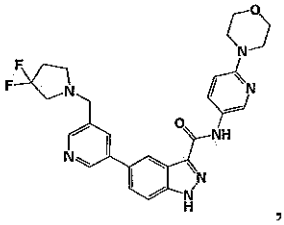
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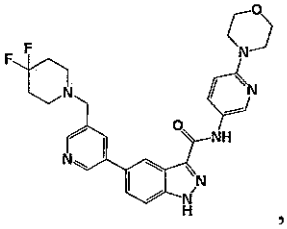
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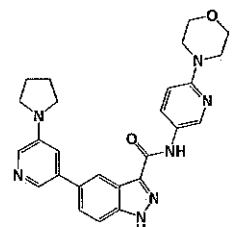
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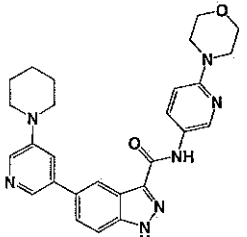
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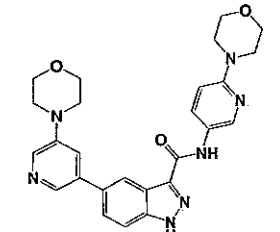
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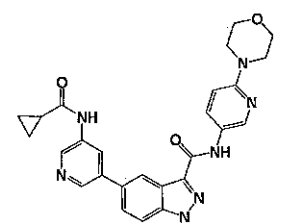
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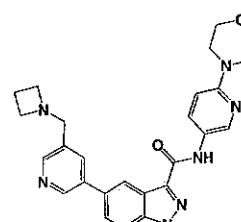
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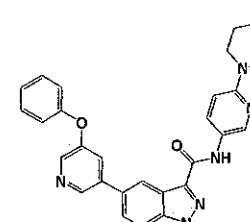
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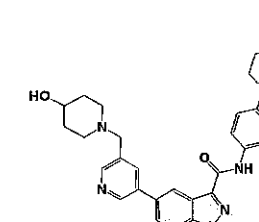
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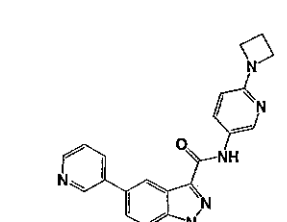
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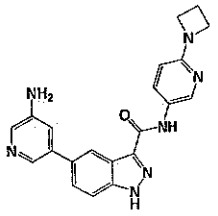
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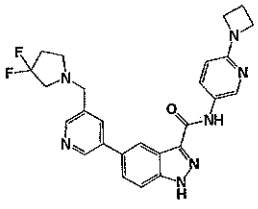
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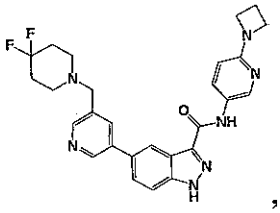
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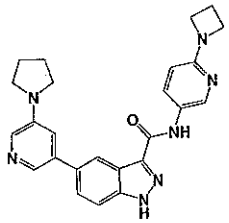
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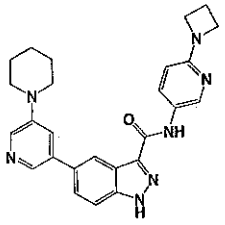
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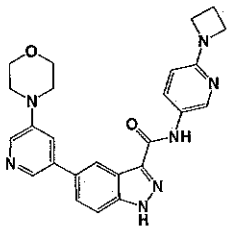
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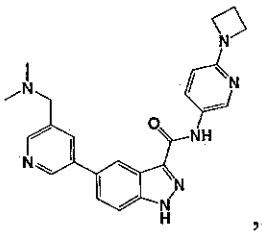
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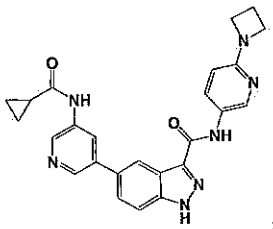
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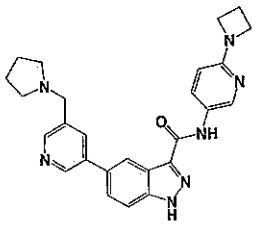
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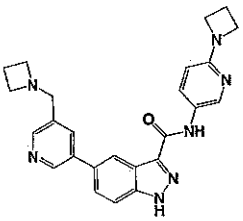
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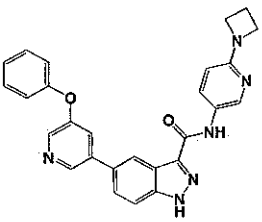
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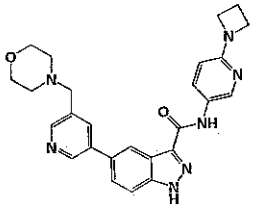
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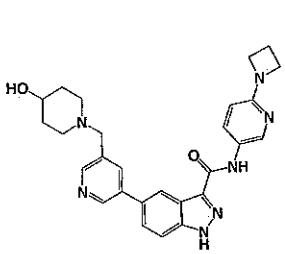
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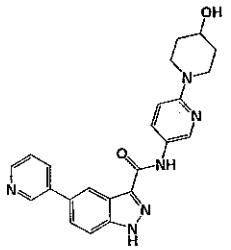
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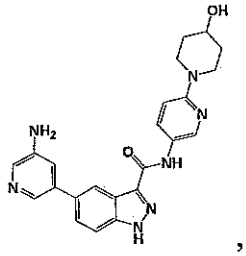
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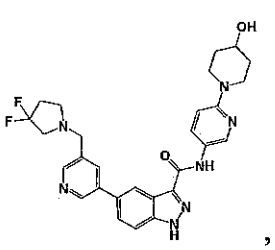
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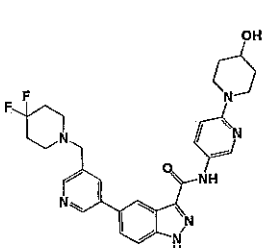
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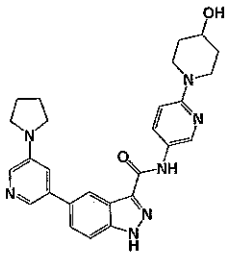
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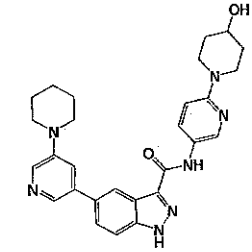
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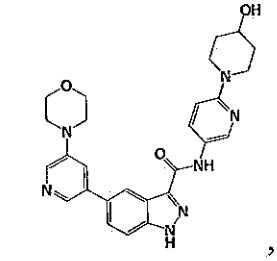
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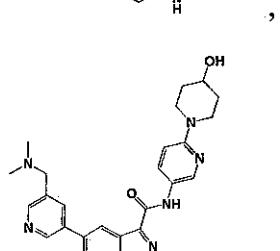
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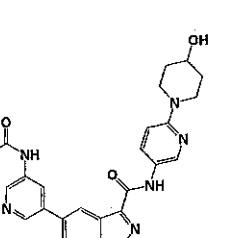
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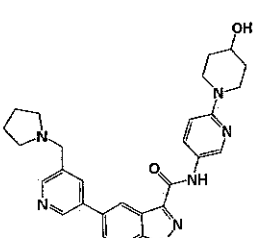
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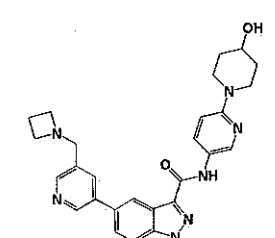
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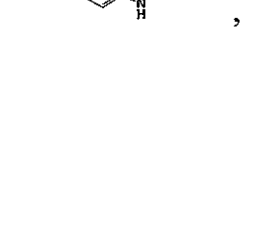
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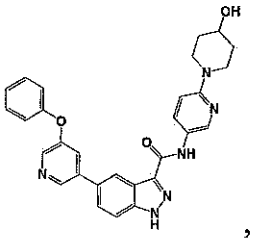
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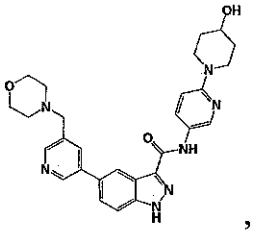
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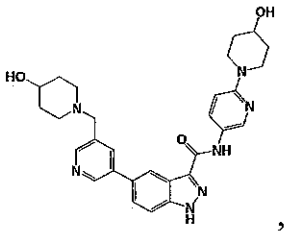
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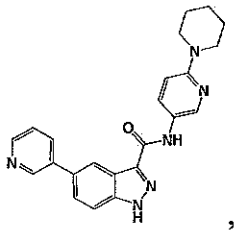
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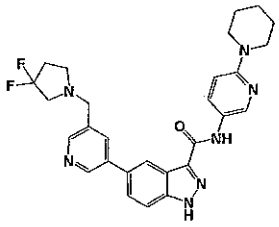
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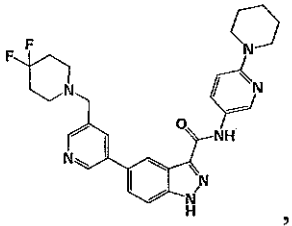
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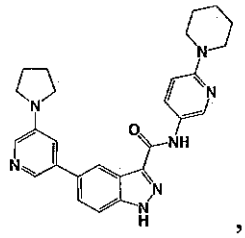
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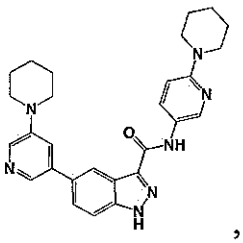
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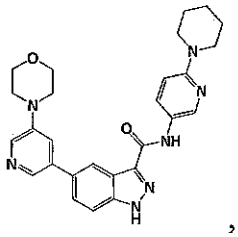
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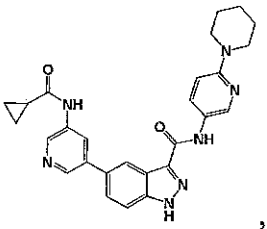
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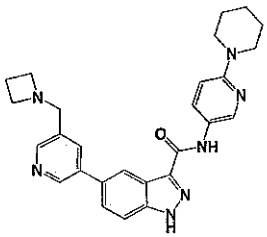
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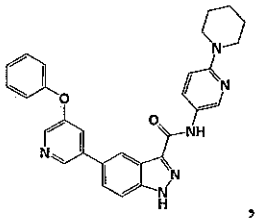
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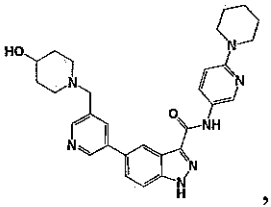
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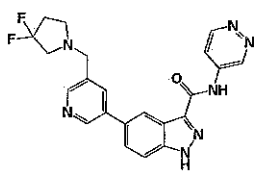
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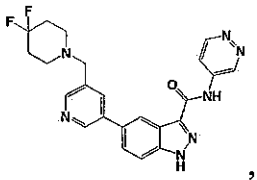
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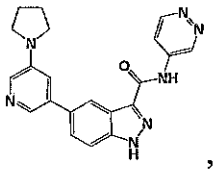
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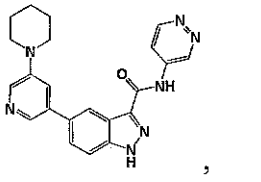
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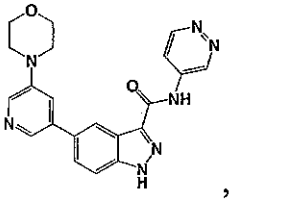
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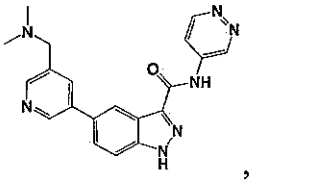
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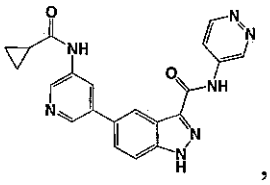
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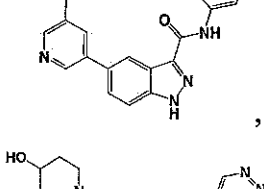
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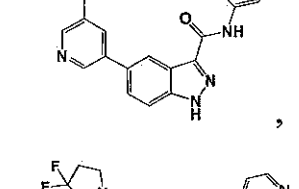
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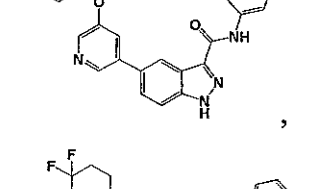
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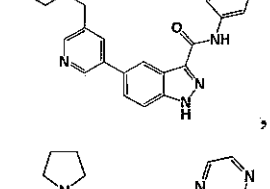
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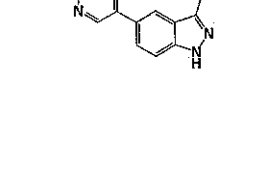
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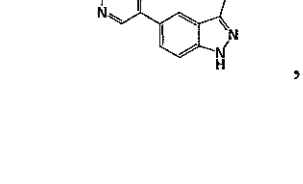
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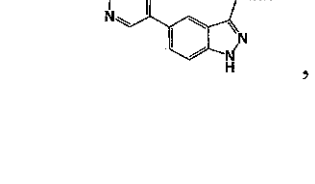
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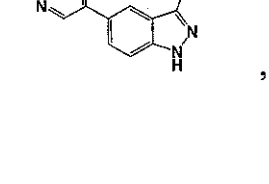
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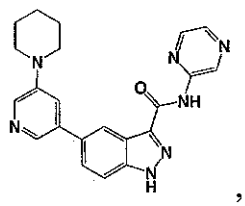
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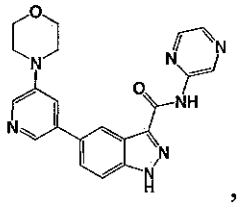
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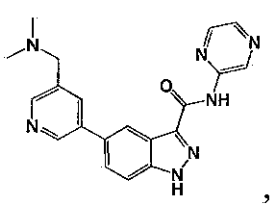
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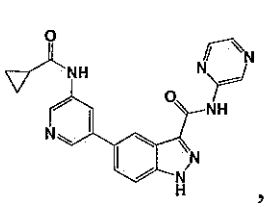
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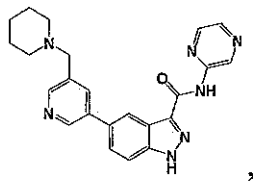
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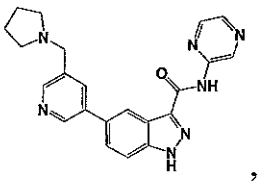
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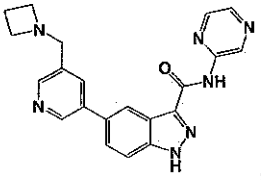
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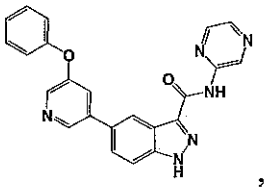
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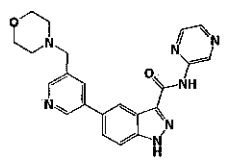
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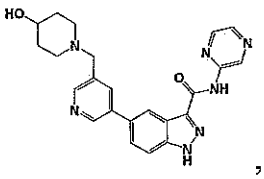
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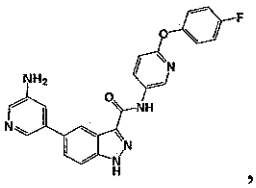
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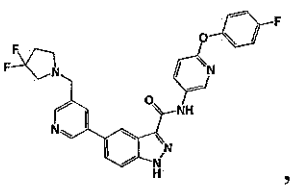
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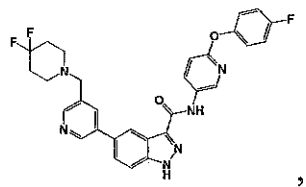
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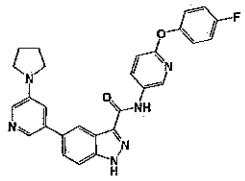
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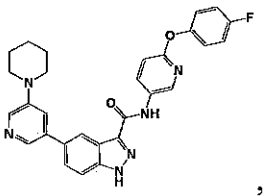
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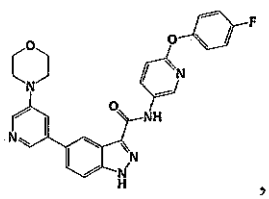
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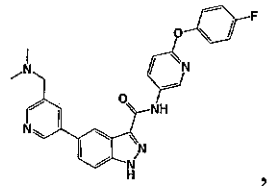
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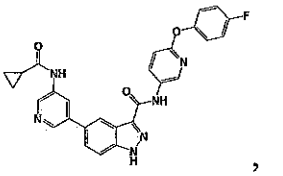
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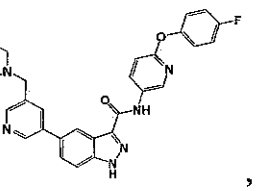
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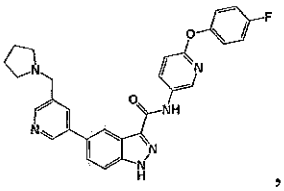
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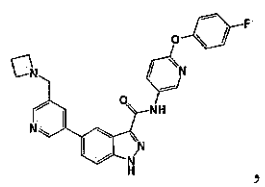
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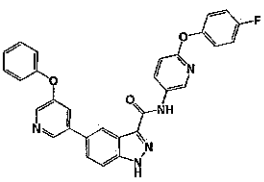
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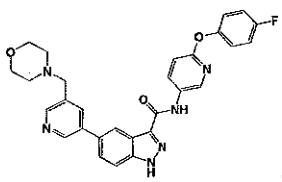
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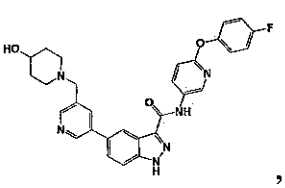
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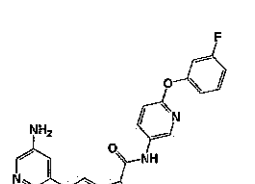
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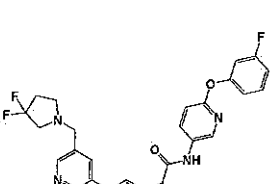
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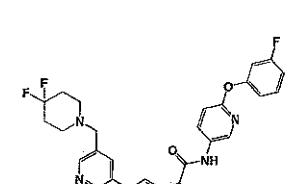
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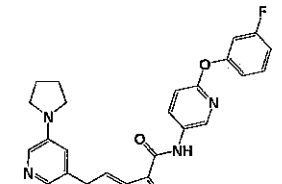
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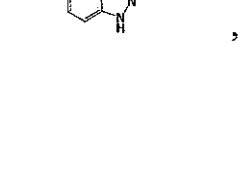
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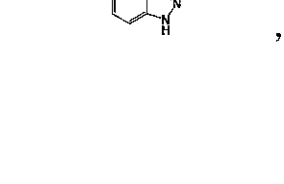
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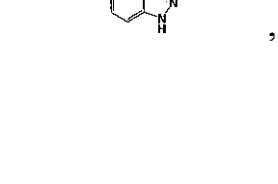
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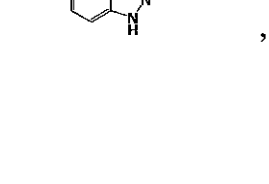
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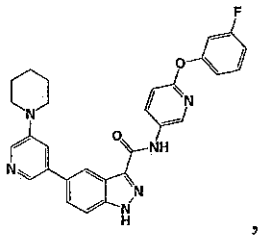
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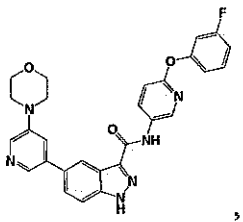
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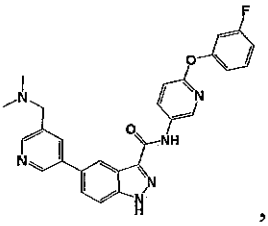
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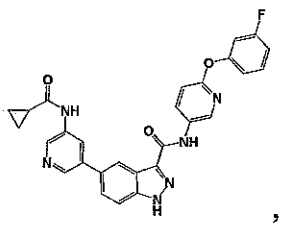
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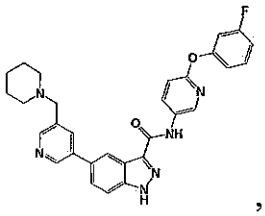
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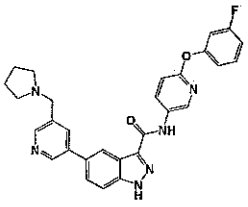
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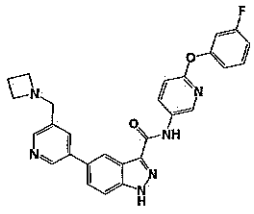
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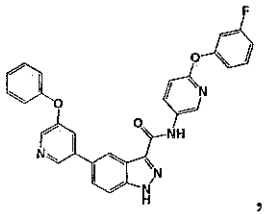
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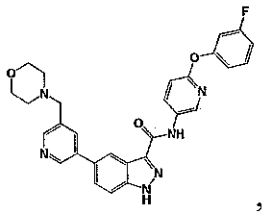
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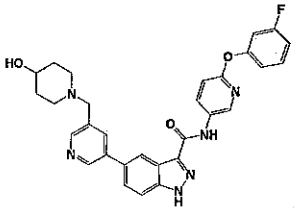
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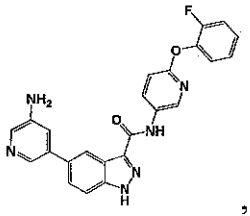
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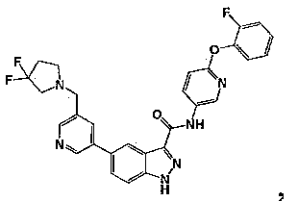
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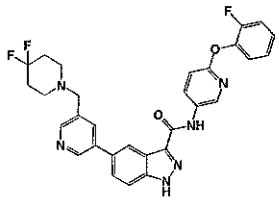
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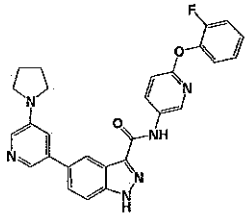
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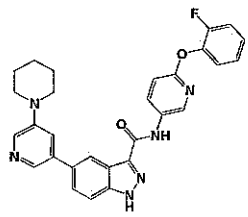
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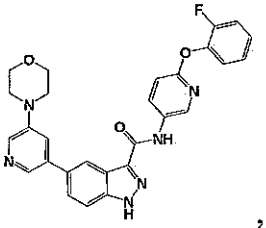
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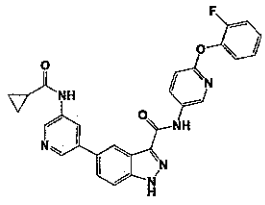
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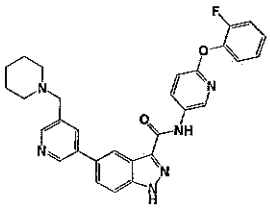
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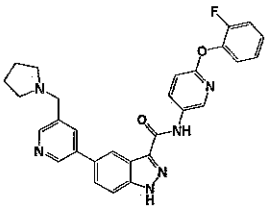
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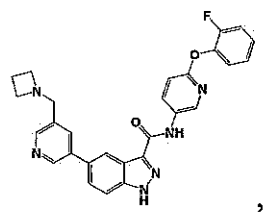
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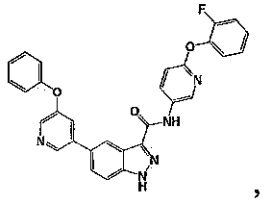
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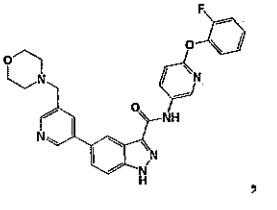
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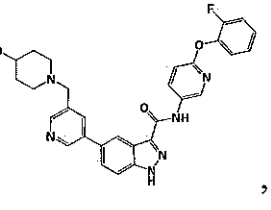
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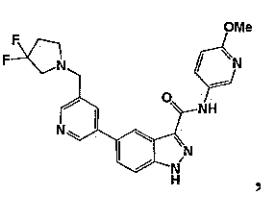
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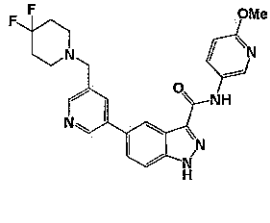
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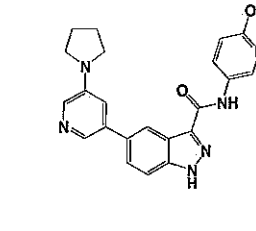
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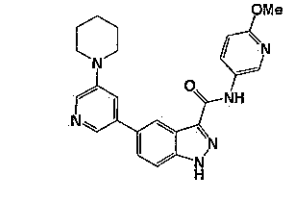
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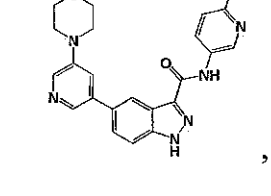
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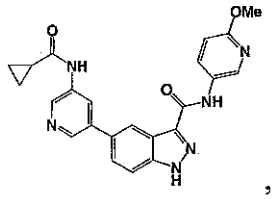
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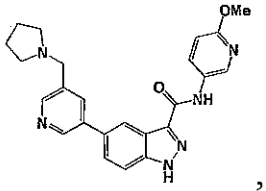
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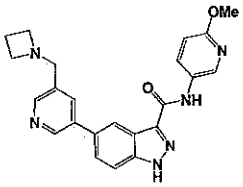
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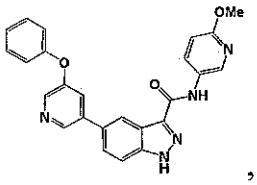
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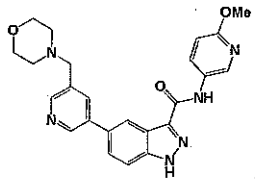
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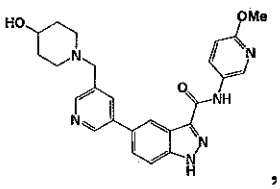
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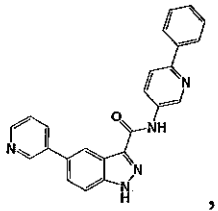
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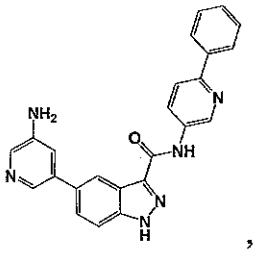
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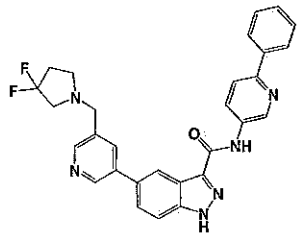
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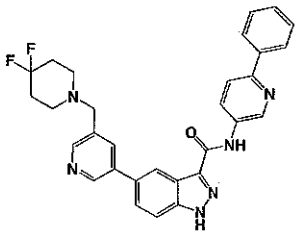
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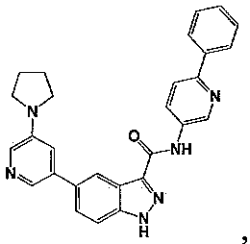
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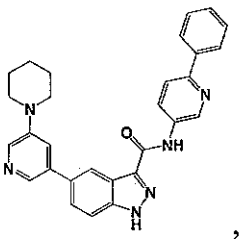
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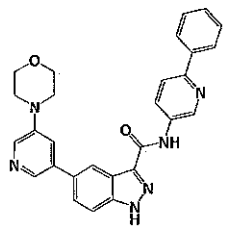
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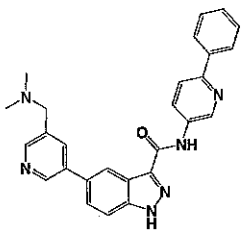
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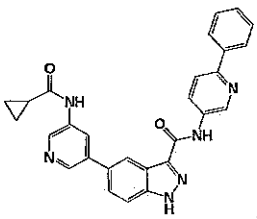
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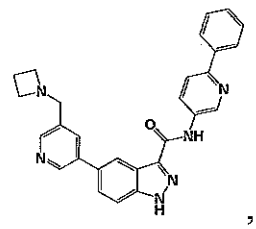
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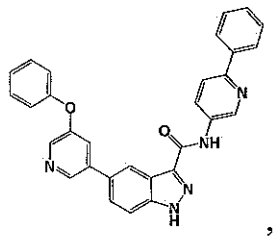
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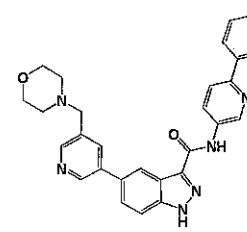
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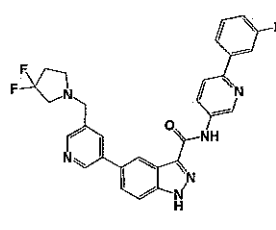
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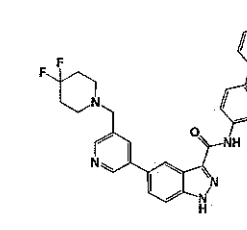
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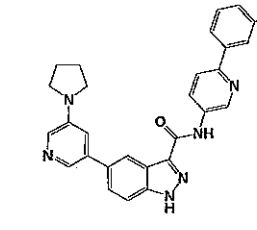
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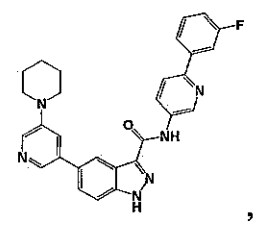
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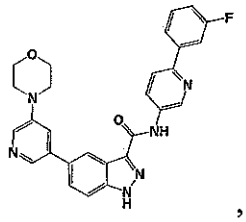
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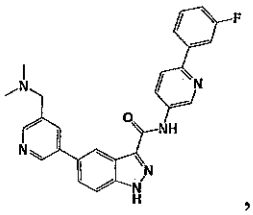
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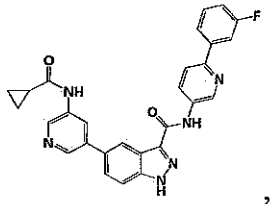
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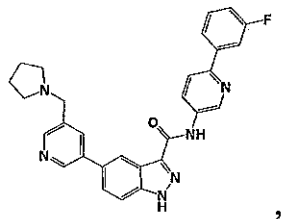
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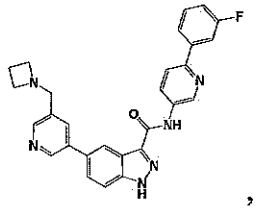
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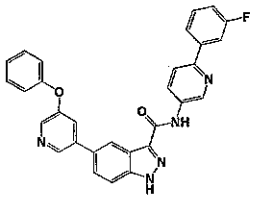
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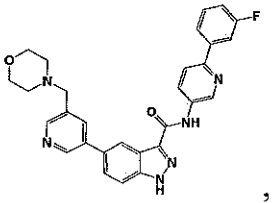
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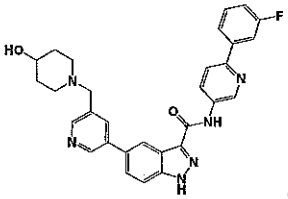
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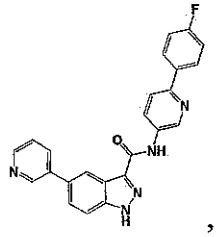
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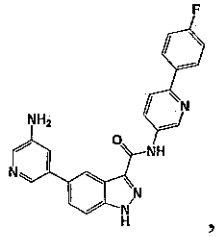
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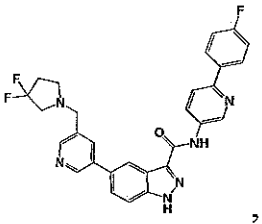
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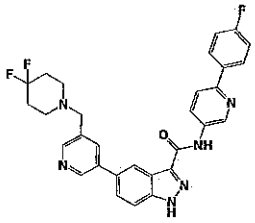
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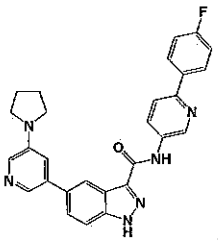
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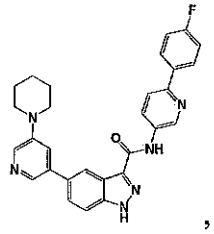
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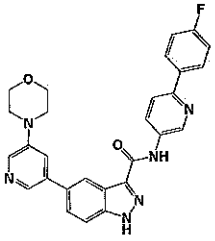
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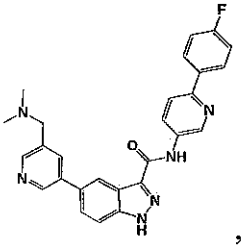
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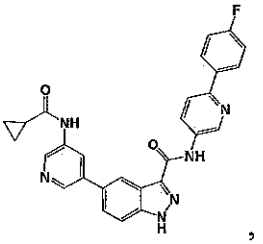
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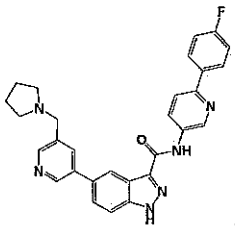
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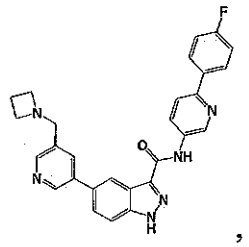
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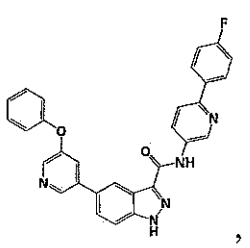
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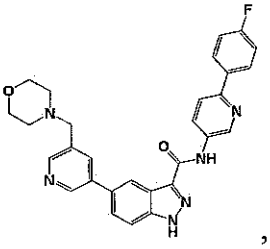
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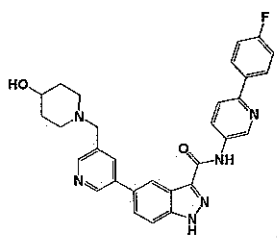
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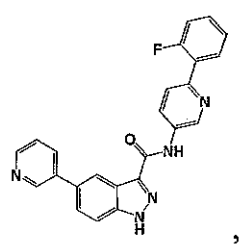
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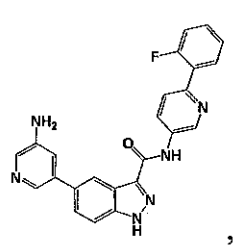
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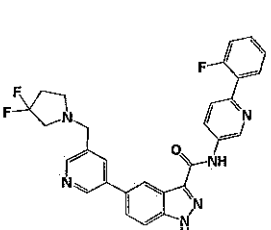
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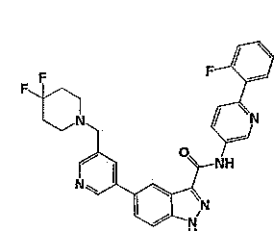
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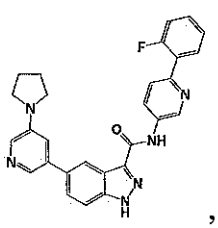
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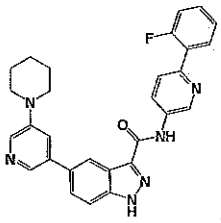
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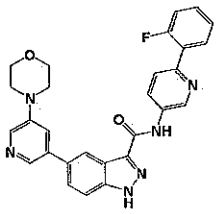
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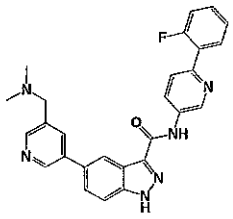
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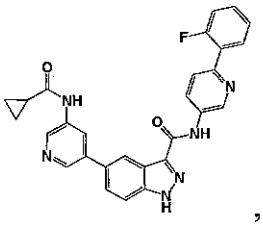
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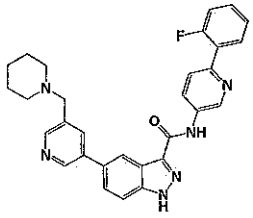
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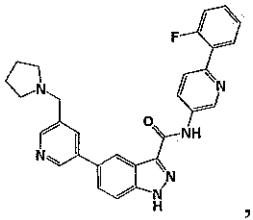
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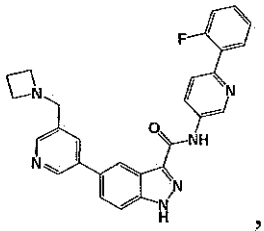
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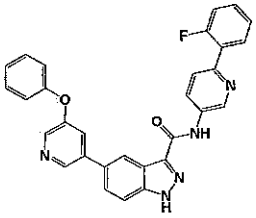
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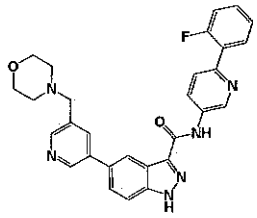
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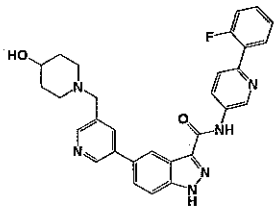
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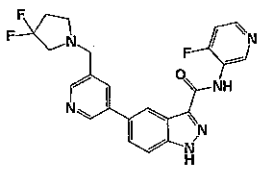
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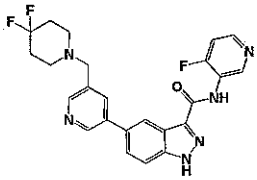
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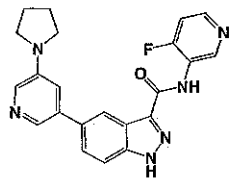
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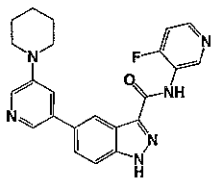
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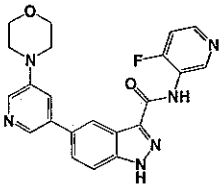
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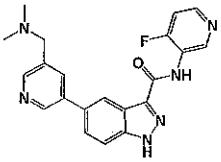
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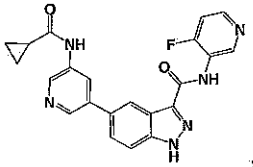
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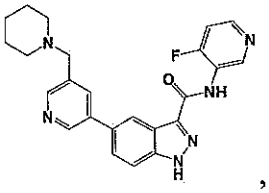
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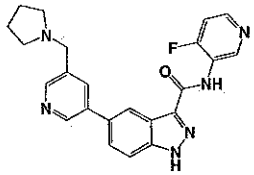
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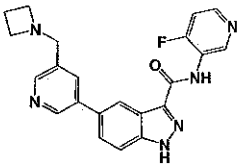
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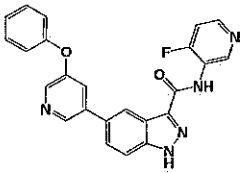
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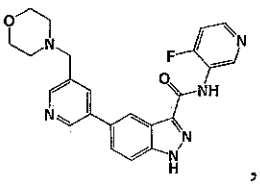
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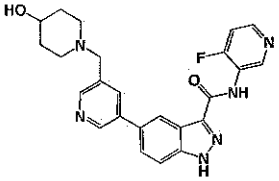
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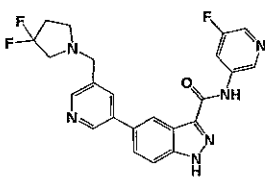
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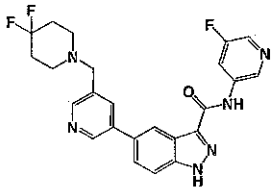
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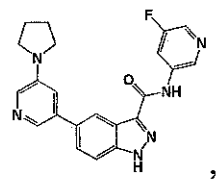
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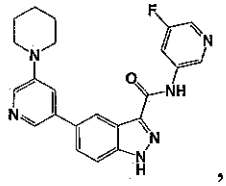
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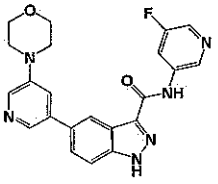
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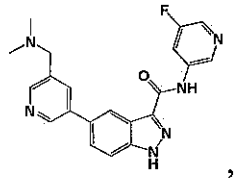
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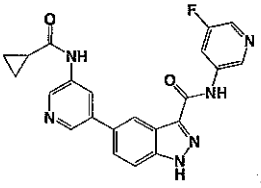
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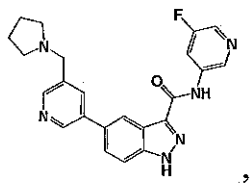
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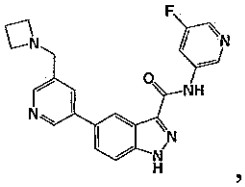
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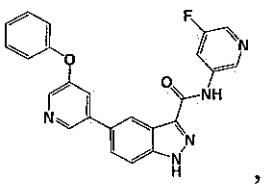
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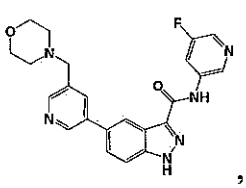
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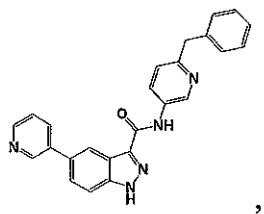
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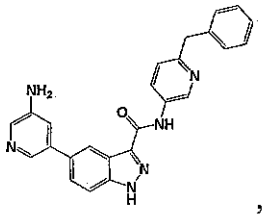
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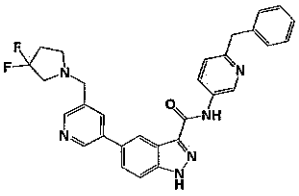
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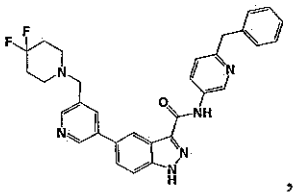
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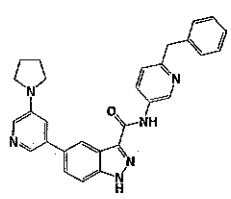
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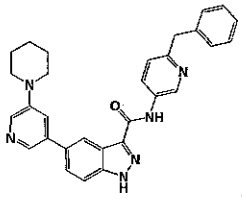
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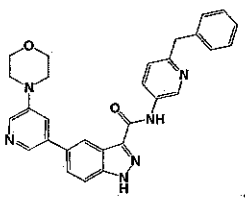
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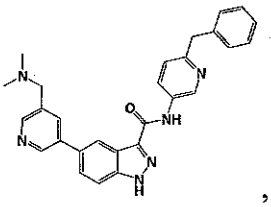
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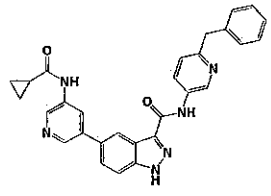
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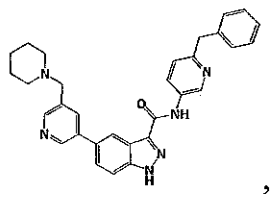
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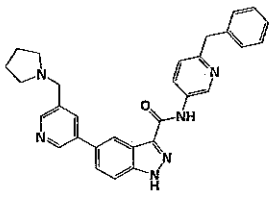
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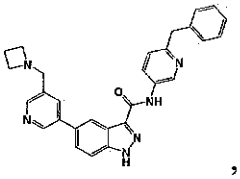
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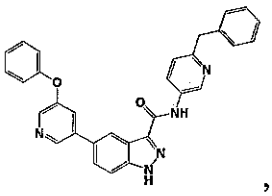
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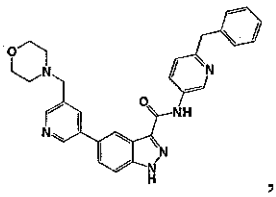
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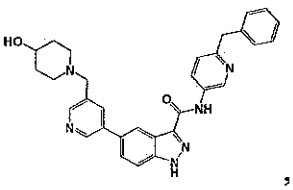
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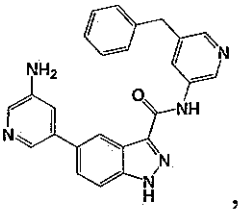
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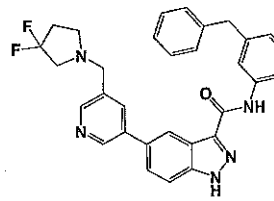
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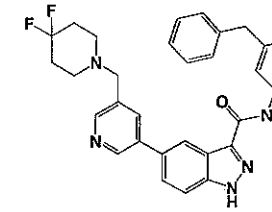
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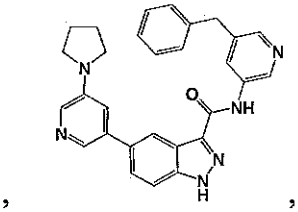
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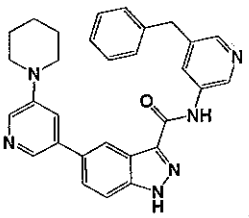
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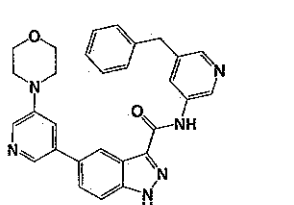
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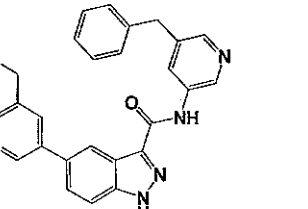
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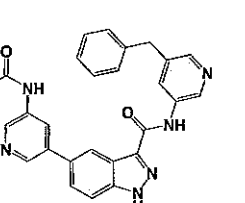
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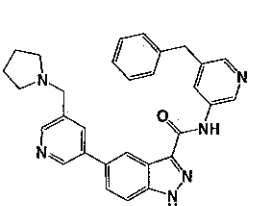
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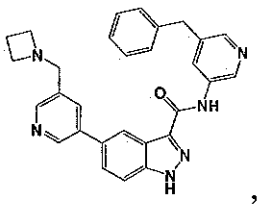
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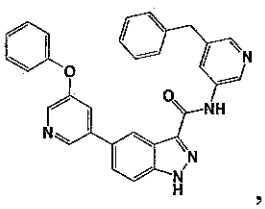
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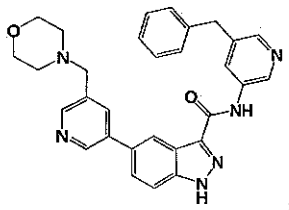
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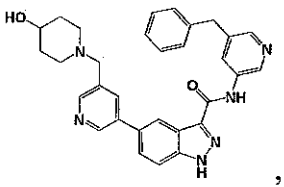
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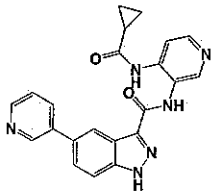
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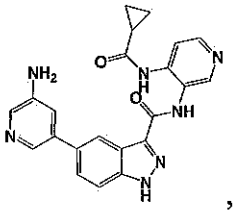
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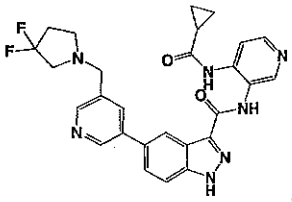
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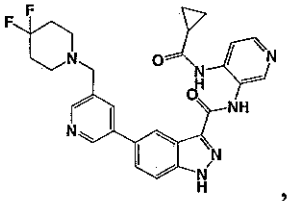
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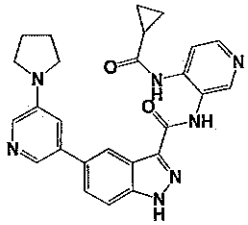
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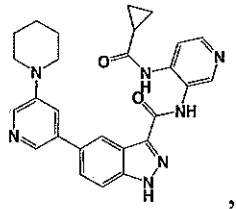
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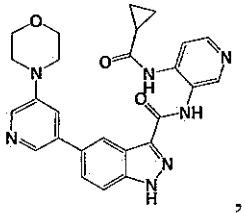
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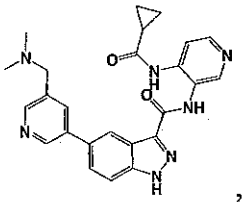
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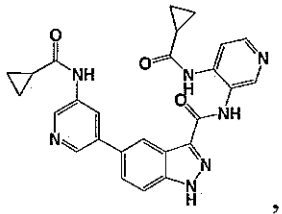
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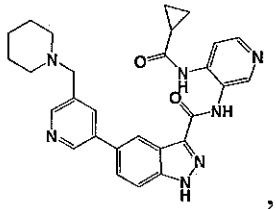
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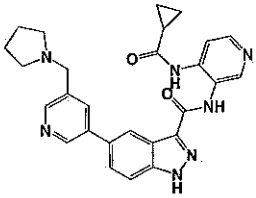
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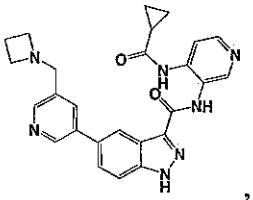
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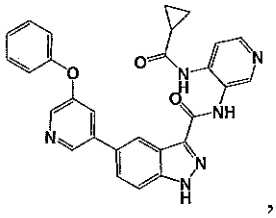
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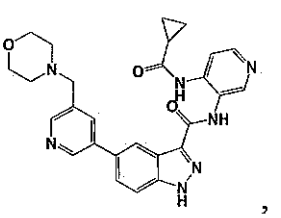
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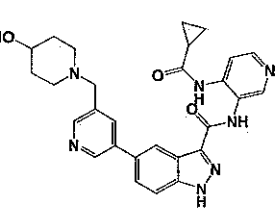
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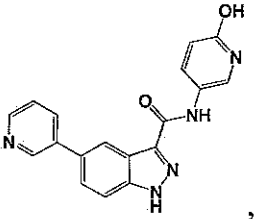
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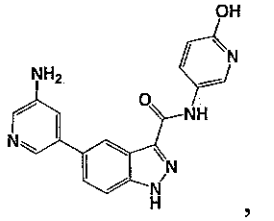
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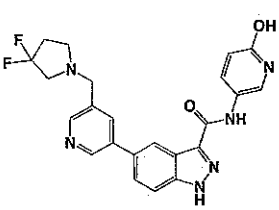
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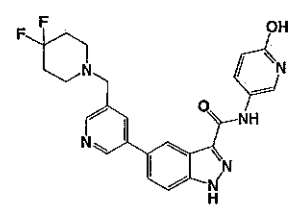
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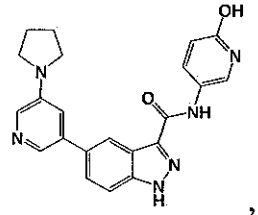
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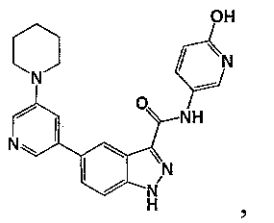
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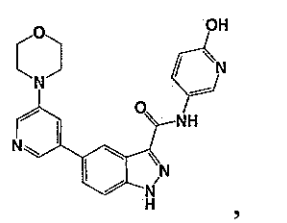
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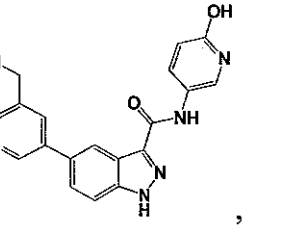
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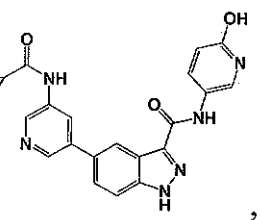
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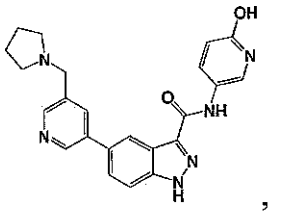
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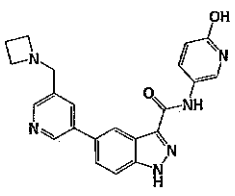
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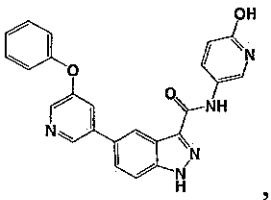
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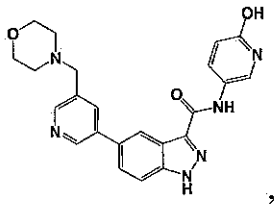
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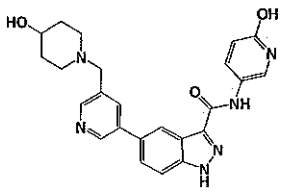
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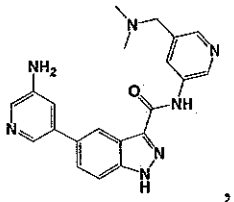
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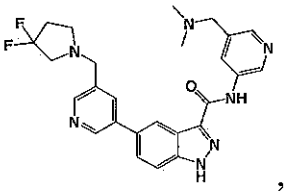
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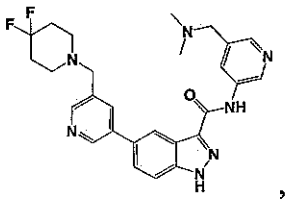
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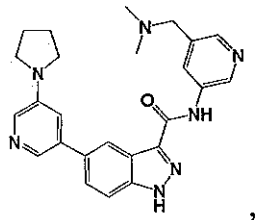
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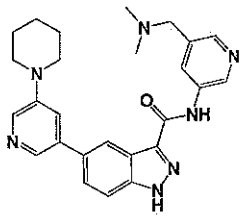
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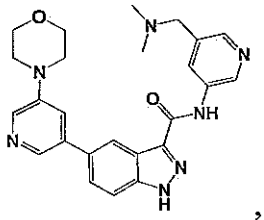
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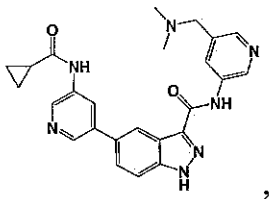
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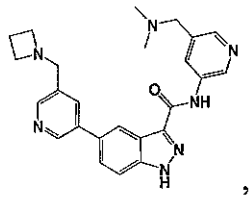
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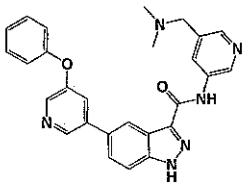
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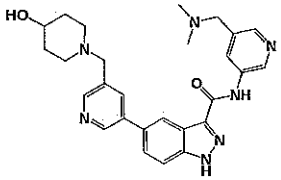
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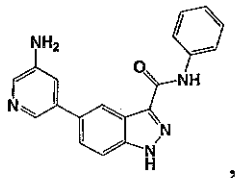
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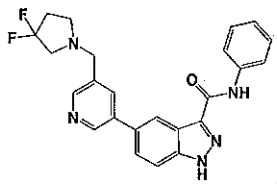
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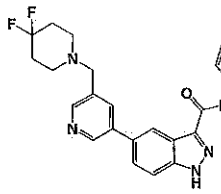
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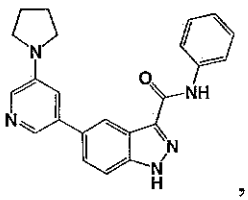
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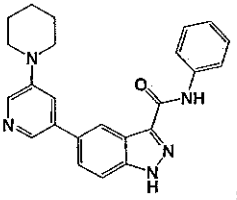
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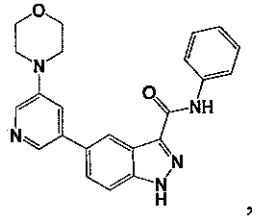
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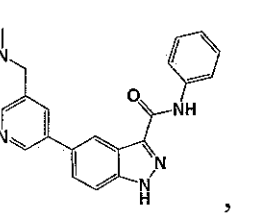
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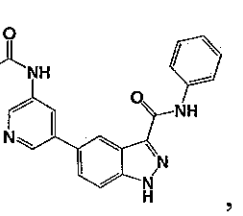
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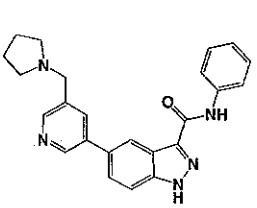
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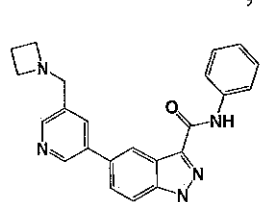
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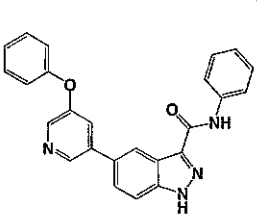
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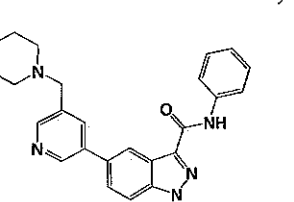
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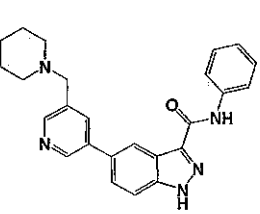
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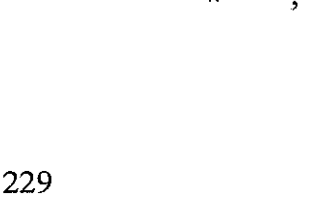
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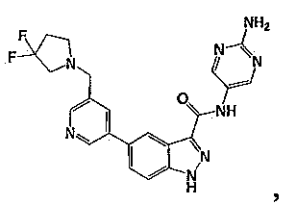
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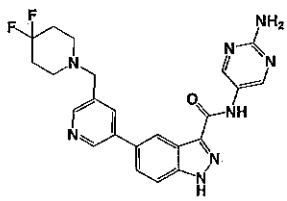
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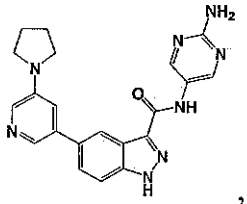
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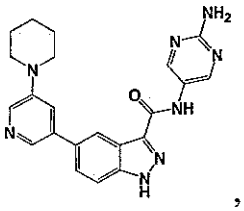
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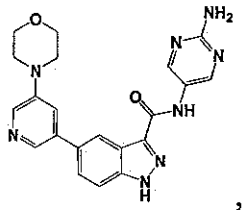
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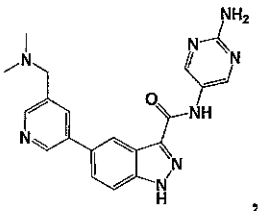
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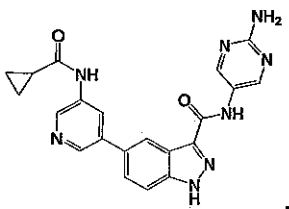
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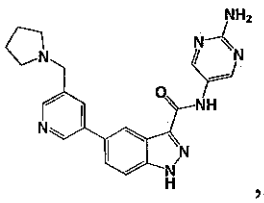
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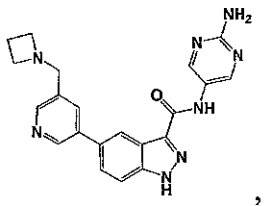
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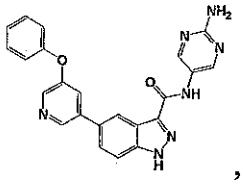
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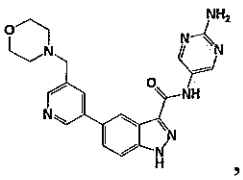
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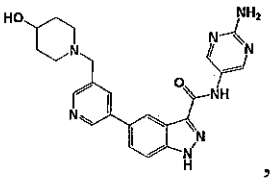
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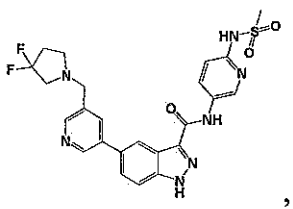
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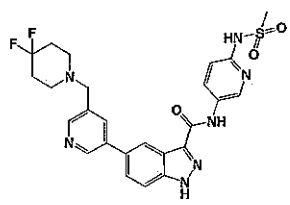
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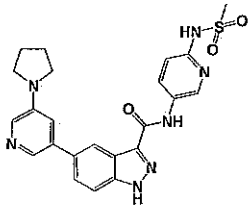
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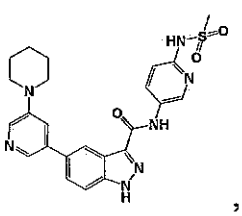
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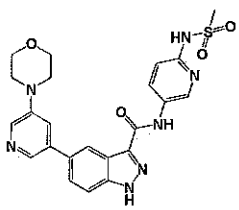
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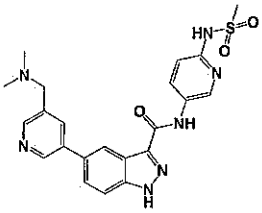
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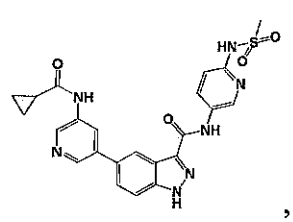
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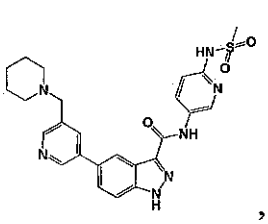
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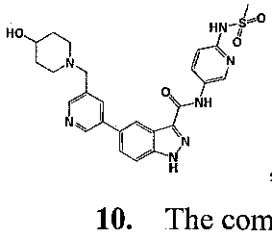
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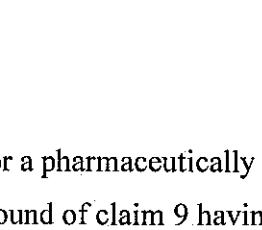
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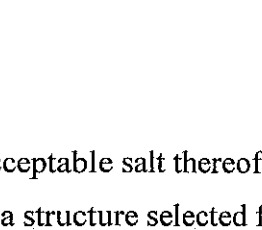
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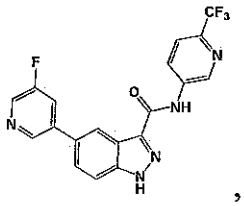
, or a pharmaceutically acceptable salt thereof.

10. The compound of claim 9 having a structure selected from the group consisting of: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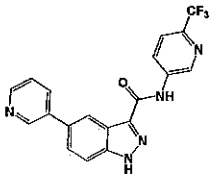
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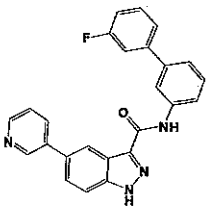
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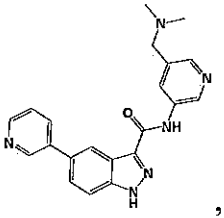
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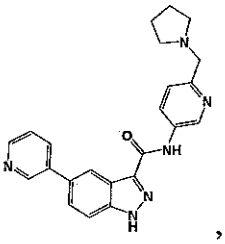
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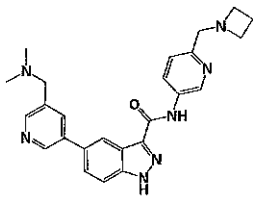
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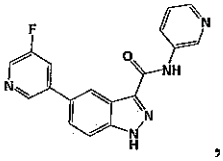
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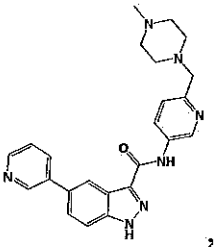
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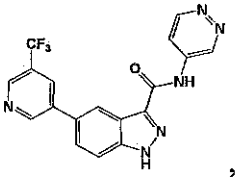
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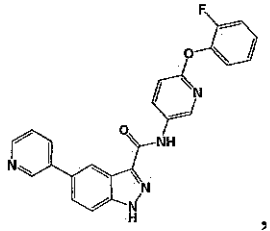
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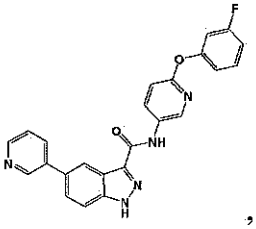
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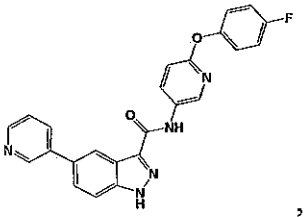
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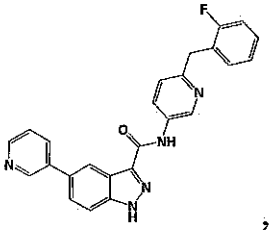
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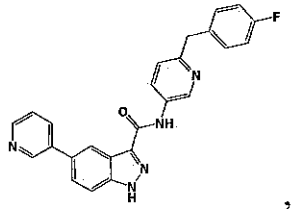
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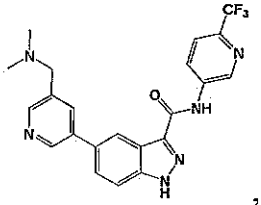
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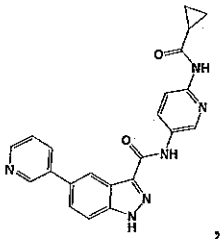
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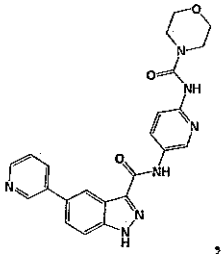
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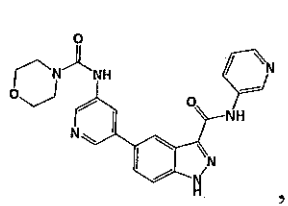
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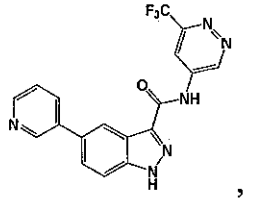
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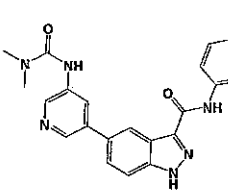
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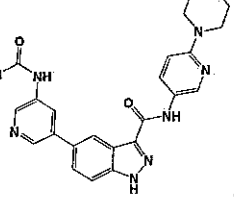
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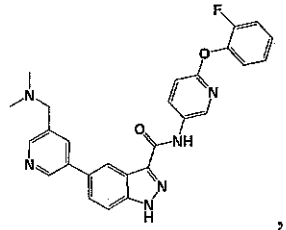
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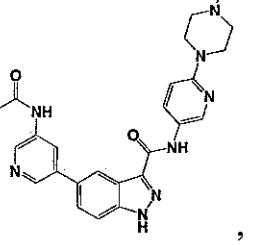
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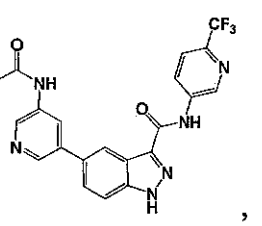
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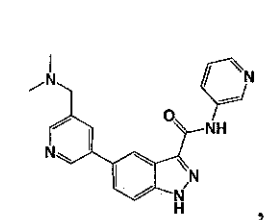
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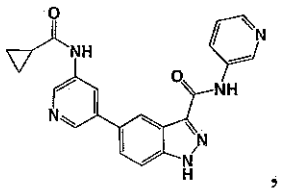
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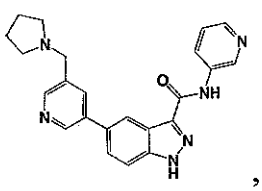
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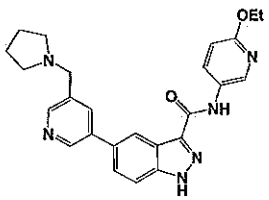
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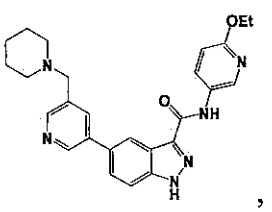
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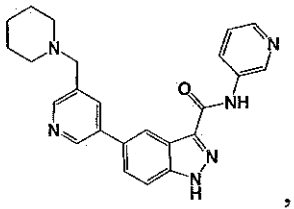
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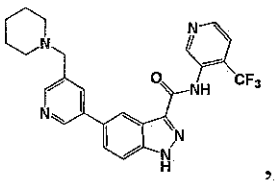
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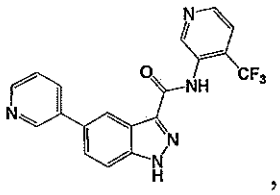
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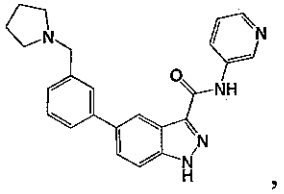
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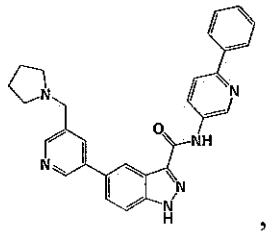
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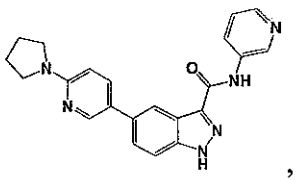
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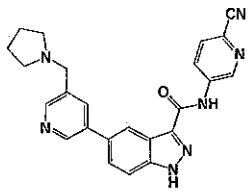
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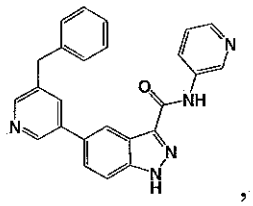
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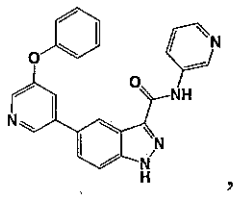
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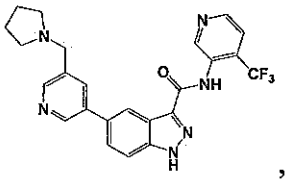
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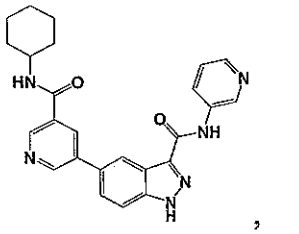
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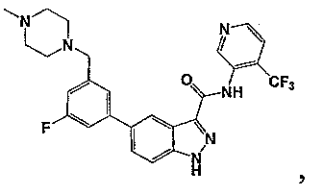
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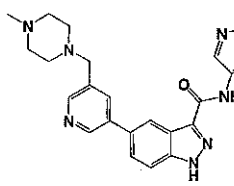
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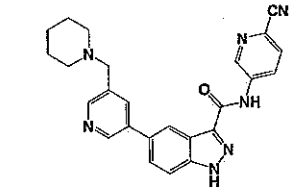
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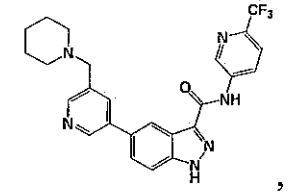
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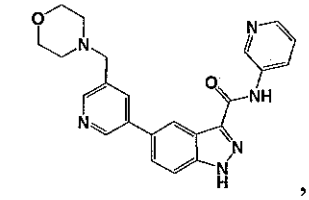
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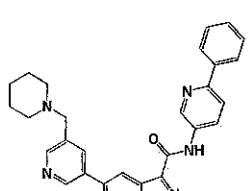
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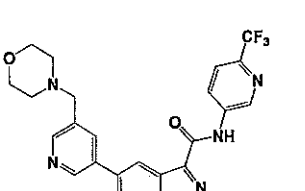
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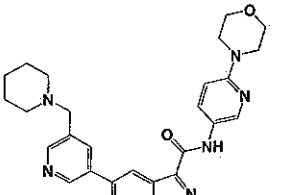
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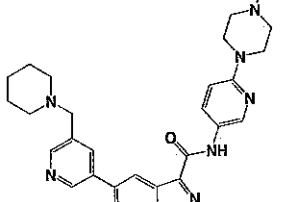
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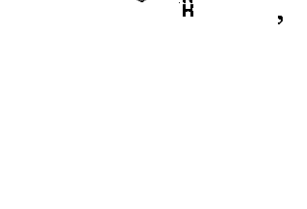
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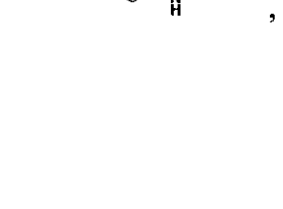
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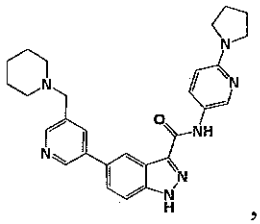
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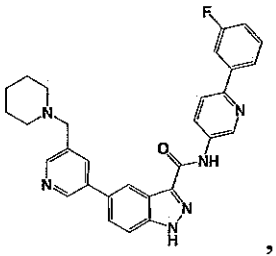
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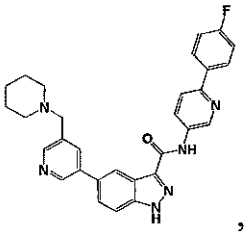
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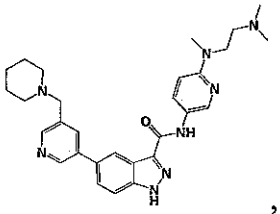
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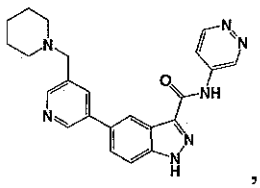
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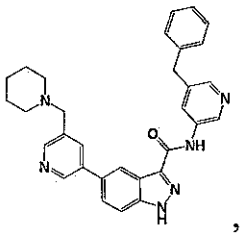
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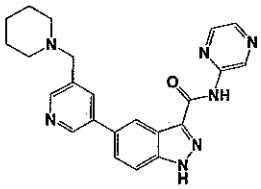
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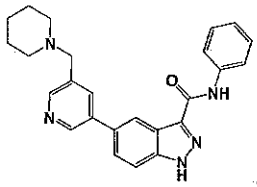
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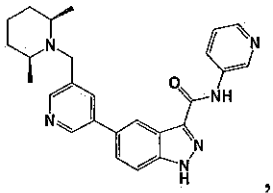
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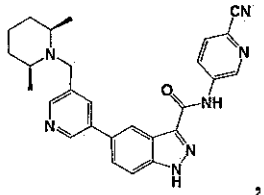
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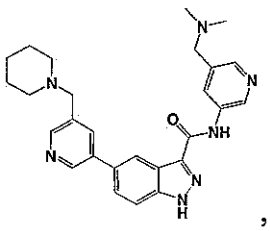
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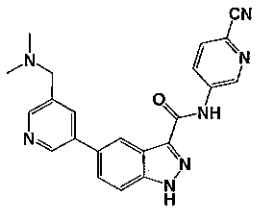
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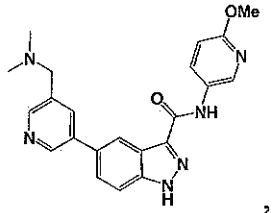
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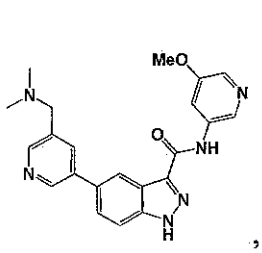
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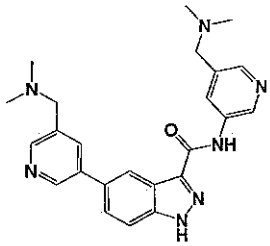
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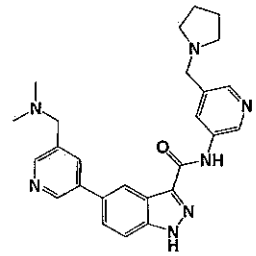
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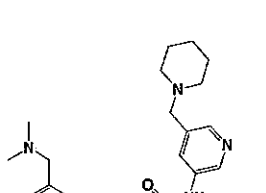
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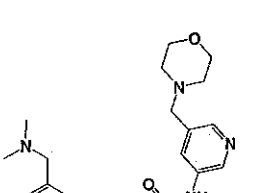
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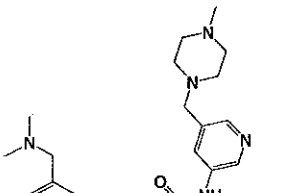
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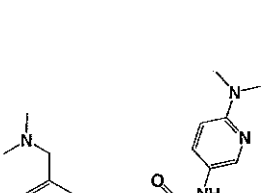
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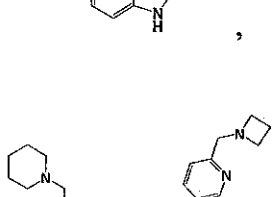
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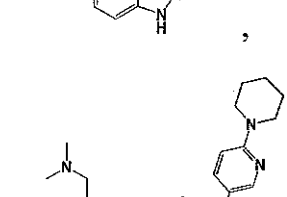
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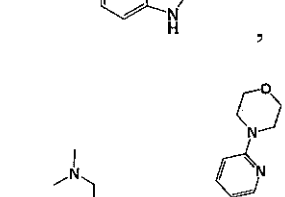
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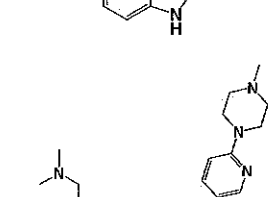
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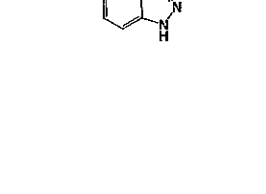
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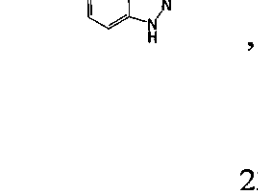
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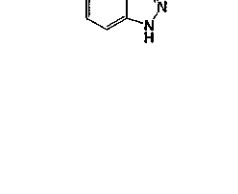
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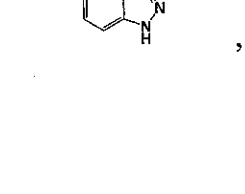
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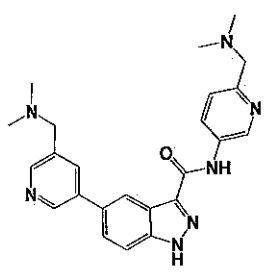
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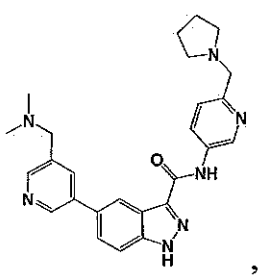
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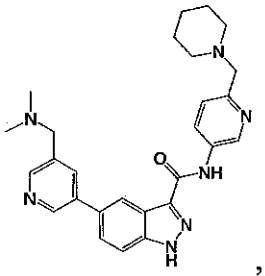
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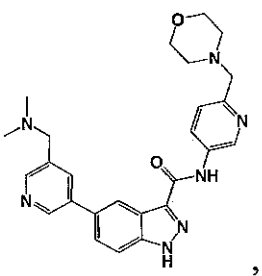
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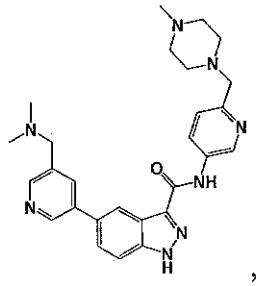
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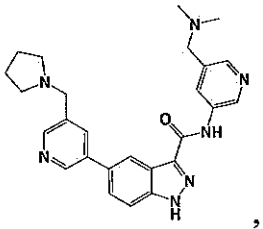
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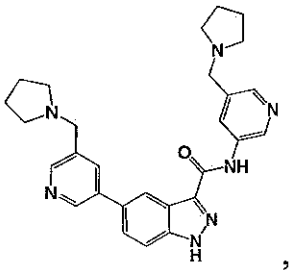
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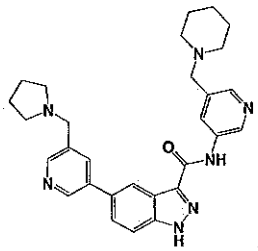
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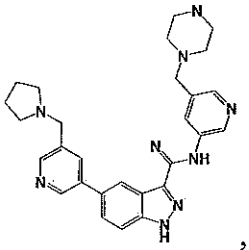
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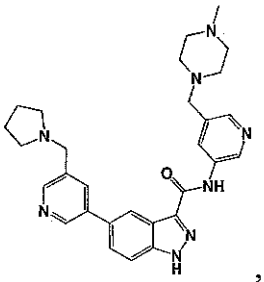
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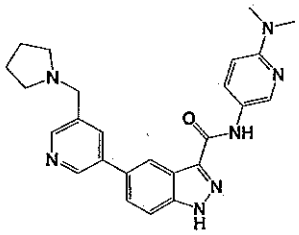
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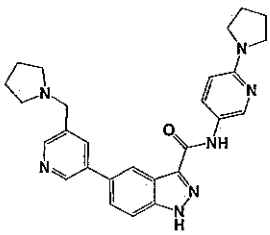
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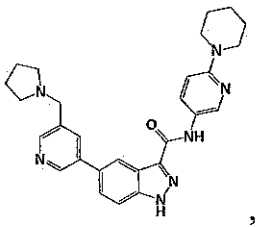
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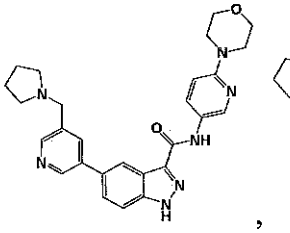
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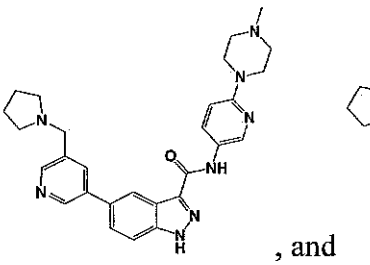
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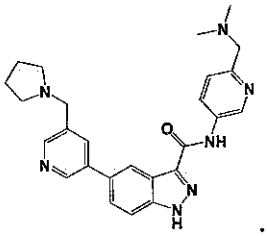
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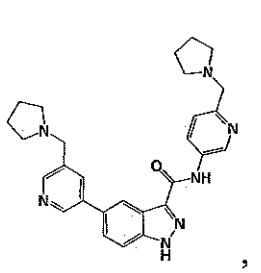
11. The compound of claim 9 having a structure selected from the group consisting of: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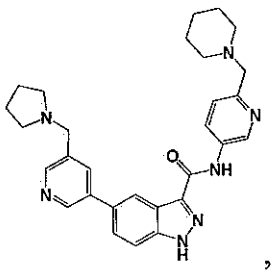
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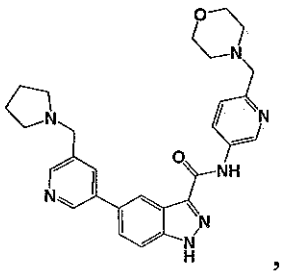
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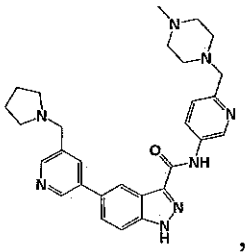
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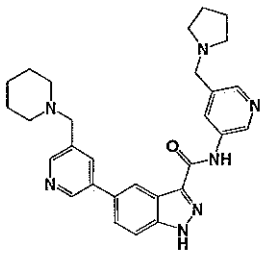
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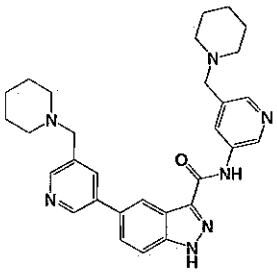
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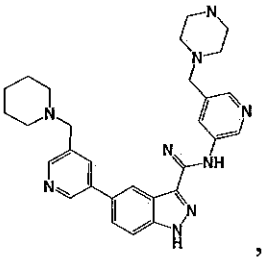
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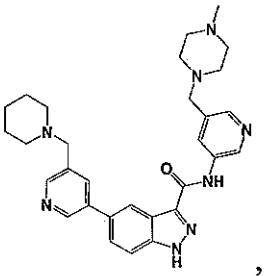
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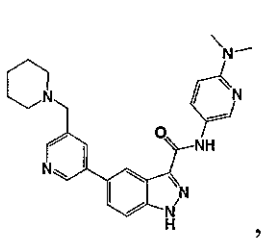
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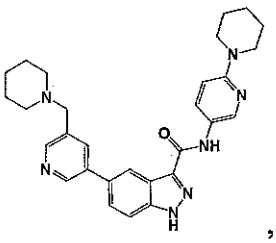
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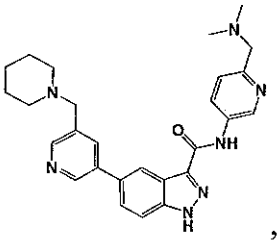
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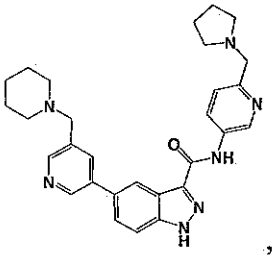
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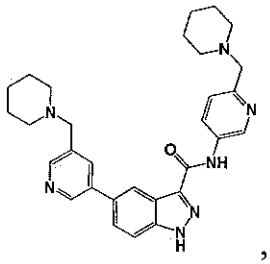
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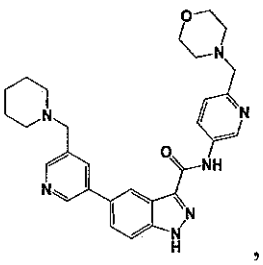
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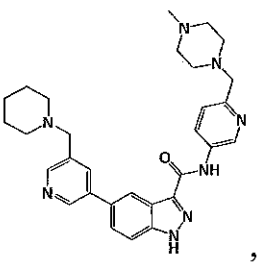
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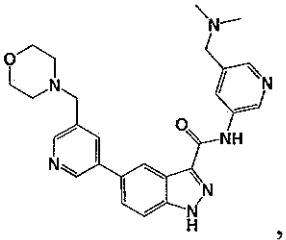
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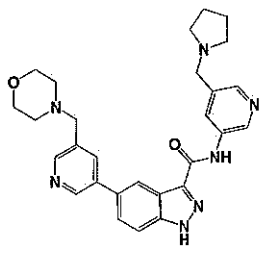
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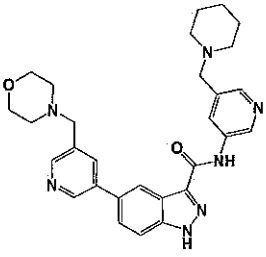
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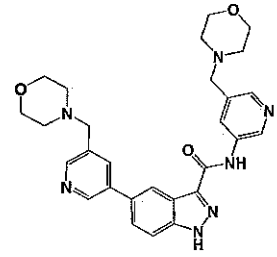
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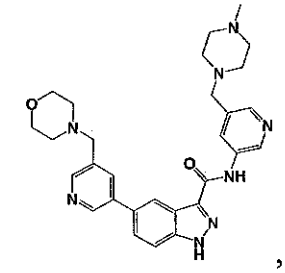
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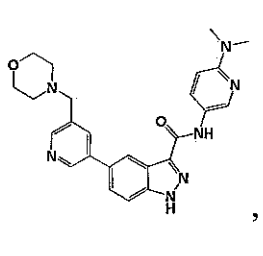
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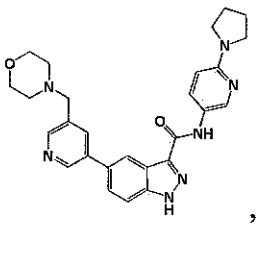
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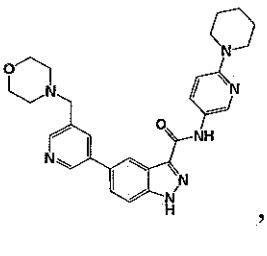
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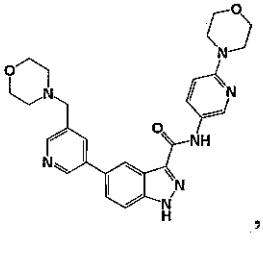
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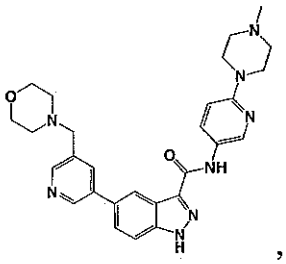
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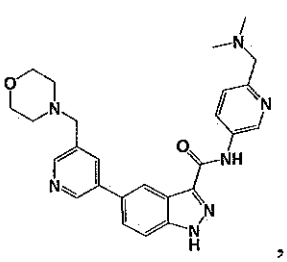
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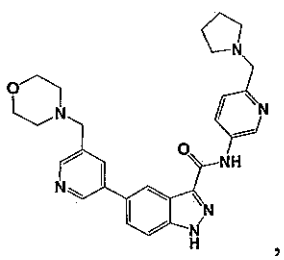
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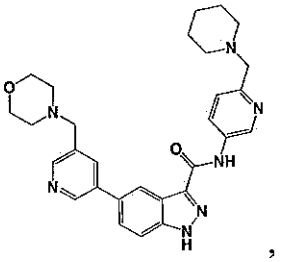
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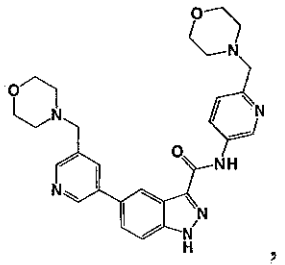
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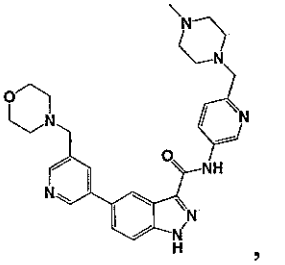
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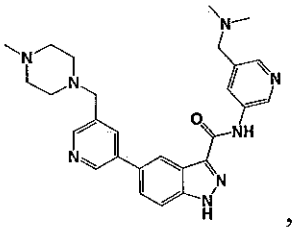
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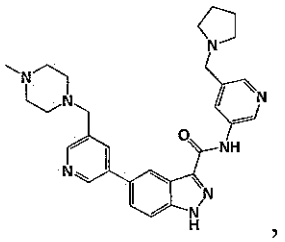
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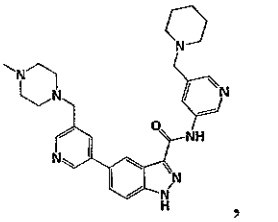
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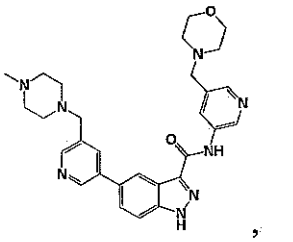
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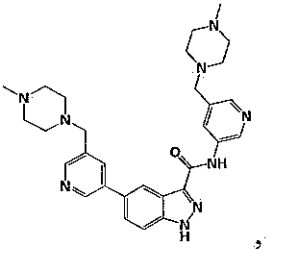
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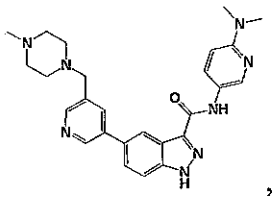
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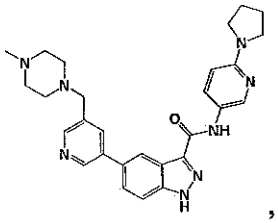
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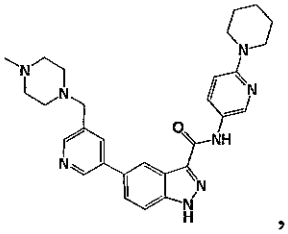
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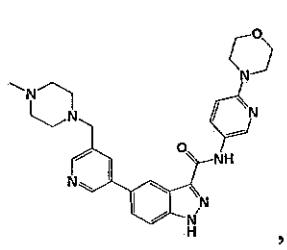
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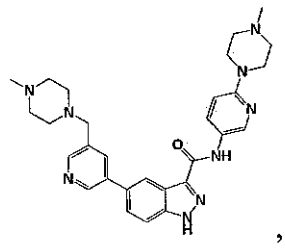
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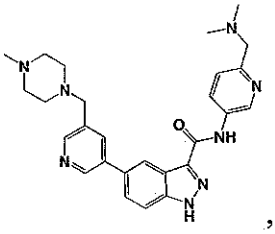
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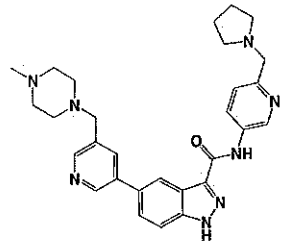
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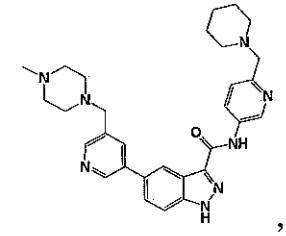
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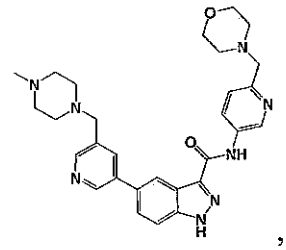
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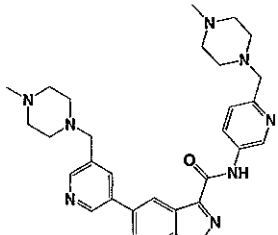
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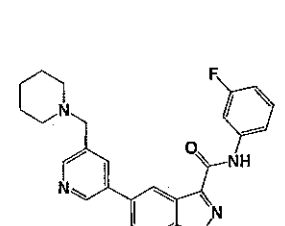
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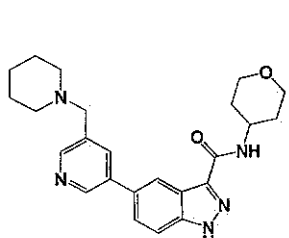
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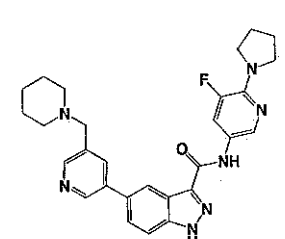
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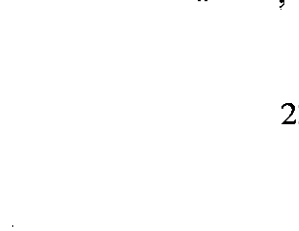
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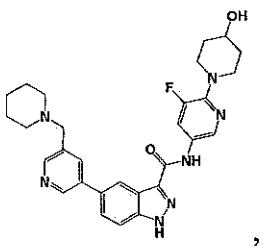
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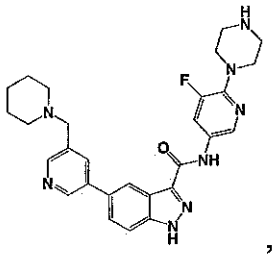
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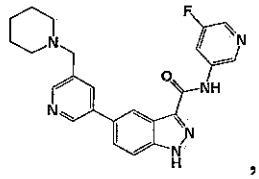
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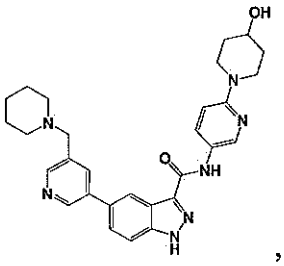
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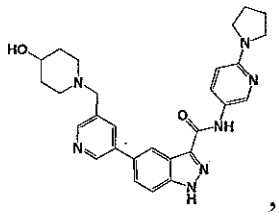
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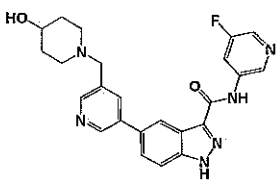
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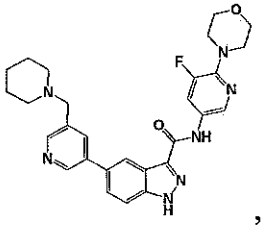
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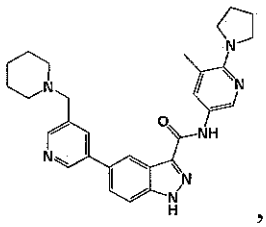
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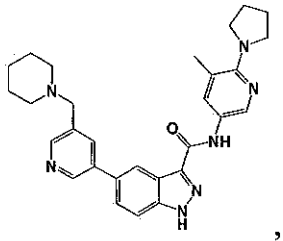
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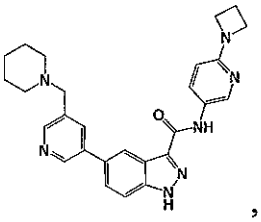
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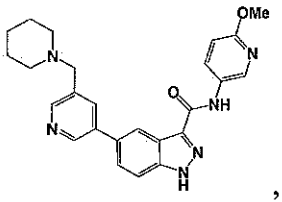
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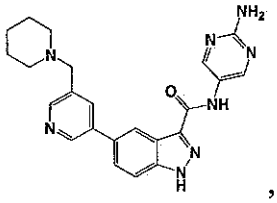
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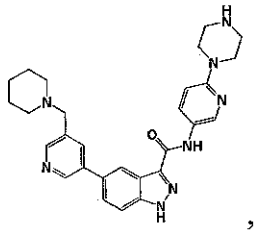
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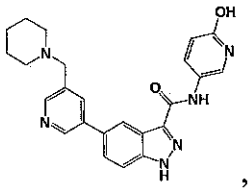
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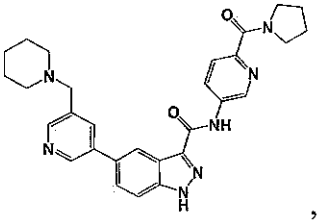
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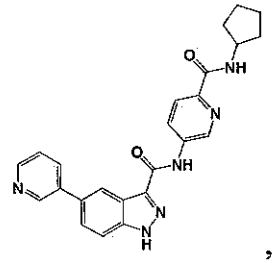
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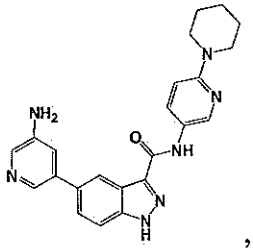
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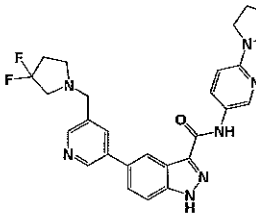
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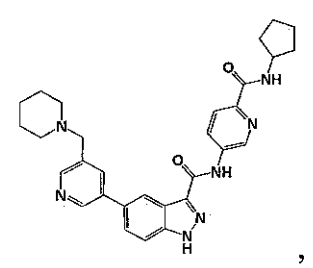
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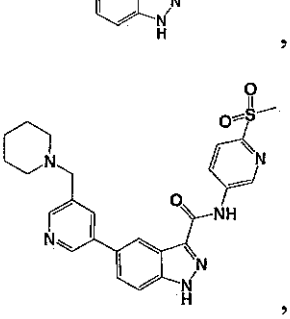
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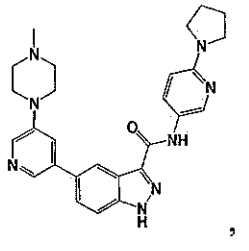
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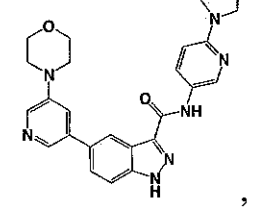
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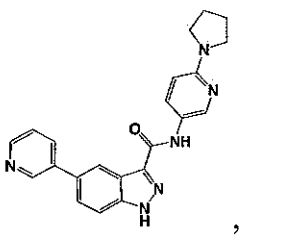
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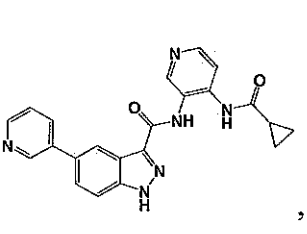
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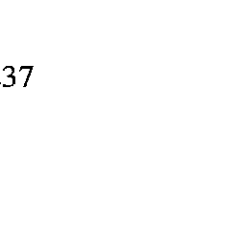
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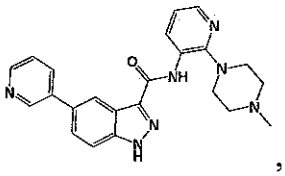
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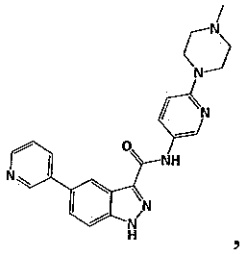
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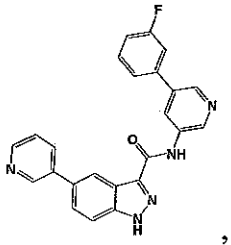
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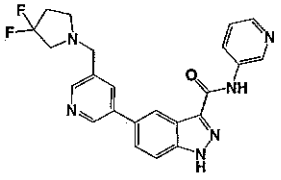
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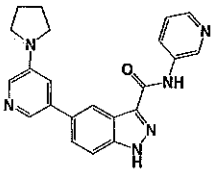
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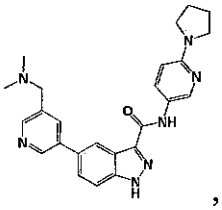
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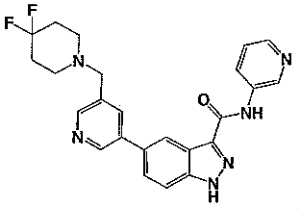
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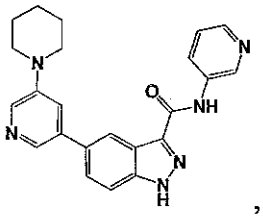
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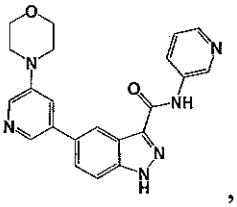
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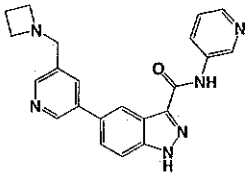
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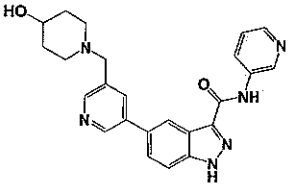
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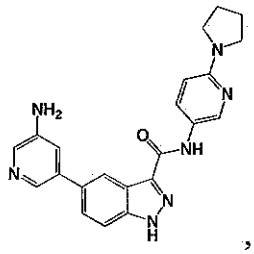
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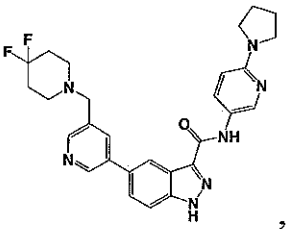
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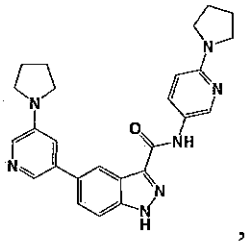
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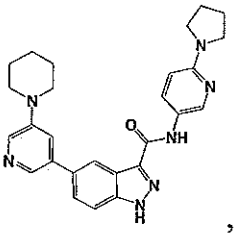
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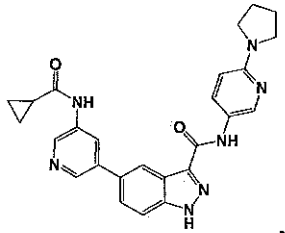
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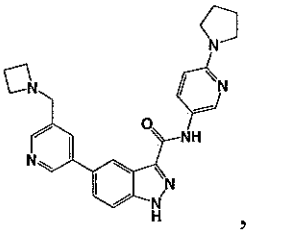
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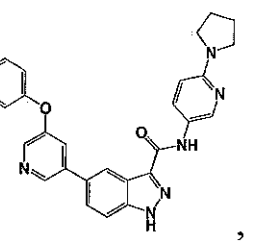
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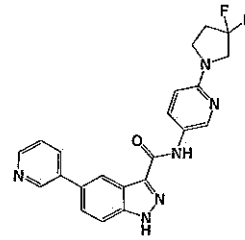
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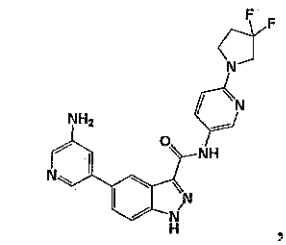
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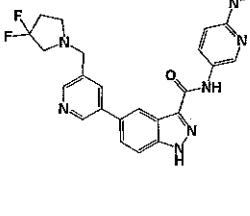
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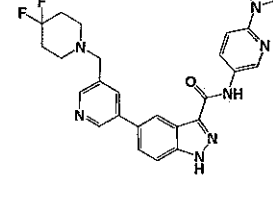
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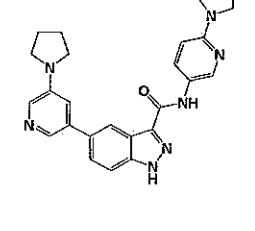
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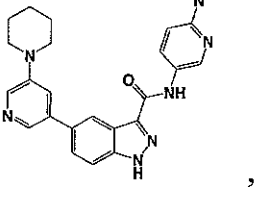
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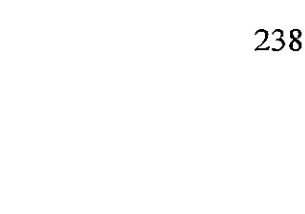
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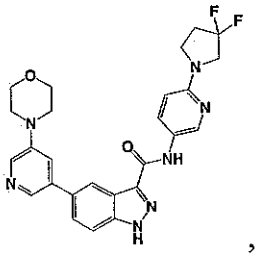
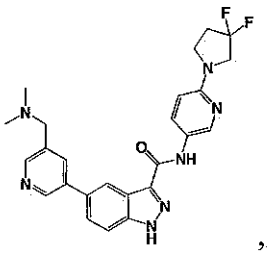
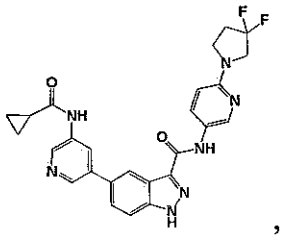

, 
, and 
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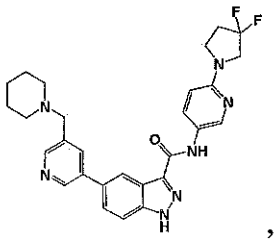
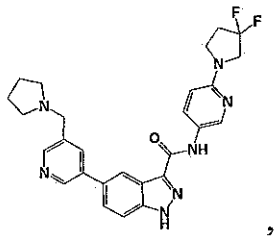
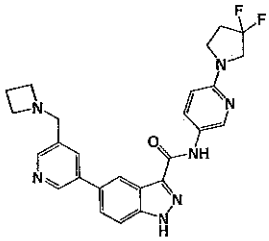
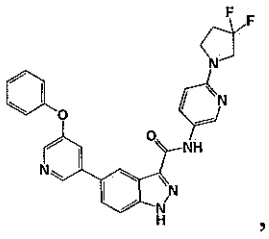
12. The compound of claim 9 having a structure selected from the group consisting of:


, 
, 
, 
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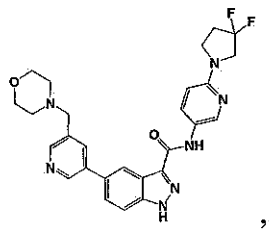
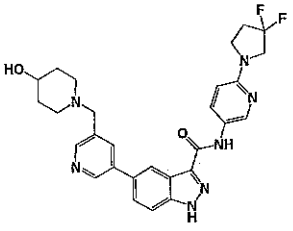
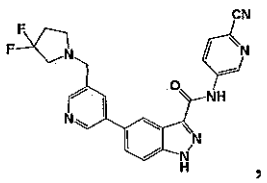
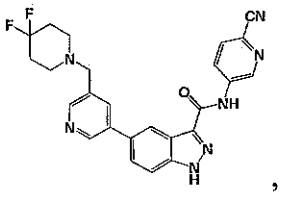

, 
, 
, 
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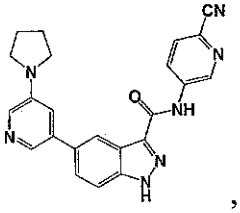
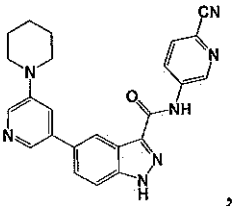
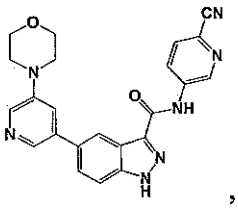
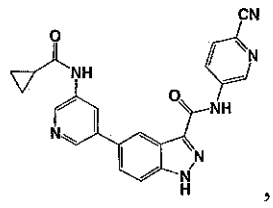

, 
, 
, 
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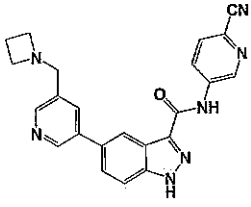
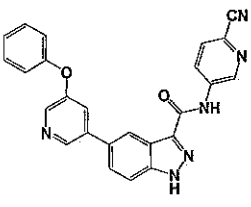
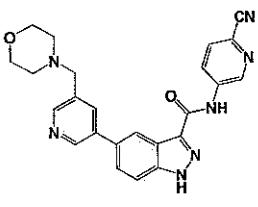
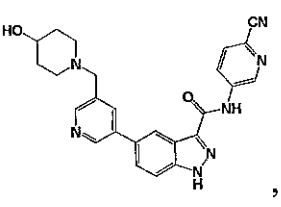

, 
, 
, 
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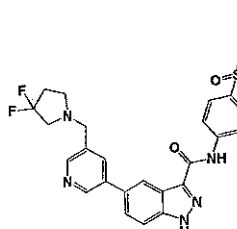
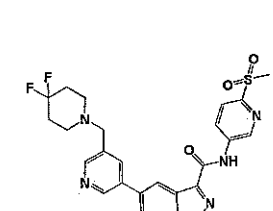
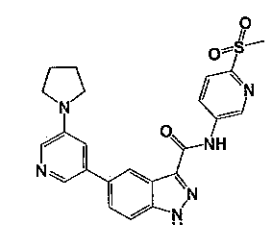
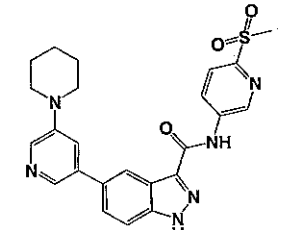

, 
, 
, 
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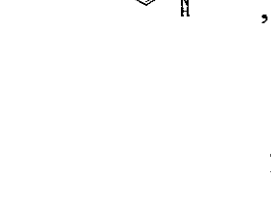
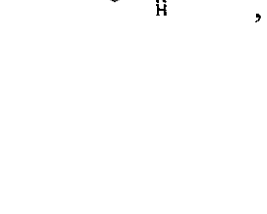
, 
, 
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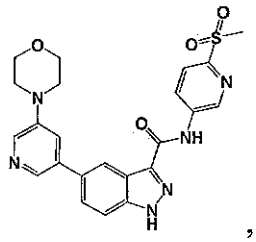
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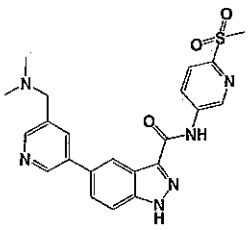
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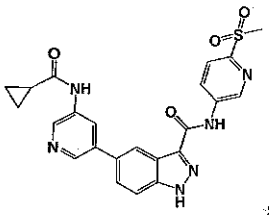
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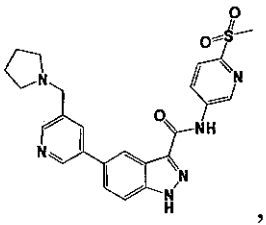
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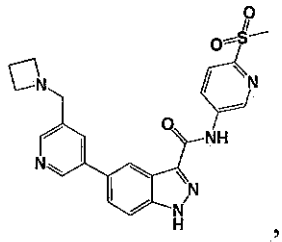
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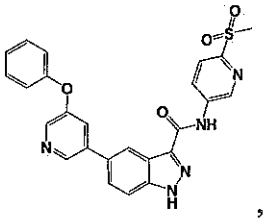
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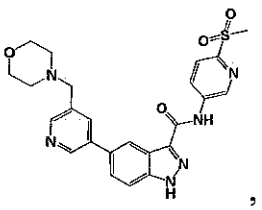
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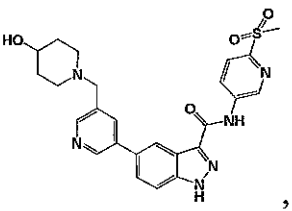
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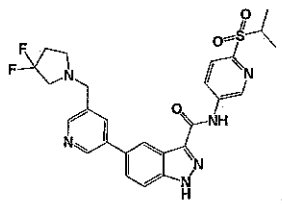
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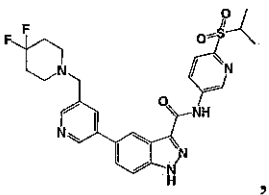
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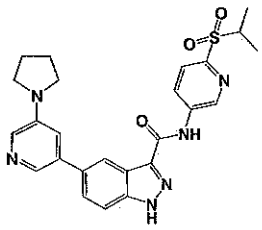
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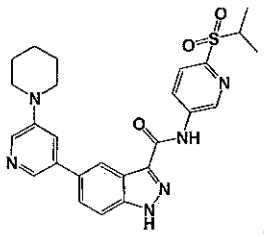
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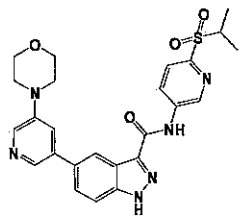
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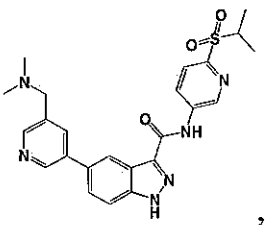
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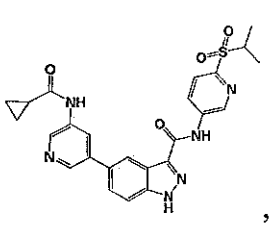
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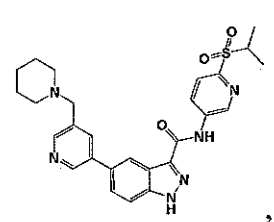
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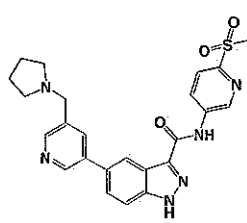
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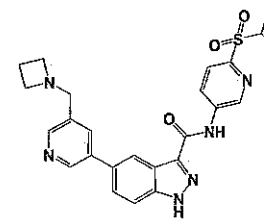
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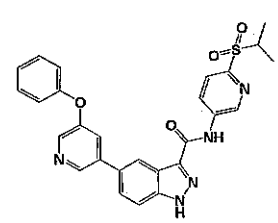
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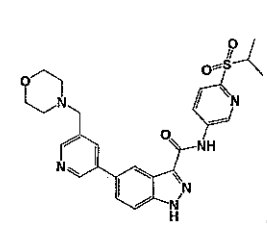
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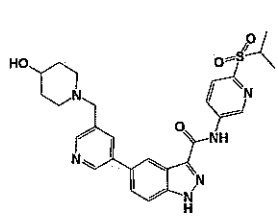
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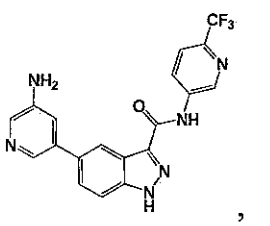
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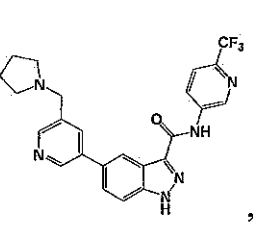
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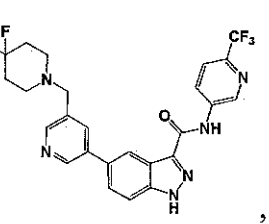
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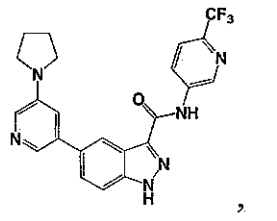
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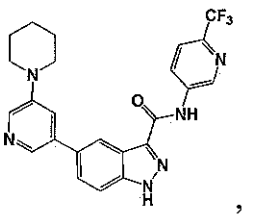
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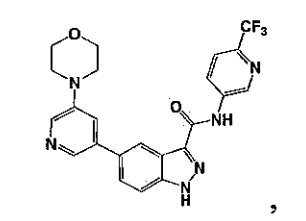
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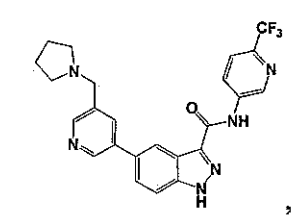
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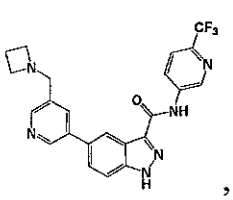
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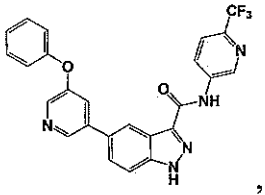
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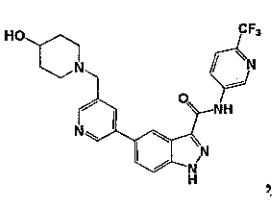
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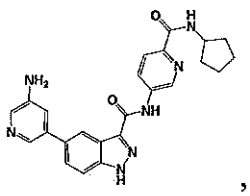
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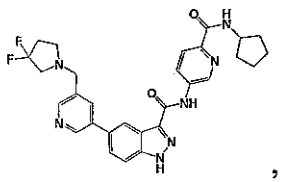
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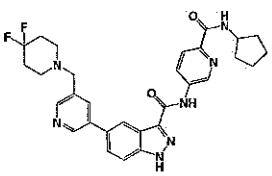
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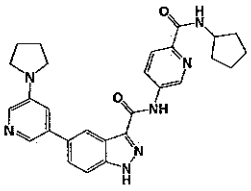
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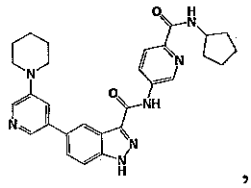
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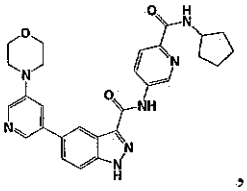
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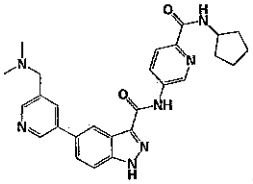
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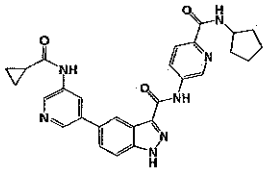
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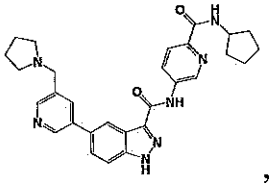
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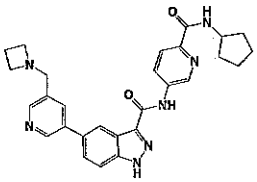
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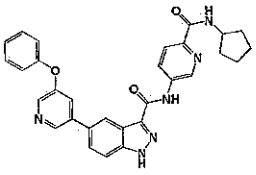
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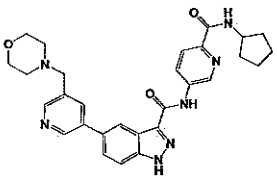
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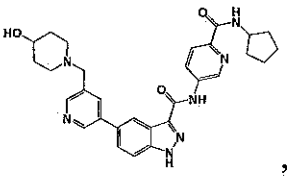
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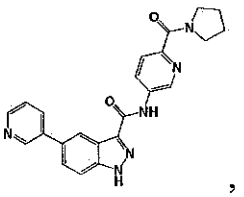
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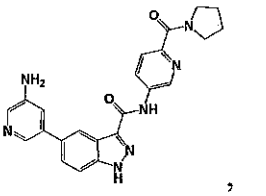
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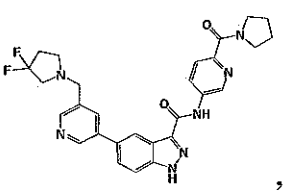
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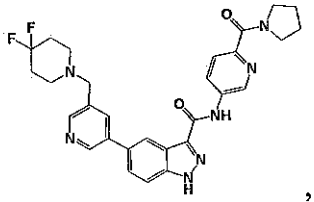
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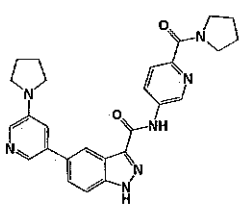
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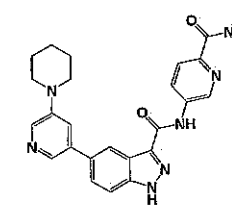
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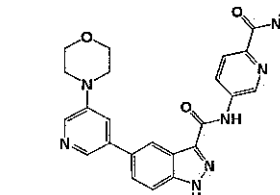
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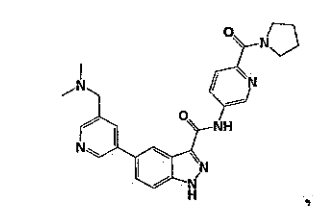
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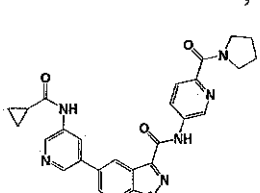
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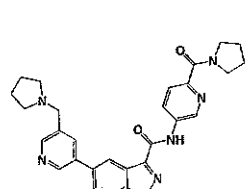
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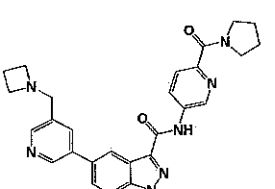
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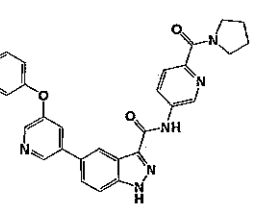
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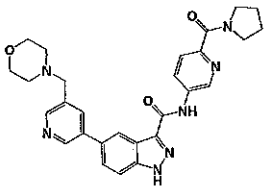
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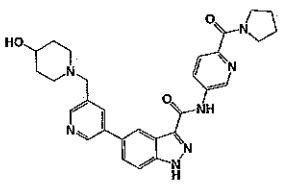
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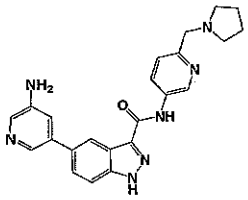
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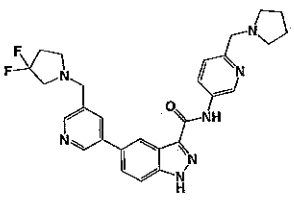
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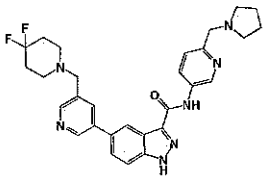
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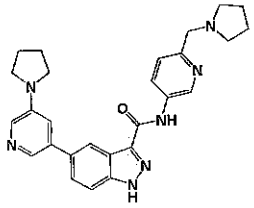
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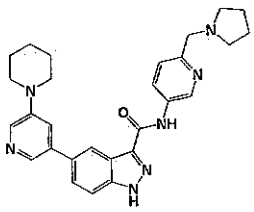
13. The compound of claim 9 having a structure selected from the group consisting of: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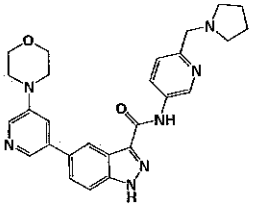
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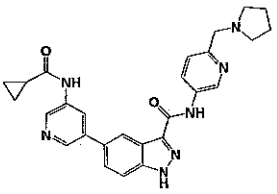
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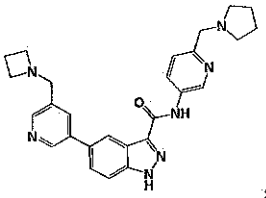
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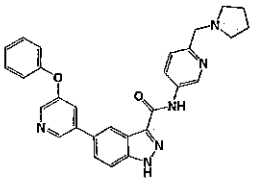
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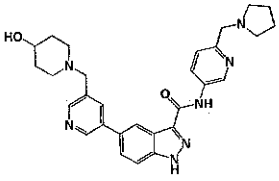
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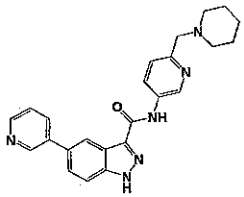
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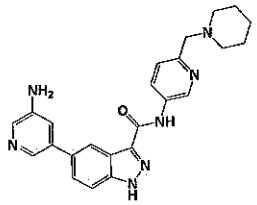
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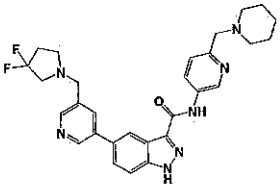
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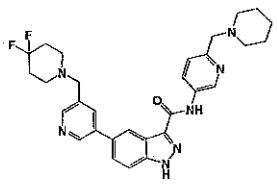
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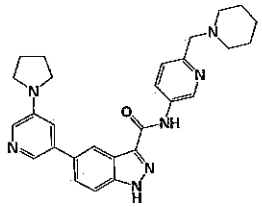
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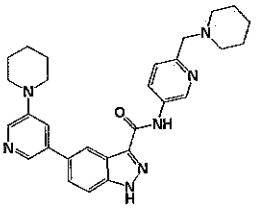
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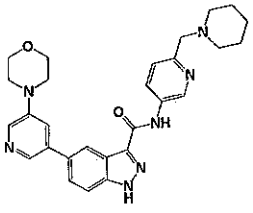
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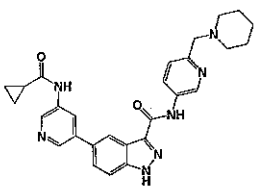
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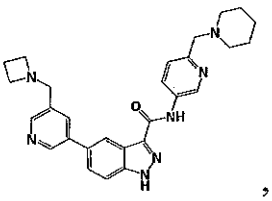
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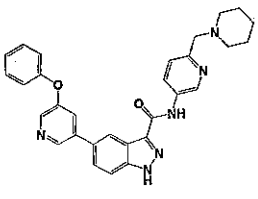
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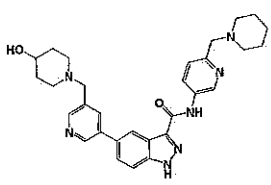
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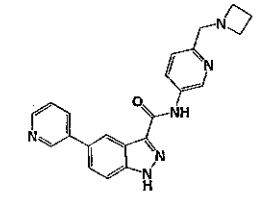
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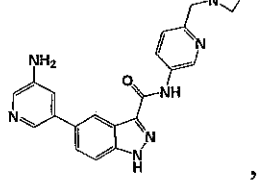
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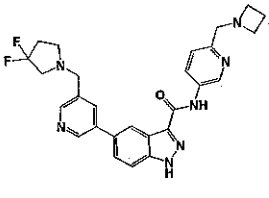
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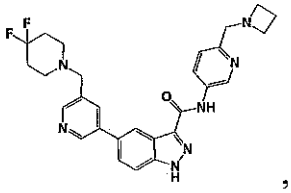
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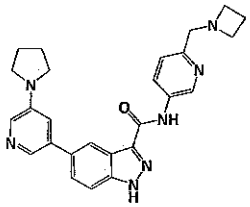
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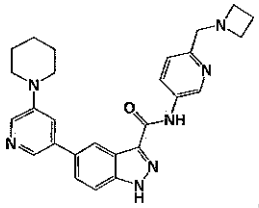
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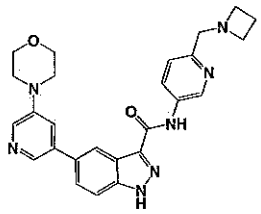
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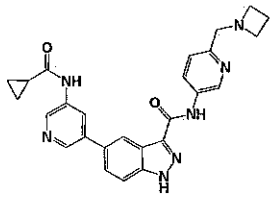
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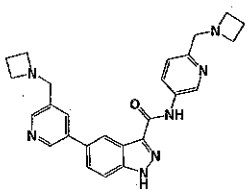
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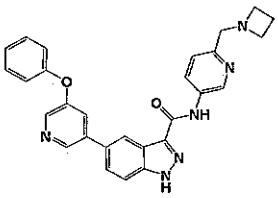
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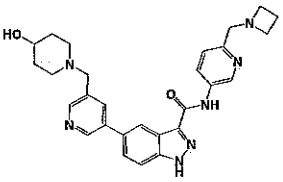
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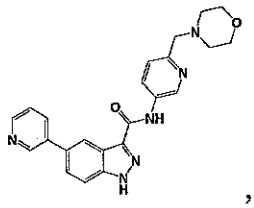
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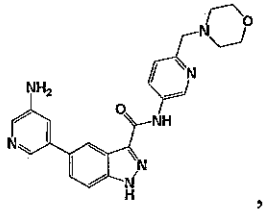
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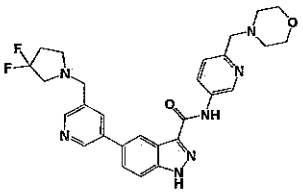
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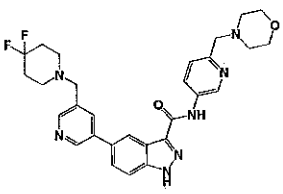
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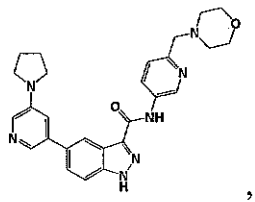
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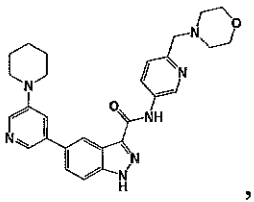
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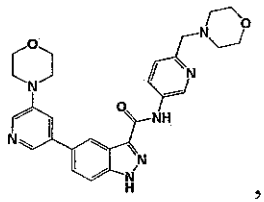
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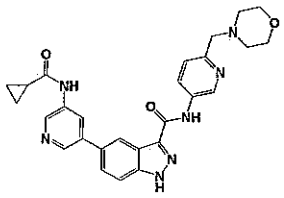
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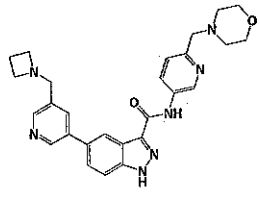
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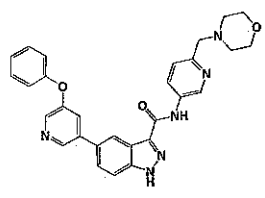
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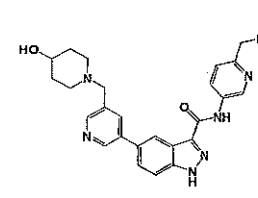
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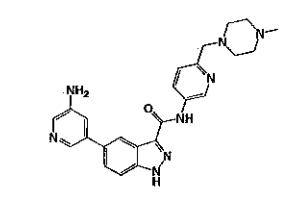
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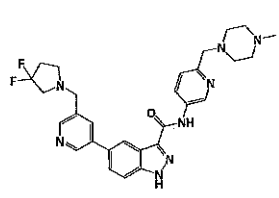
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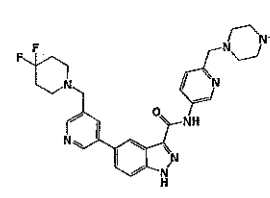
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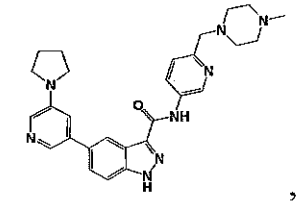
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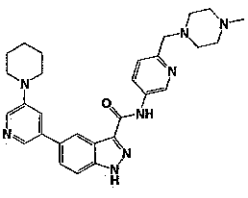
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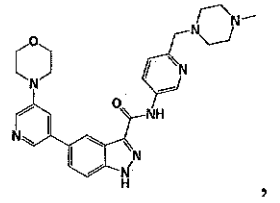
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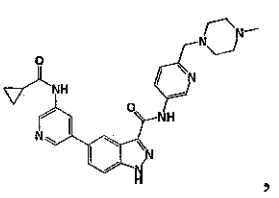
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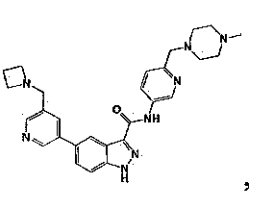
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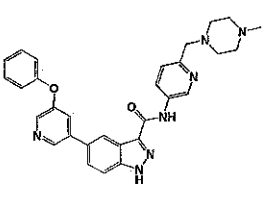
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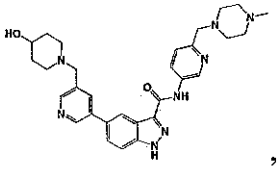
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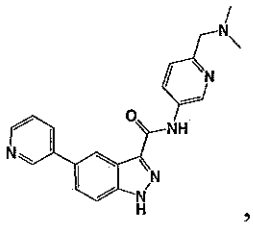
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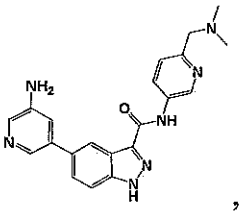
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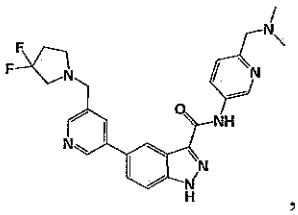
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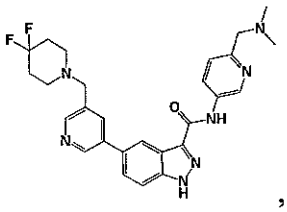
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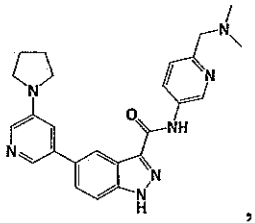
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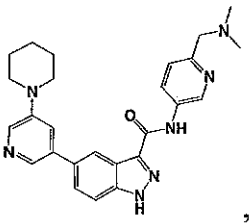
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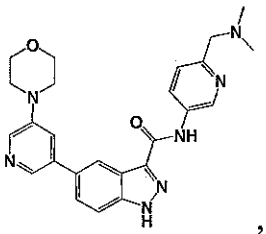
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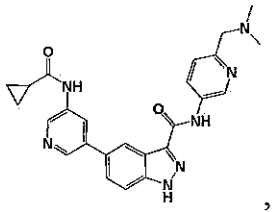
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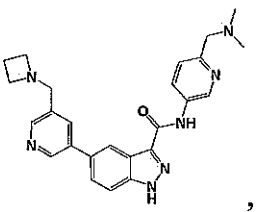
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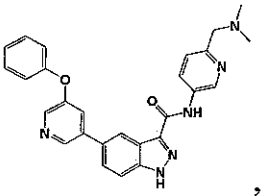
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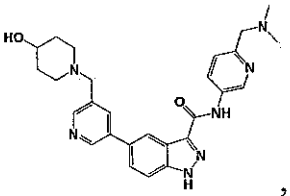
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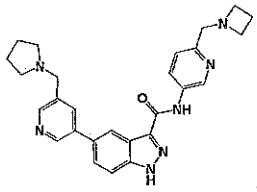
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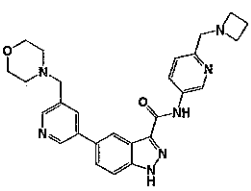
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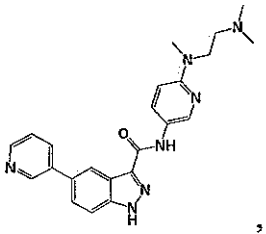
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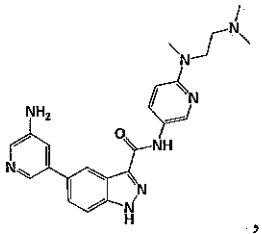
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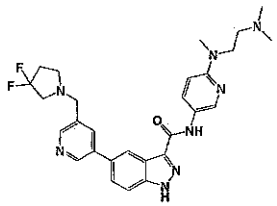
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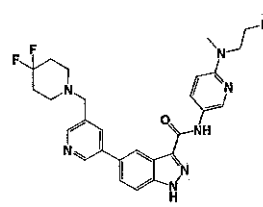
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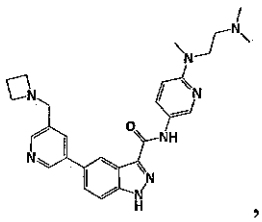
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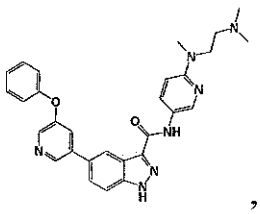
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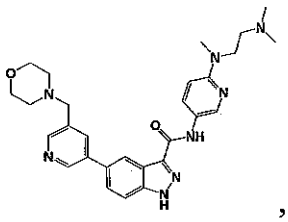
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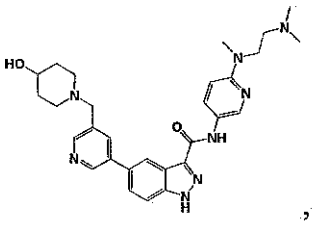
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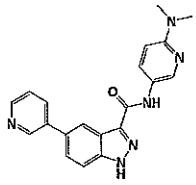
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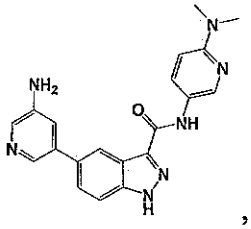
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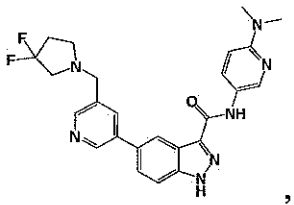
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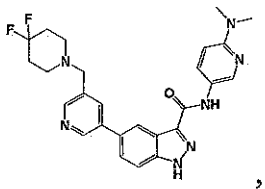
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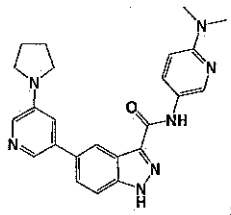
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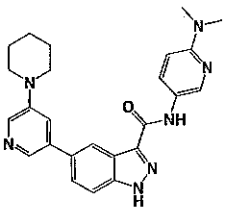
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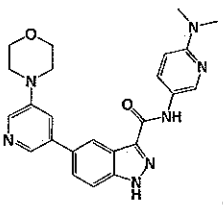
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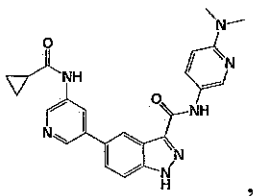
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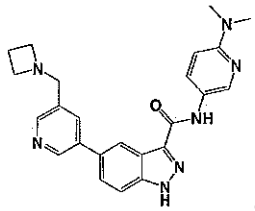
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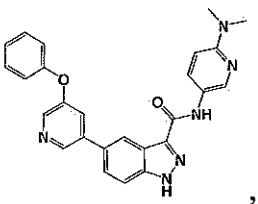
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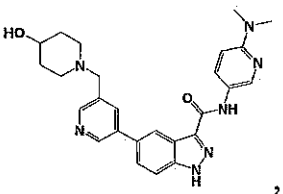
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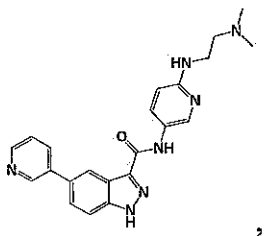
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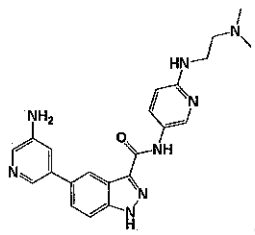
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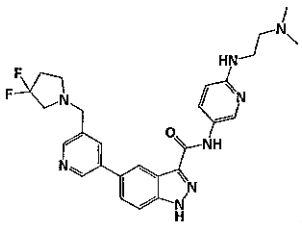
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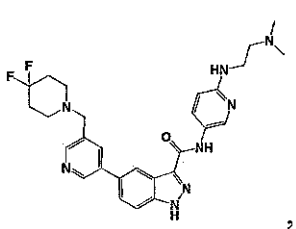
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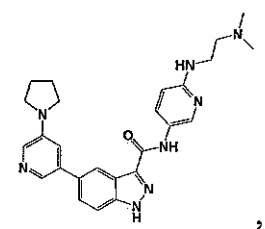
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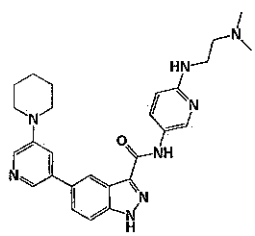
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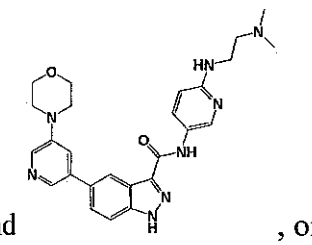
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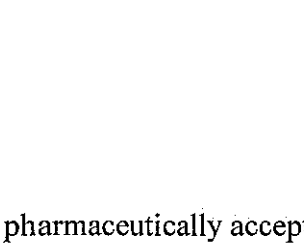
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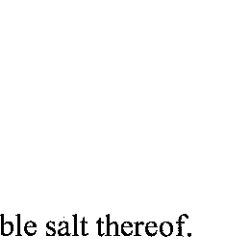
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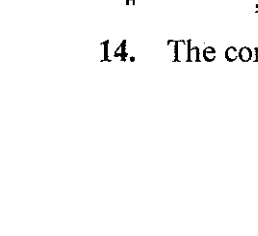
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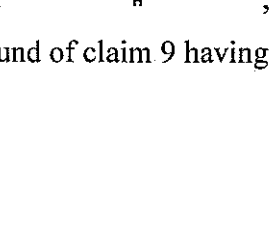
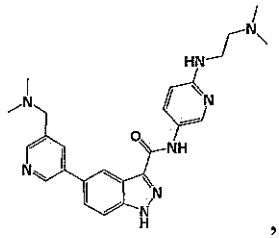

, and
, or a pharmaceutically acceptable salt thereof.

14. The compound of claim 9 having a structure selected from the group consisting of: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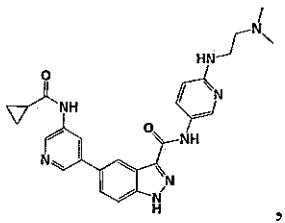
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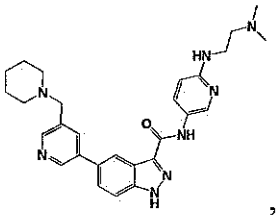
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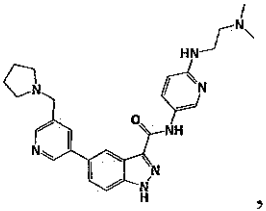
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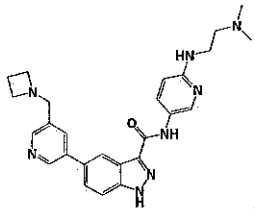
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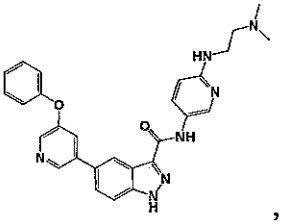
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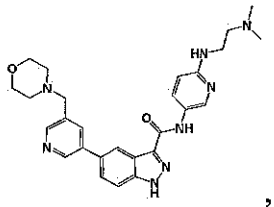
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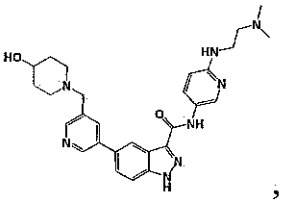
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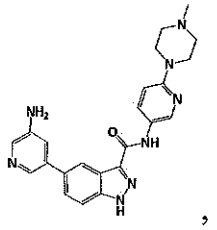
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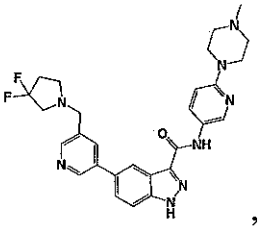
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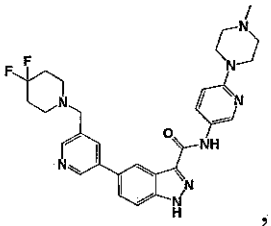
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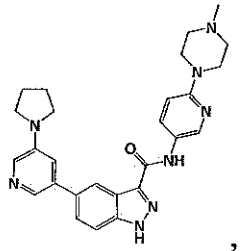
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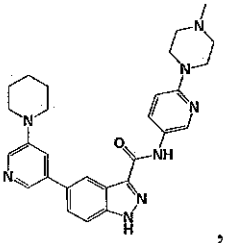
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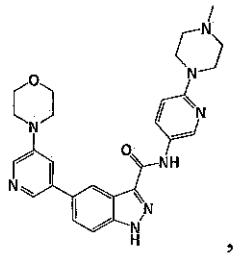
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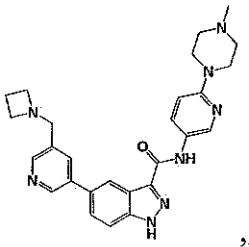
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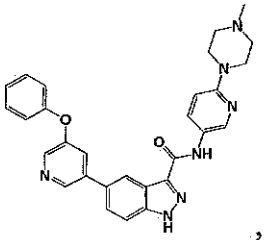
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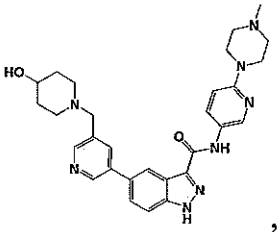
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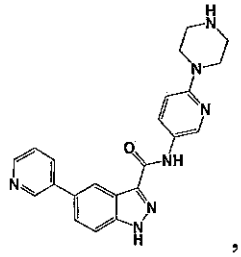
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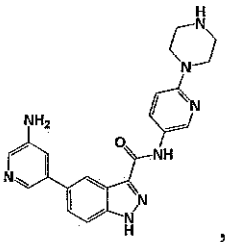
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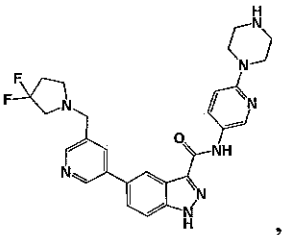
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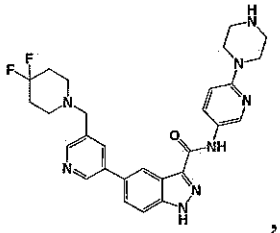
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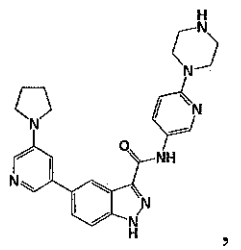
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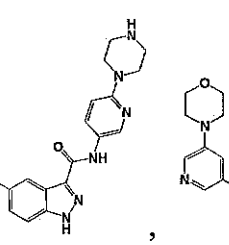
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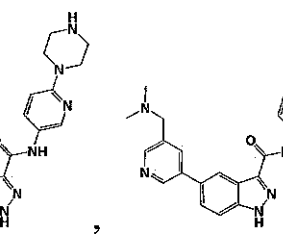
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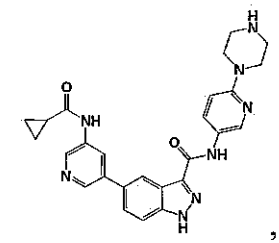
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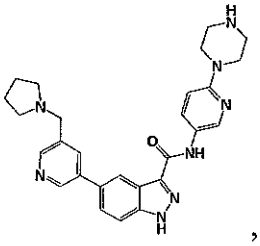
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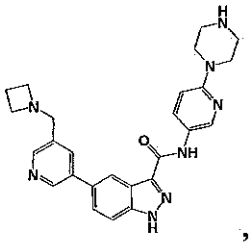
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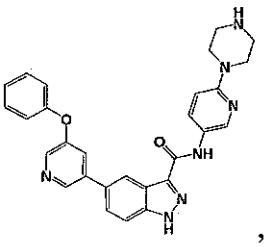
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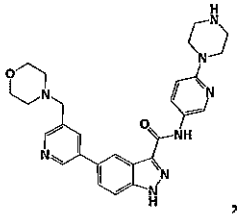
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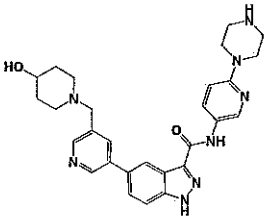
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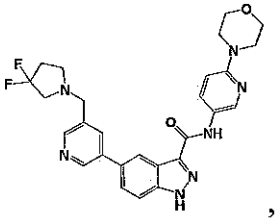
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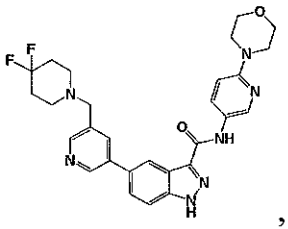
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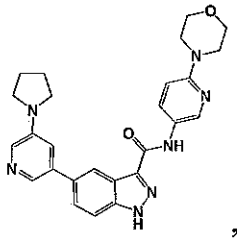
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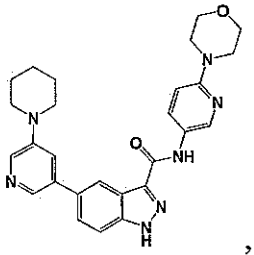
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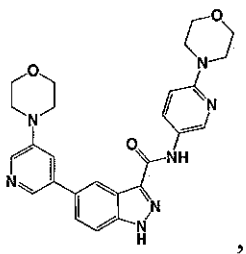
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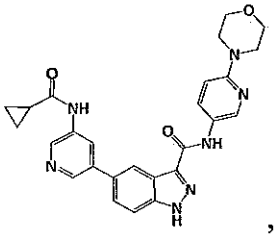
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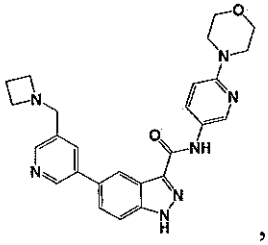
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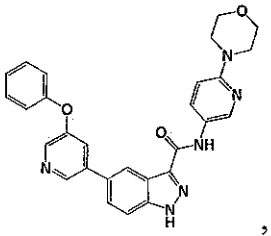
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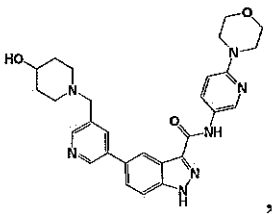
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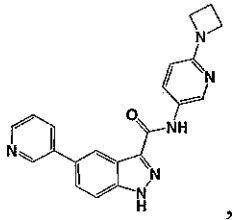
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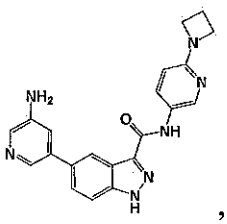
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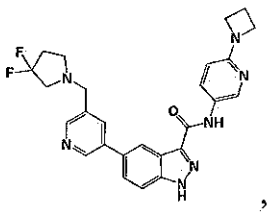
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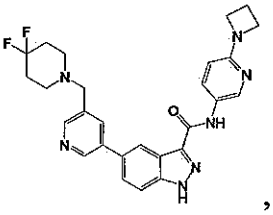
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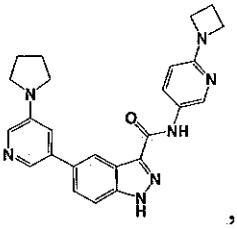
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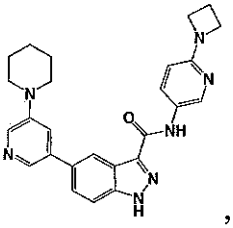
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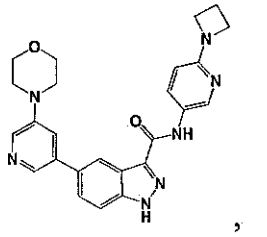
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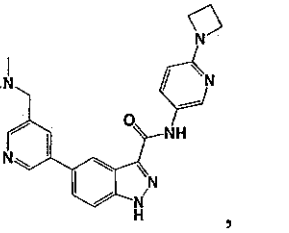
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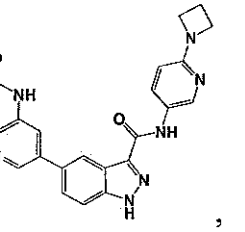
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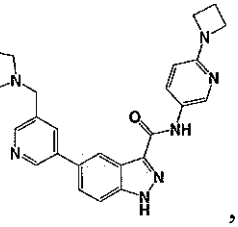
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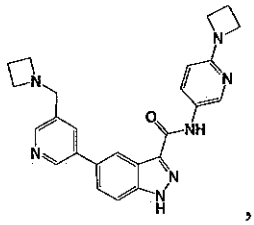
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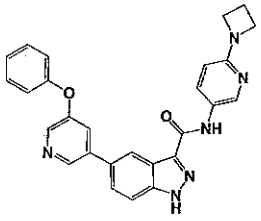
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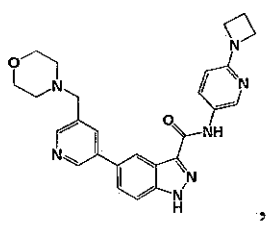
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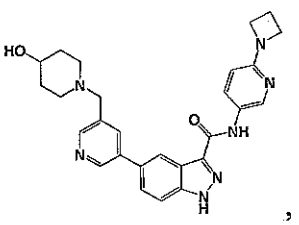
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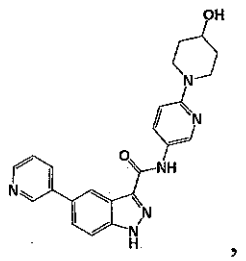
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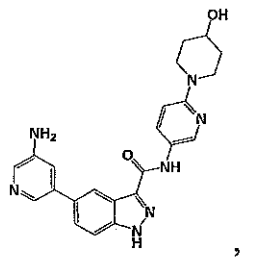
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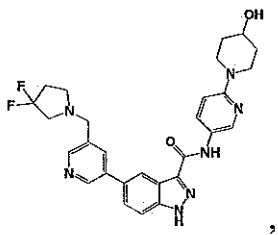
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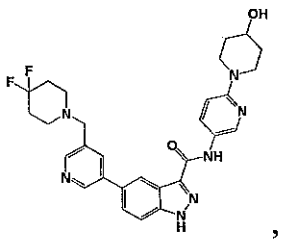
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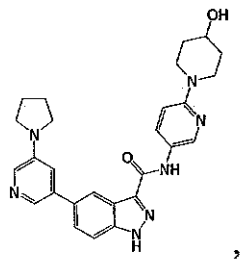
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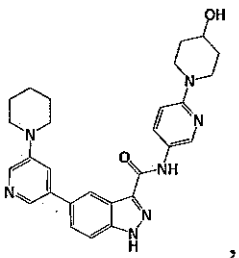
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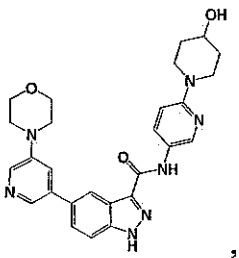
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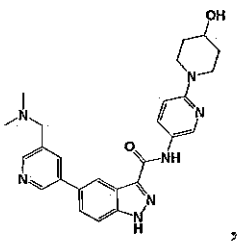
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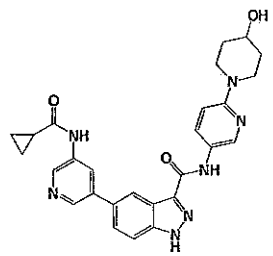
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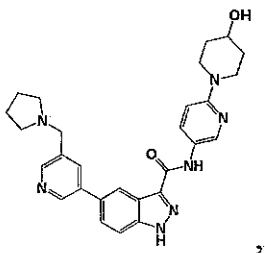
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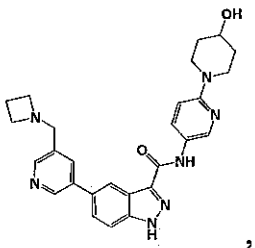
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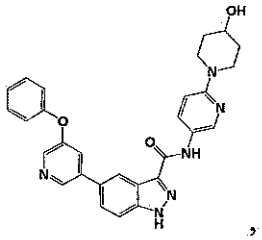
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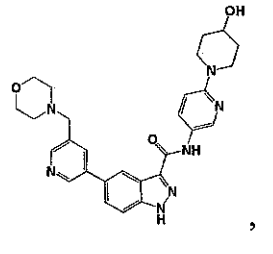
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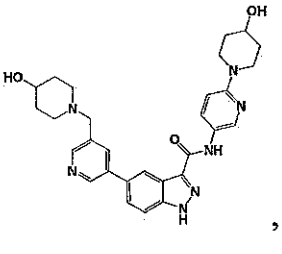
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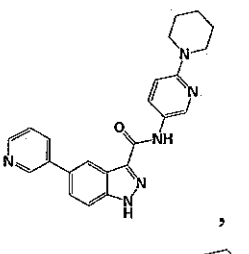
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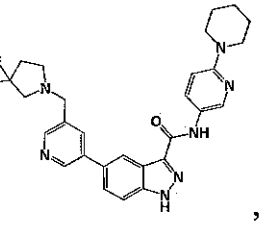
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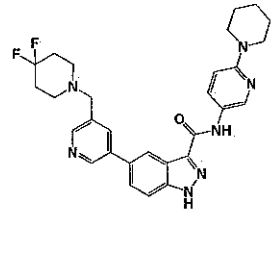
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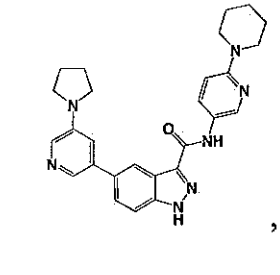
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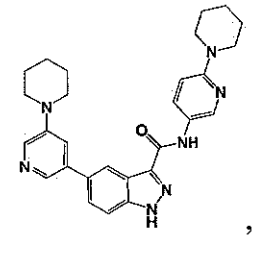
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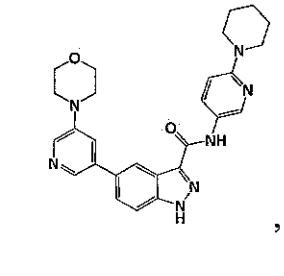
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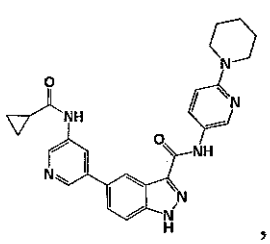
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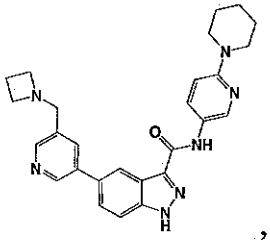
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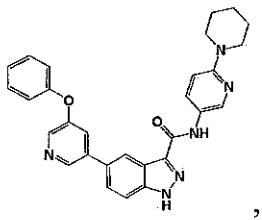
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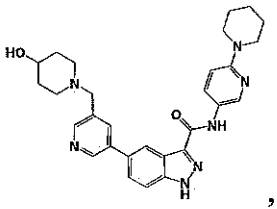
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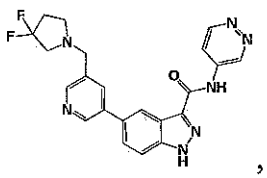
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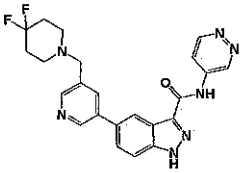
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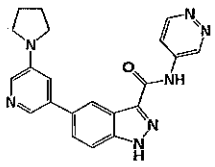
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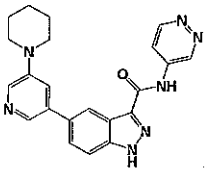
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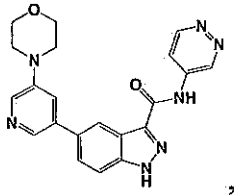
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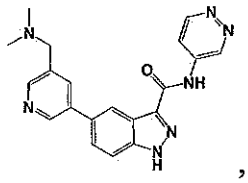
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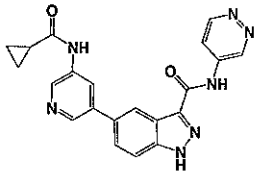
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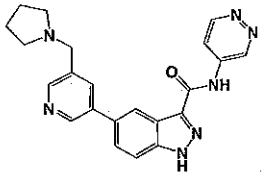
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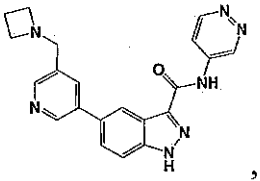
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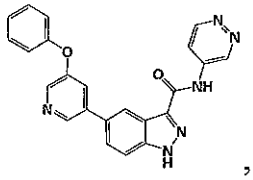
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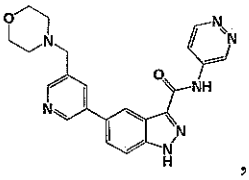
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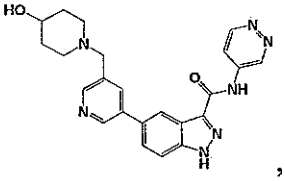
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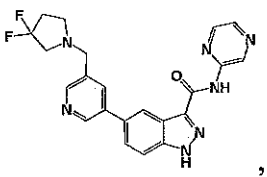
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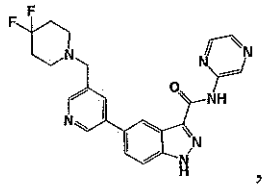
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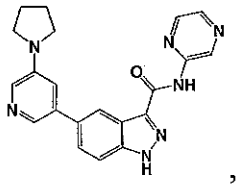
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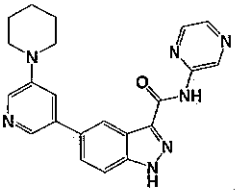
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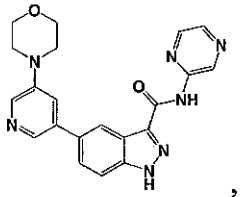
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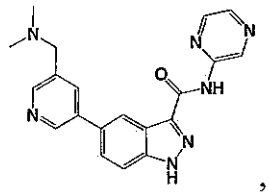
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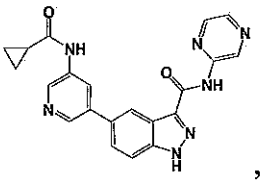
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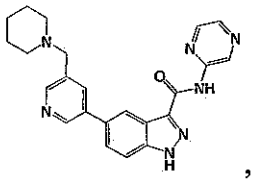
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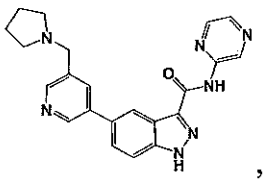
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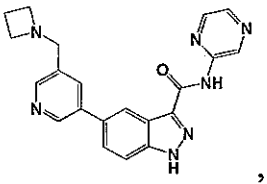
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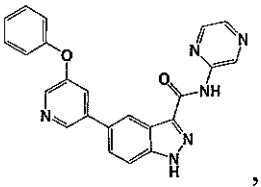
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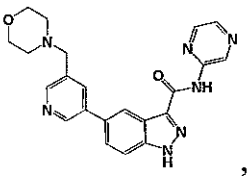
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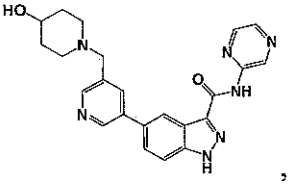
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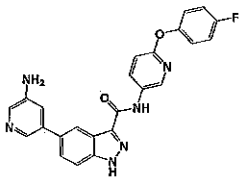
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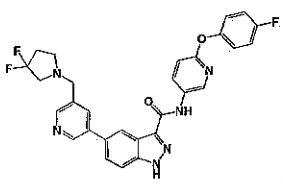
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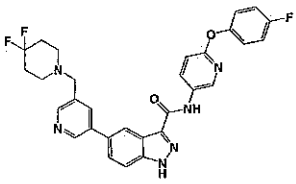
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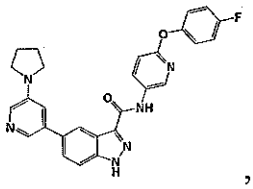
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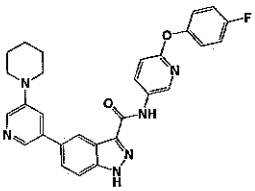
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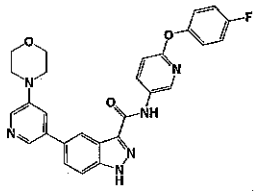
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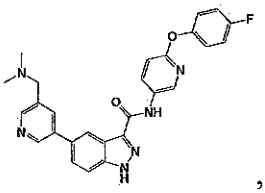
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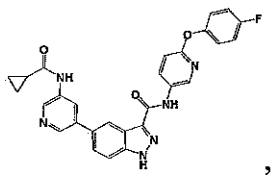
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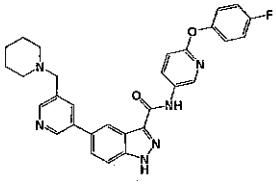
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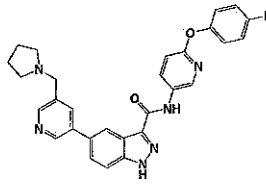
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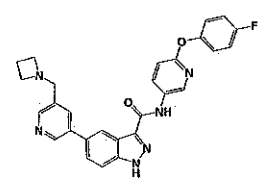
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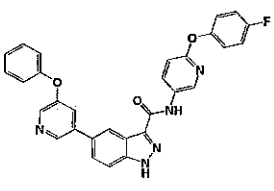
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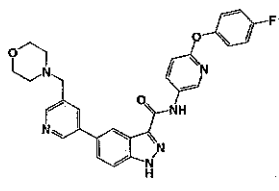
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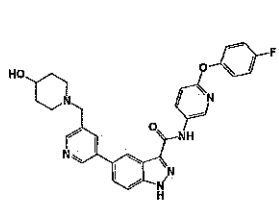
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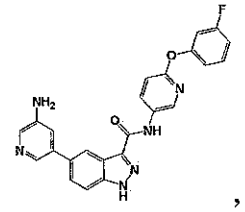
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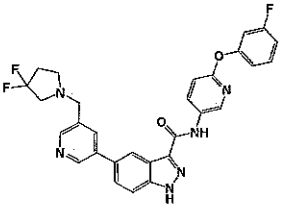
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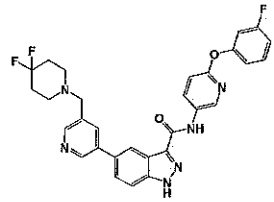
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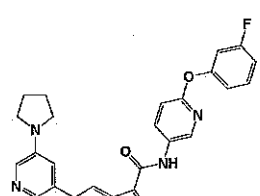
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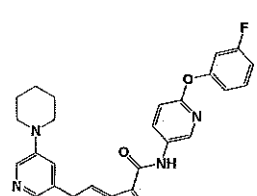
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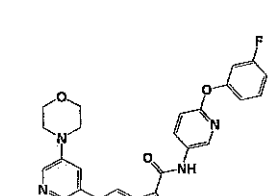
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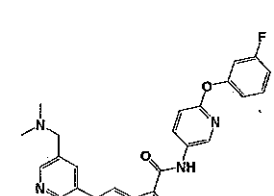
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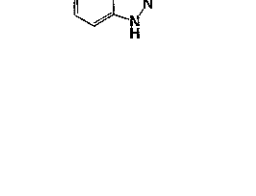
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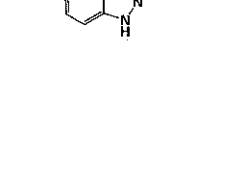
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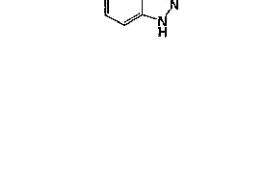
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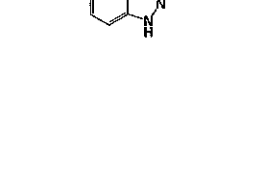
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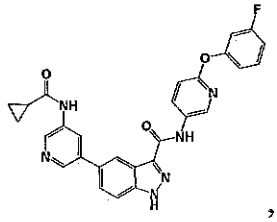
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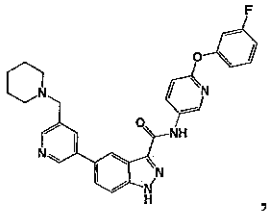
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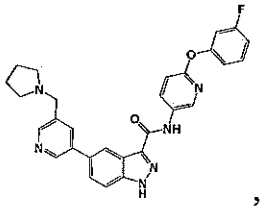
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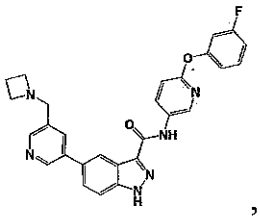
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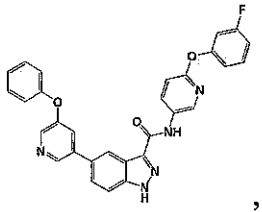
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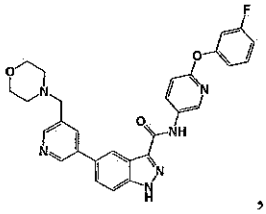
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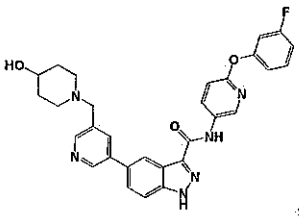
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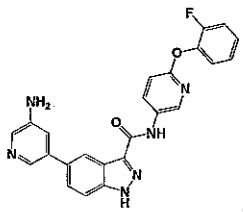
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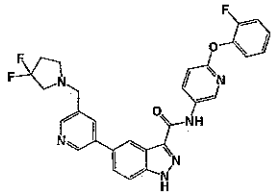
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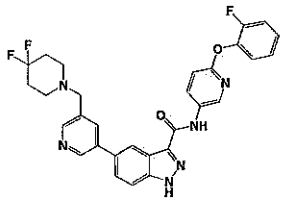
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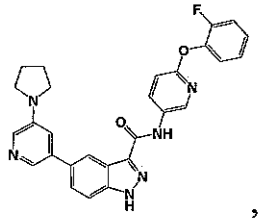
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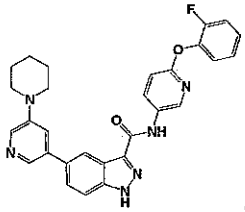
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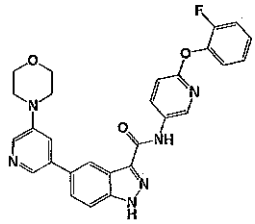
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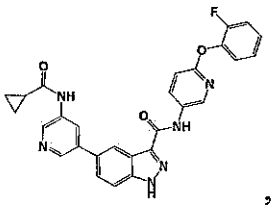
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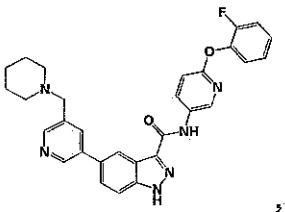
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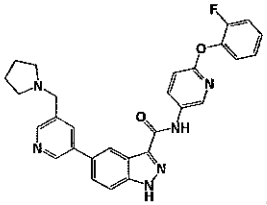
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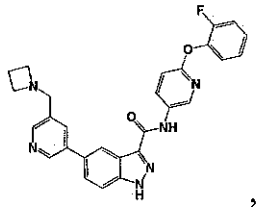
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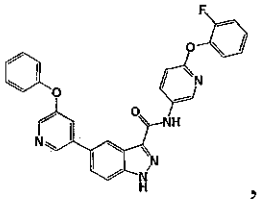
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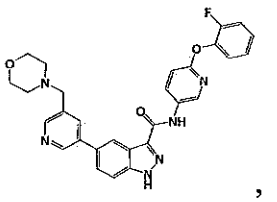
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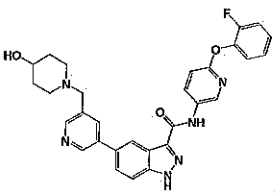
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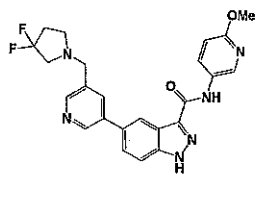
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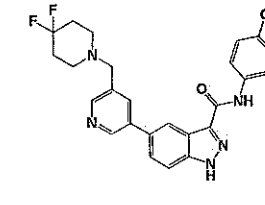
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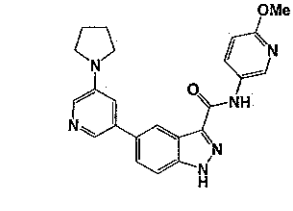
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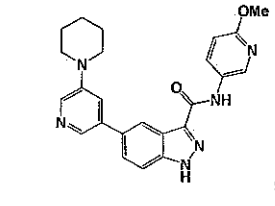
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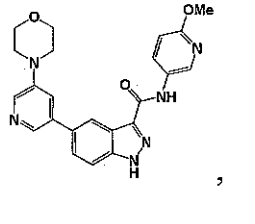
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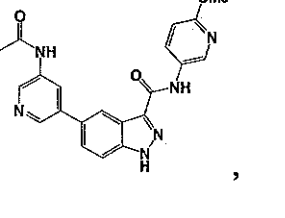
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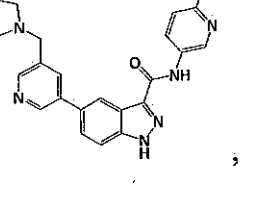
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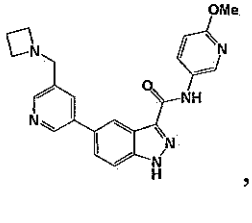
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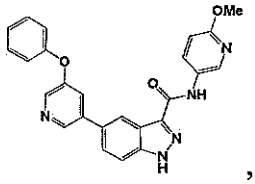
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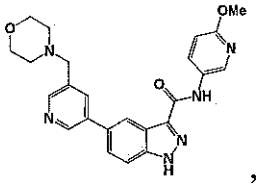
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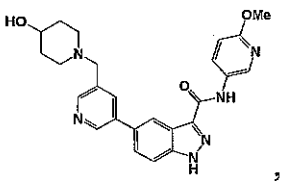
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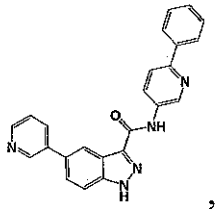
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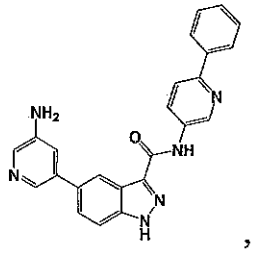
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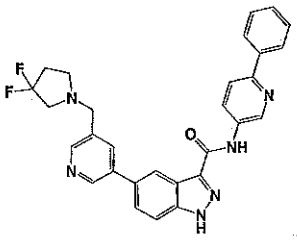
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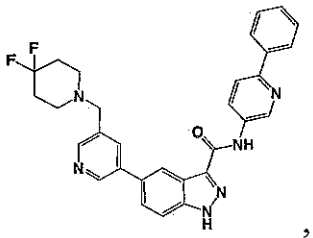
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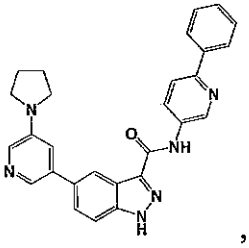
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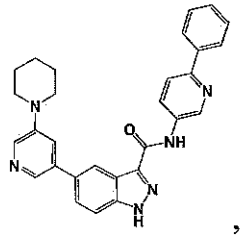
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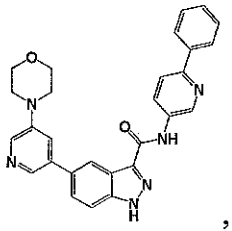
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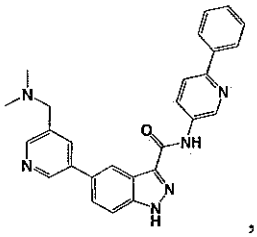
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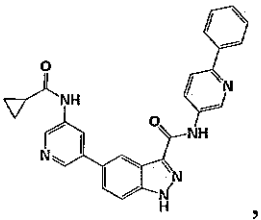
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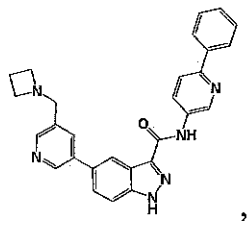
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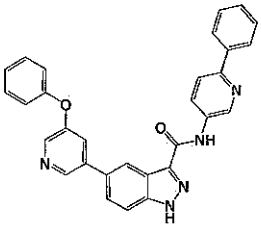
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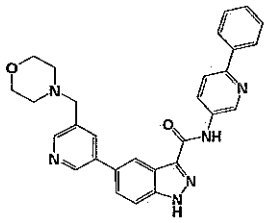
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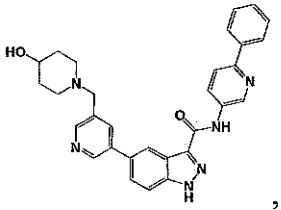
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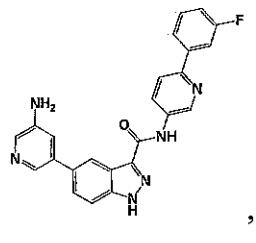
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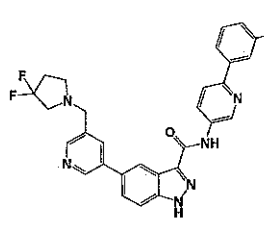
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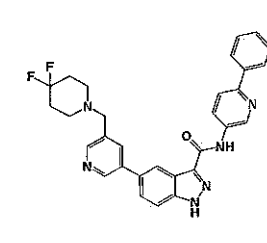
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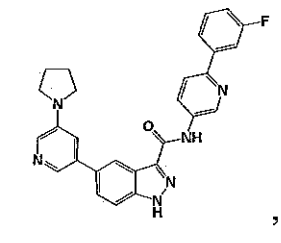
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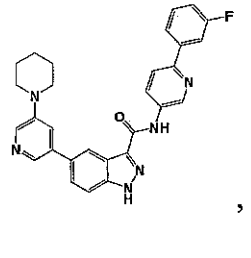
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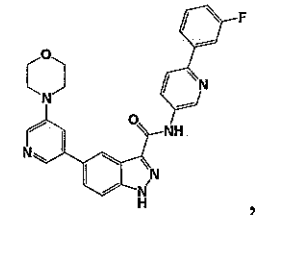
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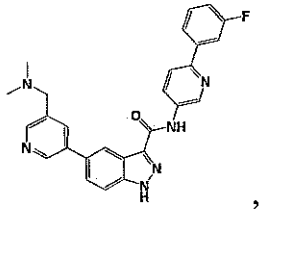
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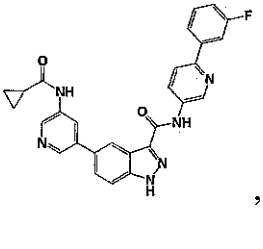
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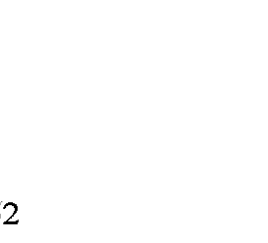
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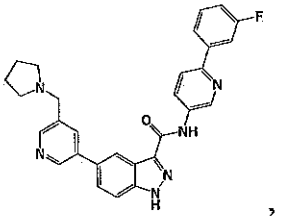
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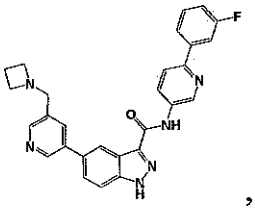
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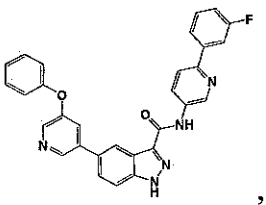
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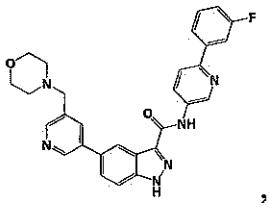
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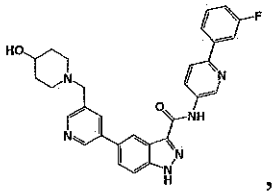
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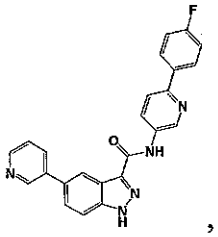
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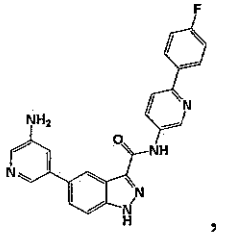
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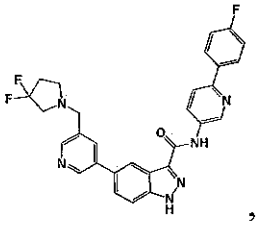
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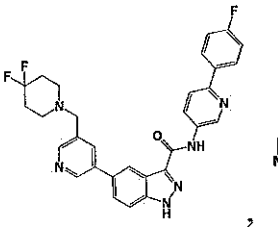
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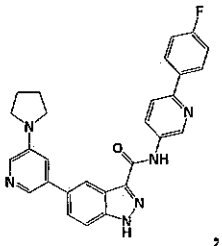
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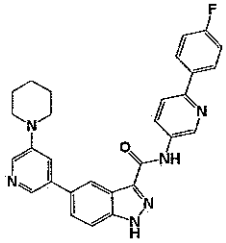
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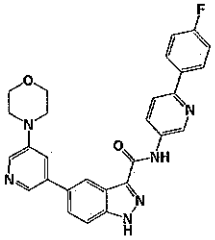
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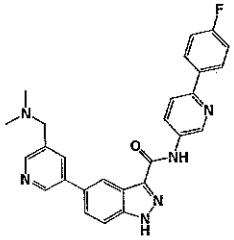
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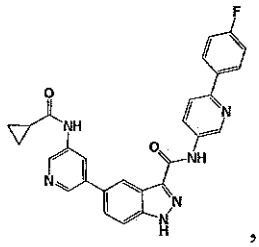
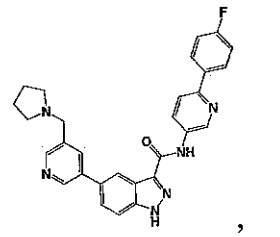

and , or a pharmaceutically acceptable salt thereof.

16. The compound of claim 9 having a structure selected from the group consisting of: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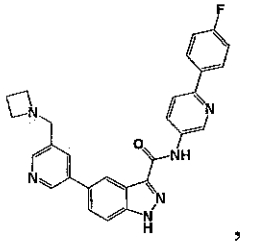
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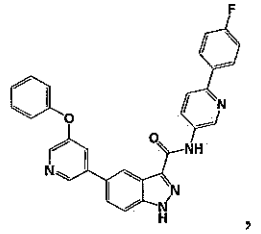
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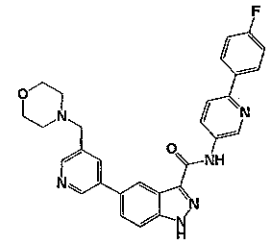
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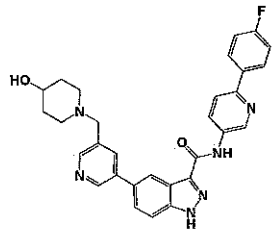
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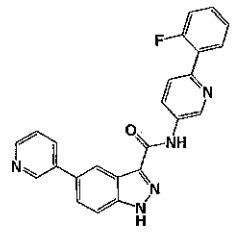
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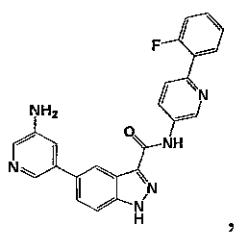
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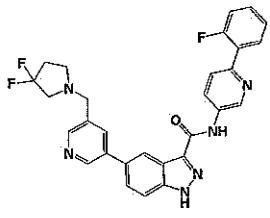
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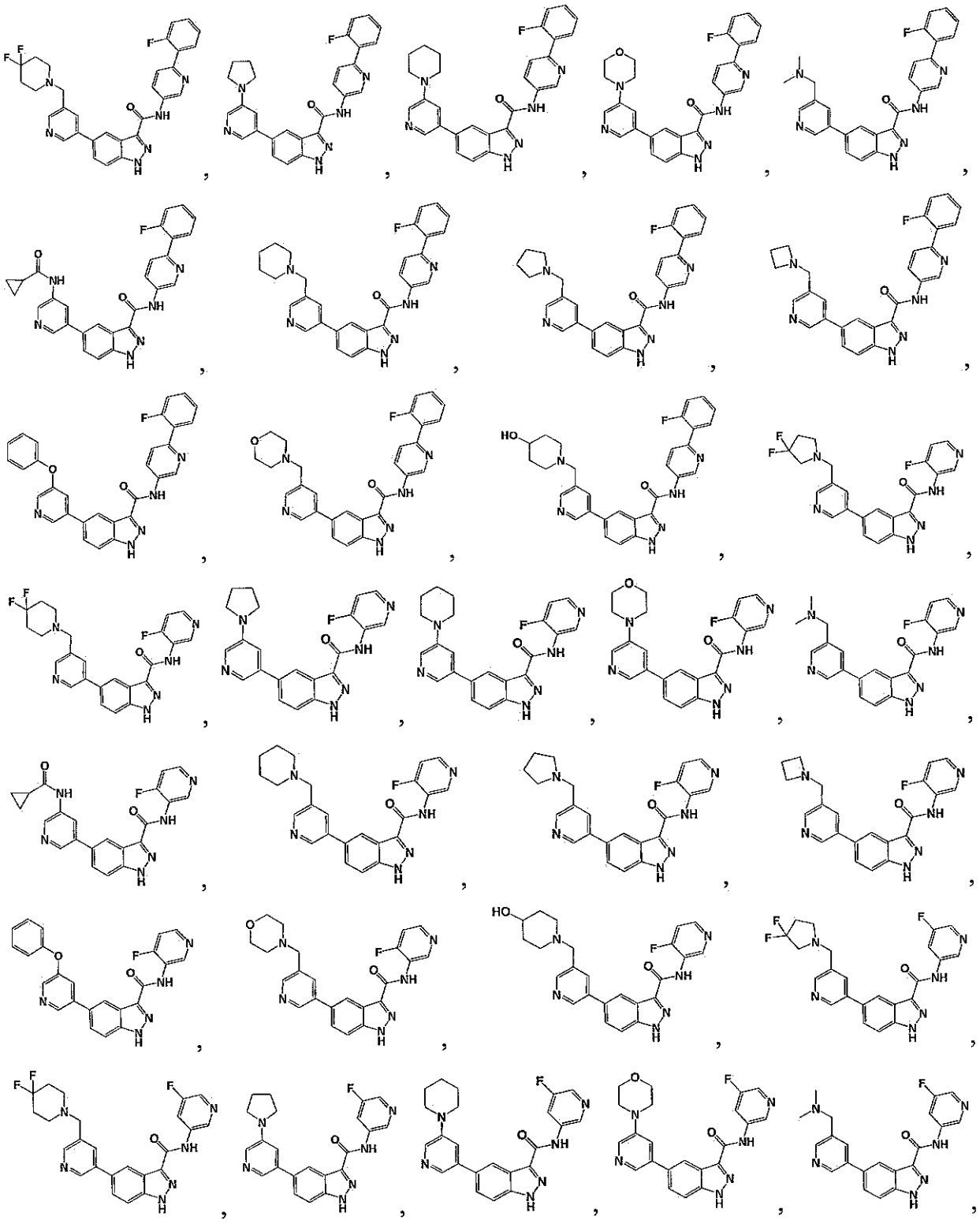

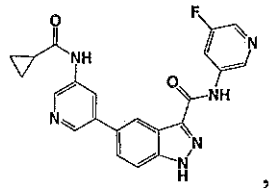
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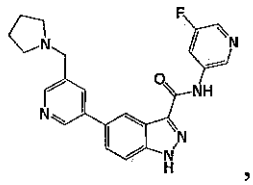
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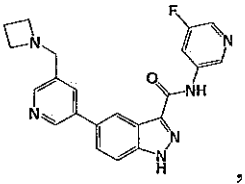
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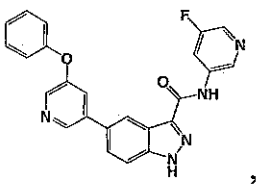
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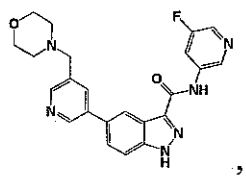
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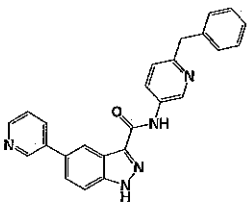
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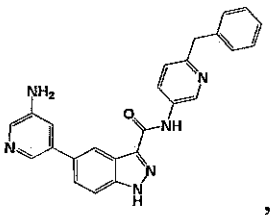
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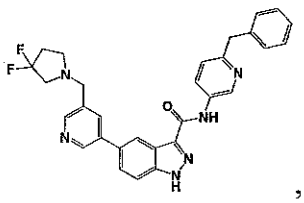
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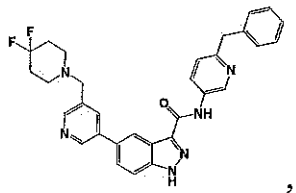
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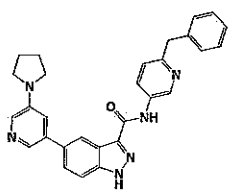
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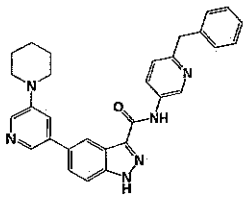
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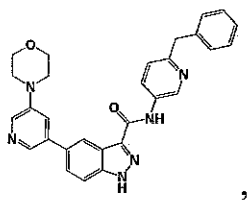
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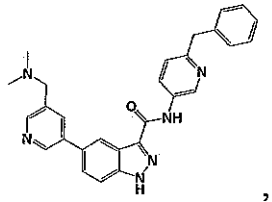
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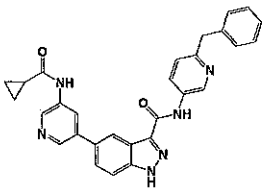
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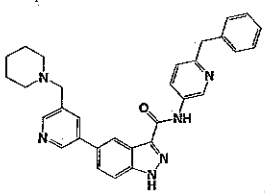
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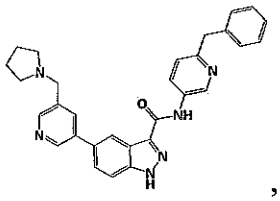
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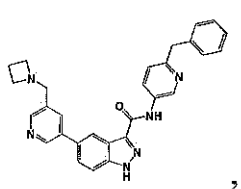
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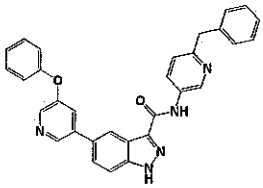
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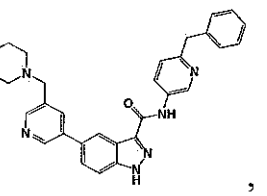
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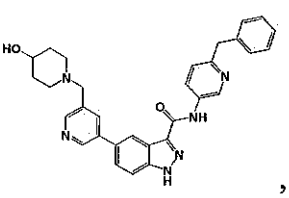
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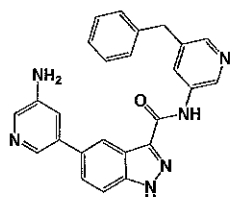
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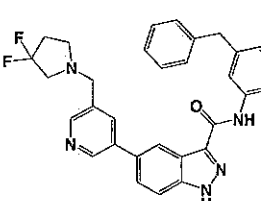
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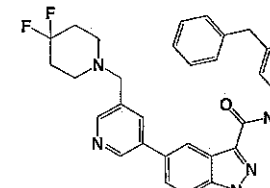
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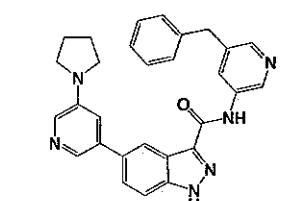
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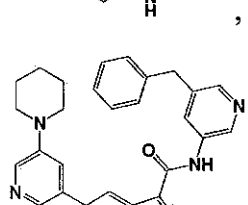
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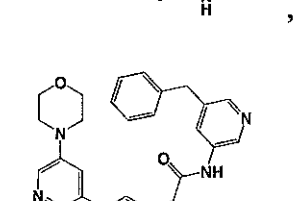
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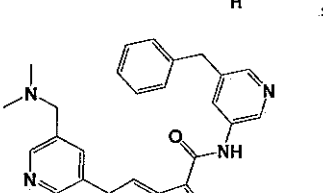
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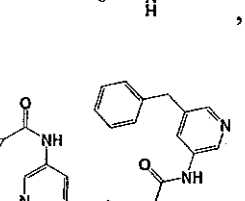
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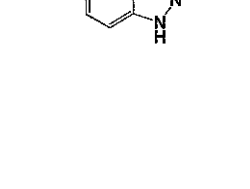
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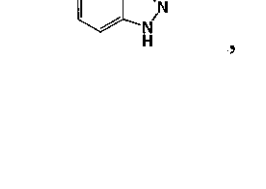
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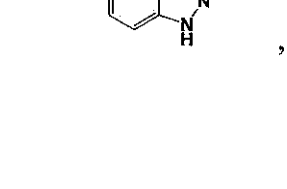
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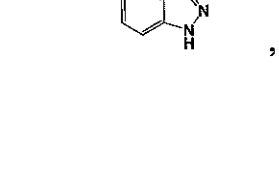
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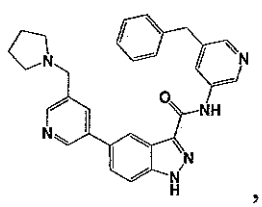
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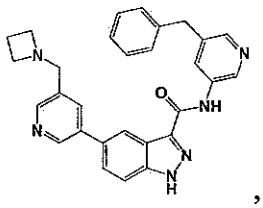
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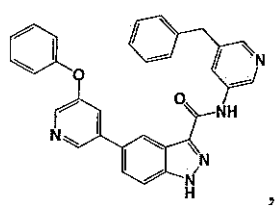
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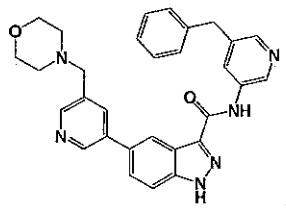
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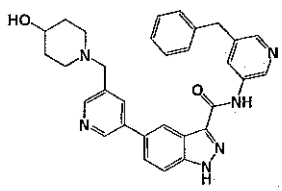
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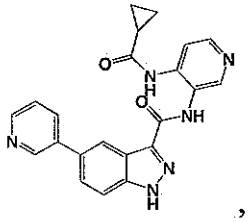
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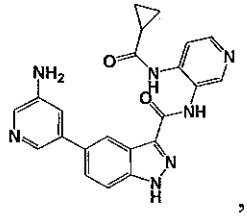
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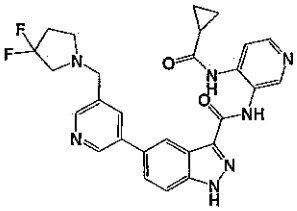
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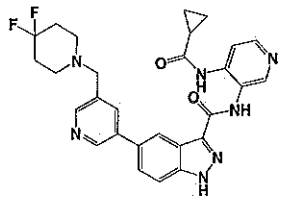
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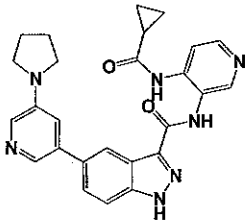
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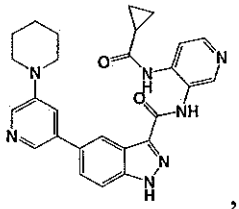
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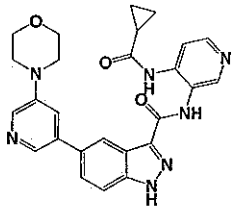
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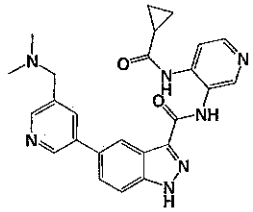
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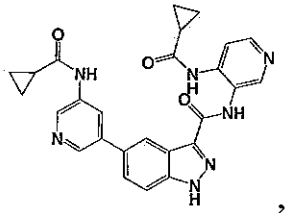
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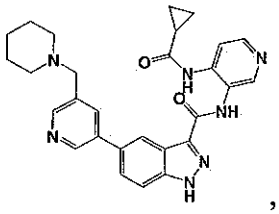
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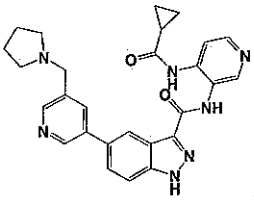
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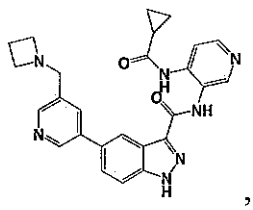
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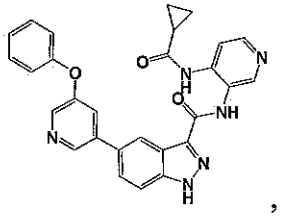
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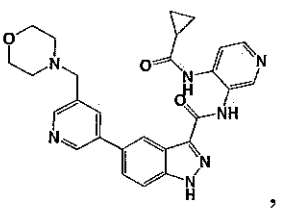
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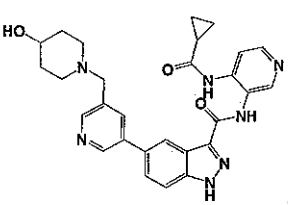
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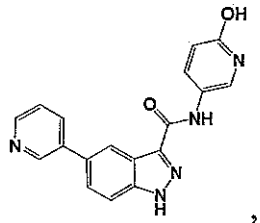
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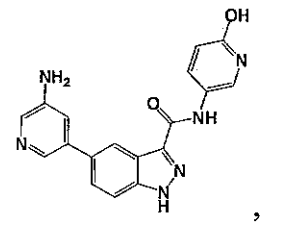
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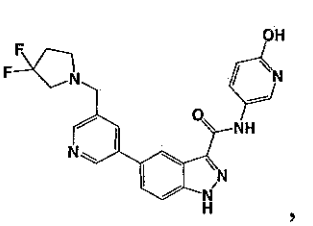
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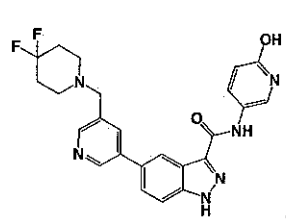
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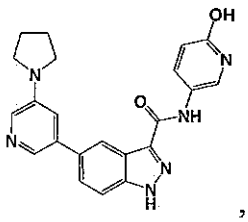
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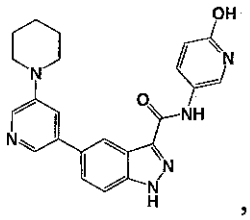
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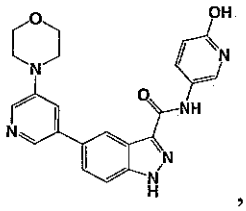
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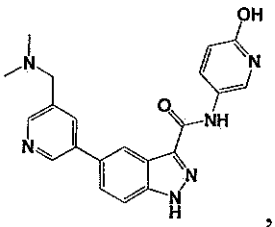
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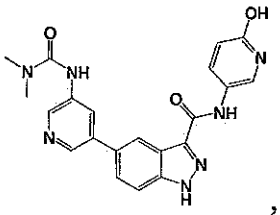
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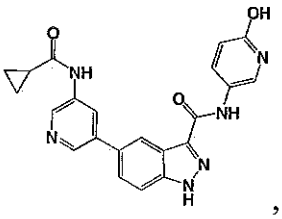
17. The compound of claim 9 having a structure selected from the group consisting of: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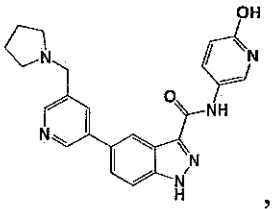
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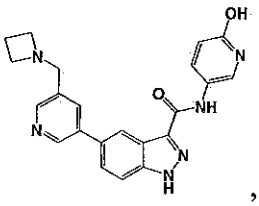
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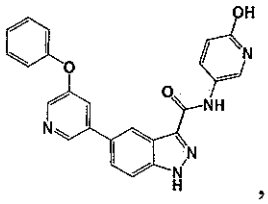
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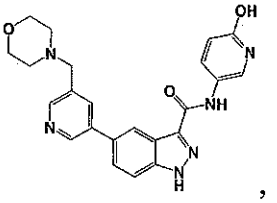
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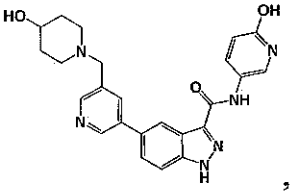
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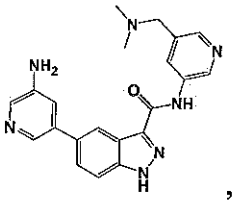
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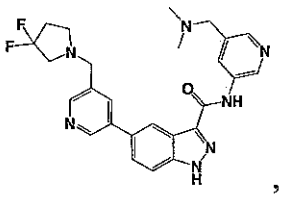
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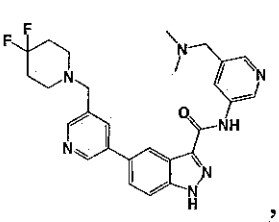
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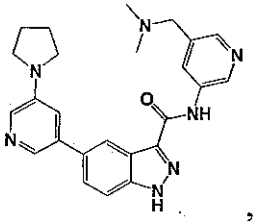
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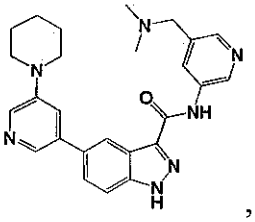
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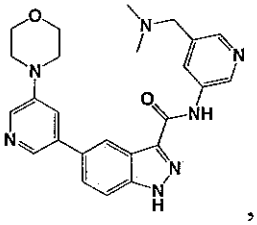
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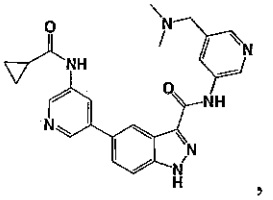
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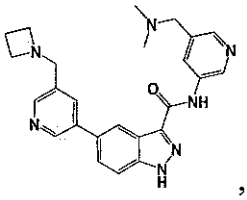
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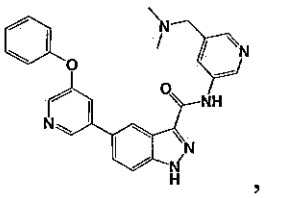
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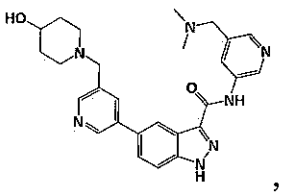
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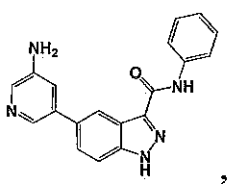
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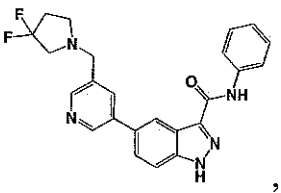
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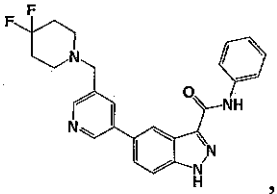
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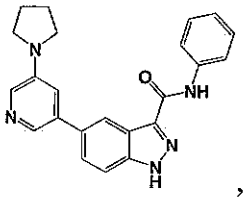
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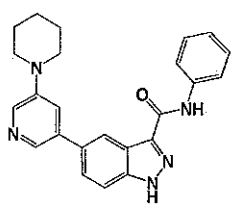
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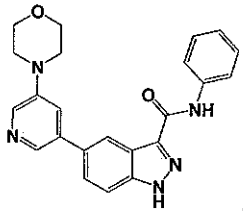
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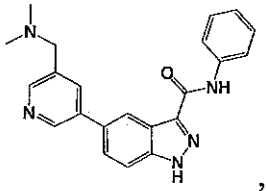
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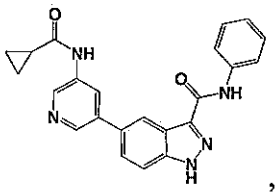
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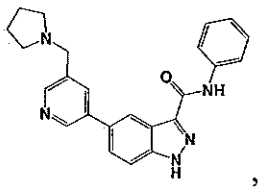
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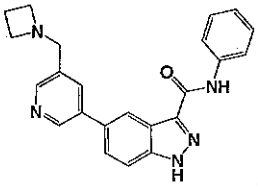
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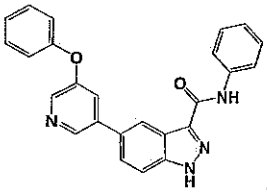
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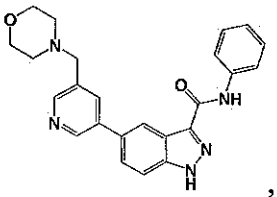
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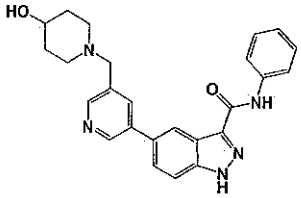
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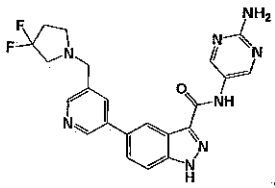
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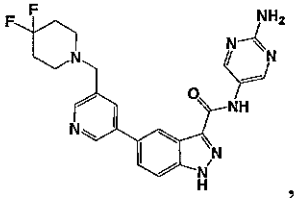
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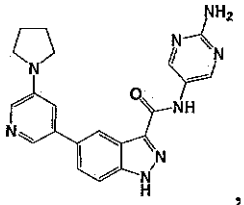
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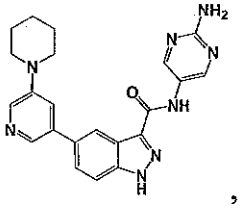
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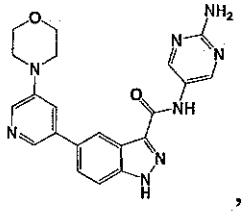
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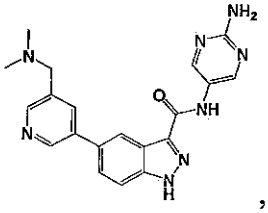
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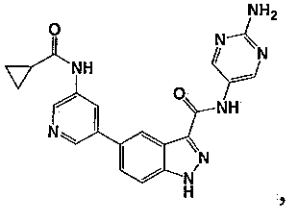
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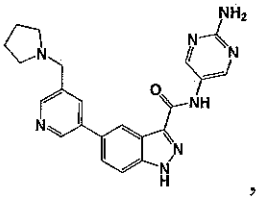
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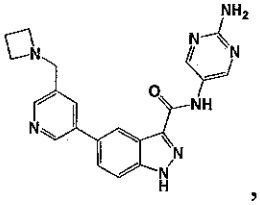
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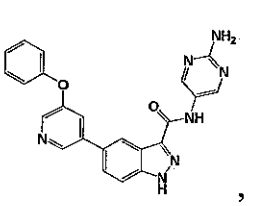
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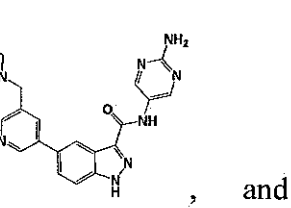
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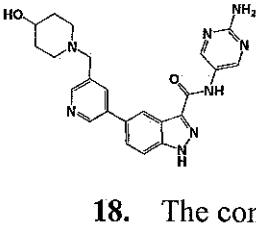
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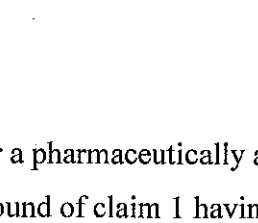
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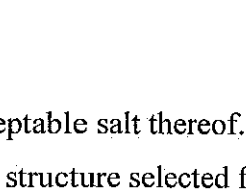
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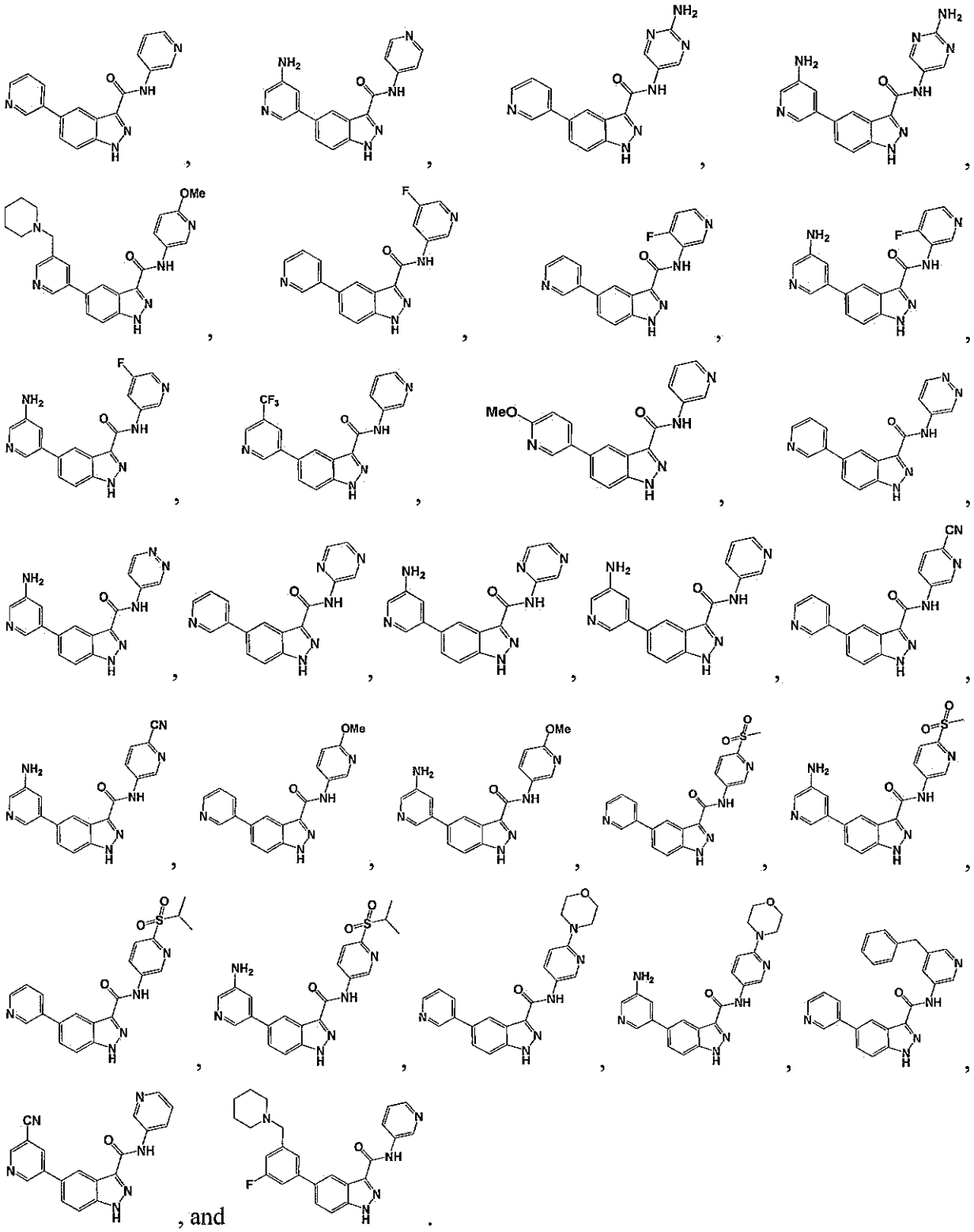
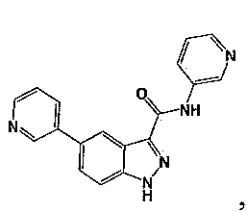
, and

, or a pharmaceutically acceptable salt thereof.

18. The compound of claim 1 having a structure selected from the group consisting of:



19. The compound of claim 18 having a structure selected from the group consisting of: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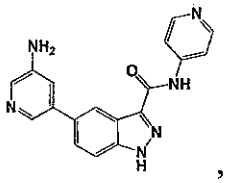
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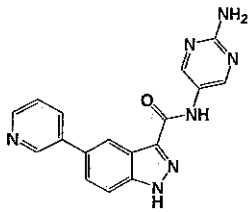
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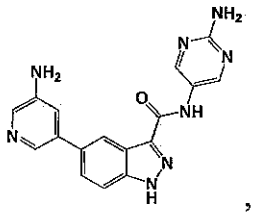
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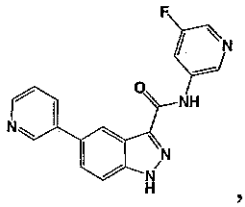
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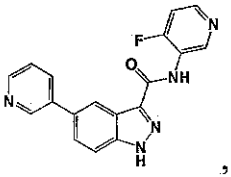
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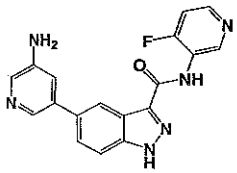
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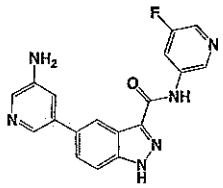
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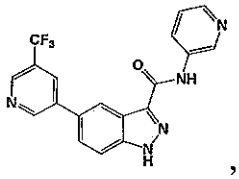
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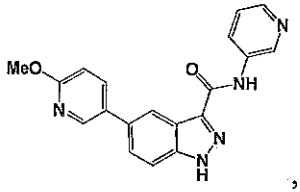
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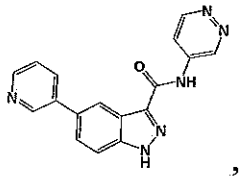
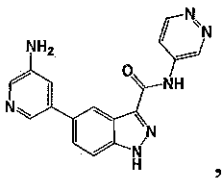

, or a pharmaceutically acceptable salt thereof.

20. The compound of claim 18 having a structure selected from the group consisting of: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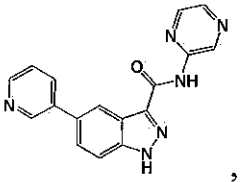
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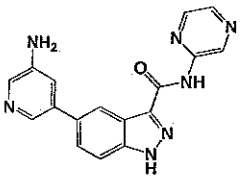
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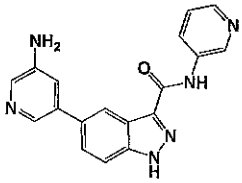
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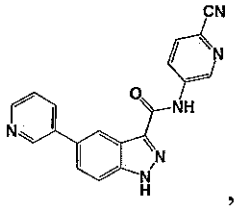
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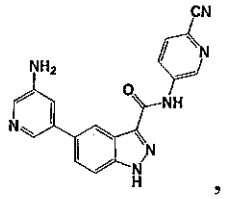
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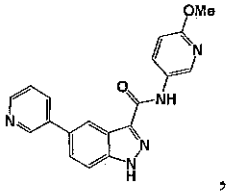
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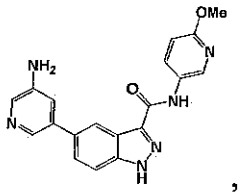
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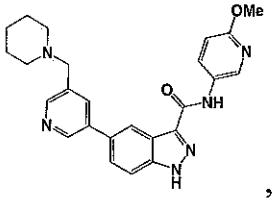
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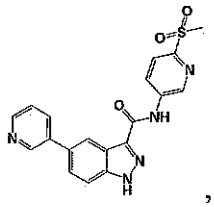
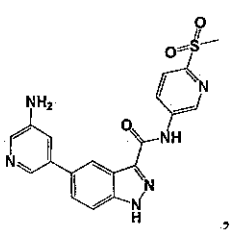

, or a pharmaceutically acceptable salt thereof.

21. The compound of claim 18 having a structure selected from the group consisting of: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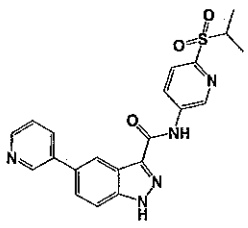
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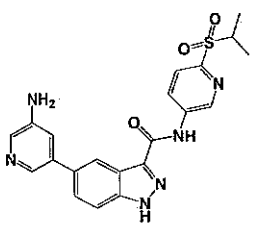
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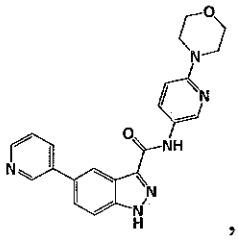
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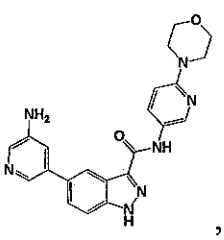
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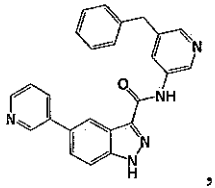
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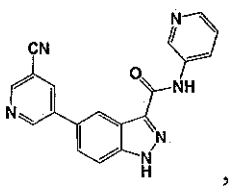
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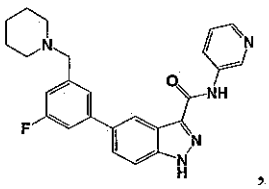
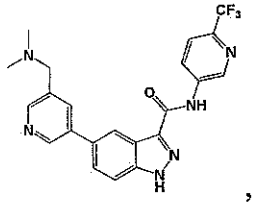

, or a pharmaceutically acceptable salt thereof.

22. The compound of claim 1 having a structure selected from the group consisting of: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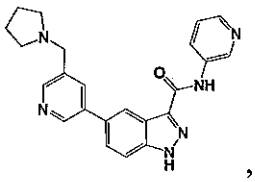
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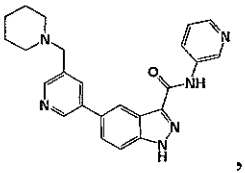
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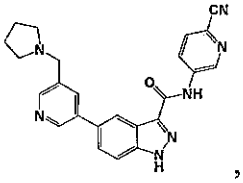
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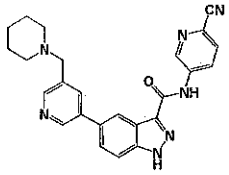
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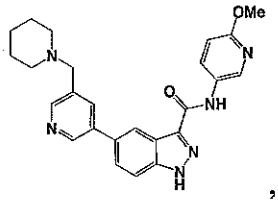
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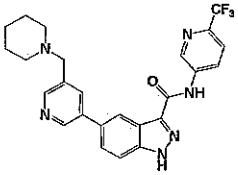
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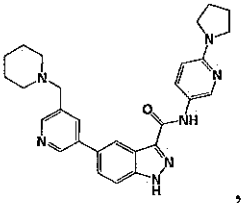
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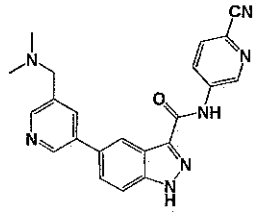
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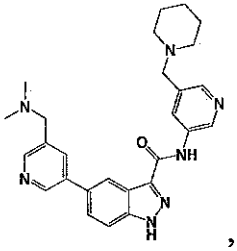
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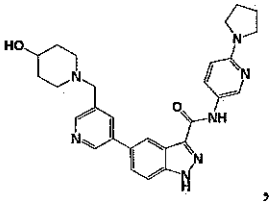
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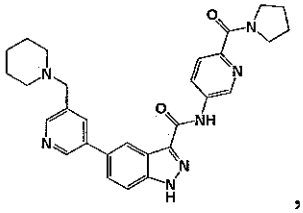
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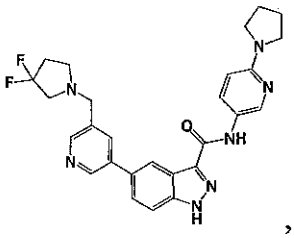
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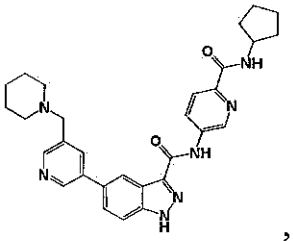
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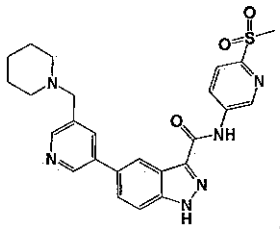
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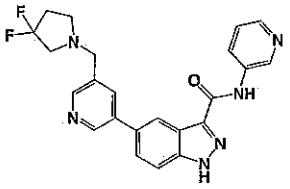
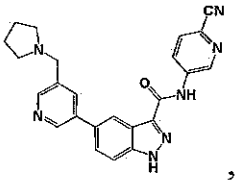

, or a pharmaceutically acceptable salt thereof.

23. The compound of claim 22 having a structure selected from the group consisting of: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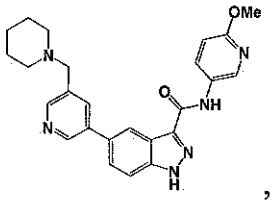
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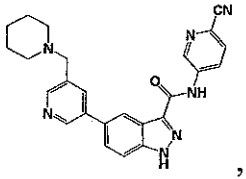
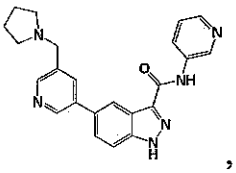

, or a pharmaceutically acceptable salt thereof.

24. The compound of claim 22 having a structure selected from the group consisting of: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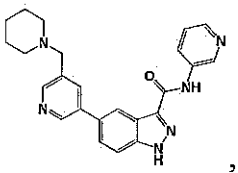
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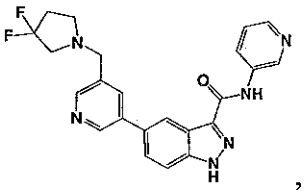
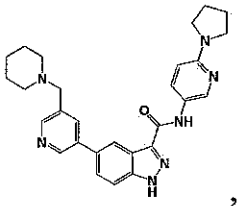

, or a pharmaceutically acceptable salt thereof.

25. The compound of claim 22 having a structure selected from the group consisting of: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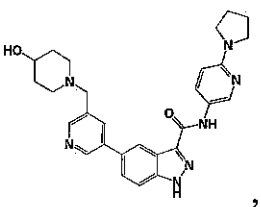
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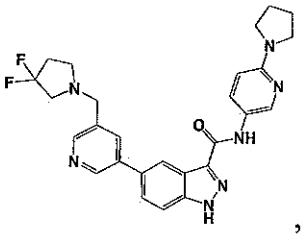
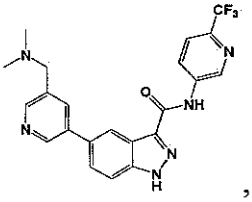
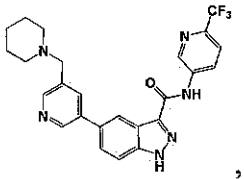
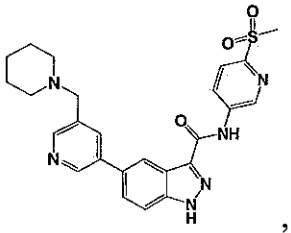
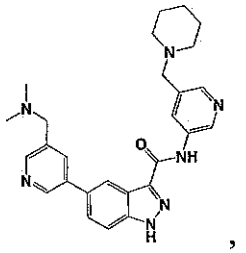
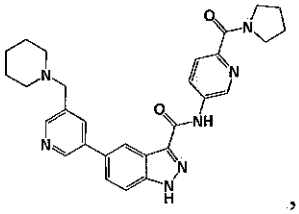
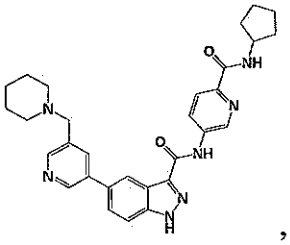

, or a pharmaceutically acceptable salt thereof.

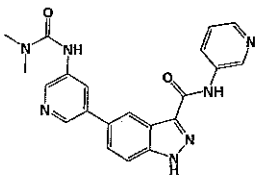
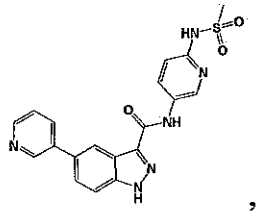
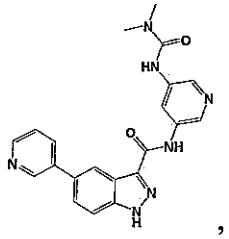
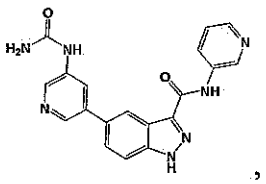
26. The compound of claim 22 having a structure selected from the group consisting of:

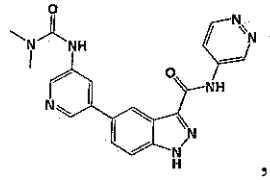
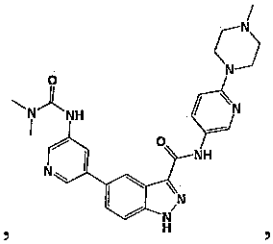
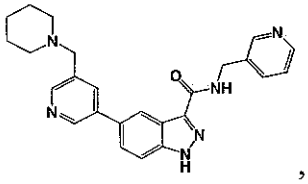
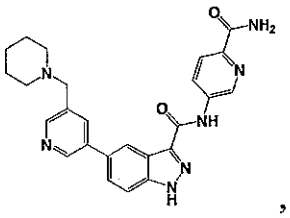
 ,  , and  , or a pharmaceutically acceptable salt thereof.

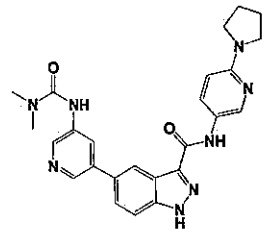
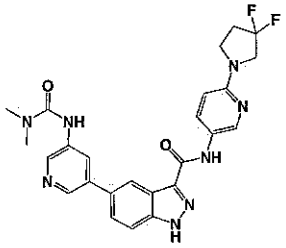
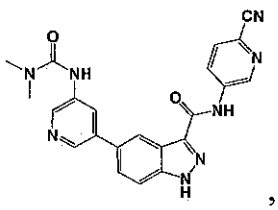
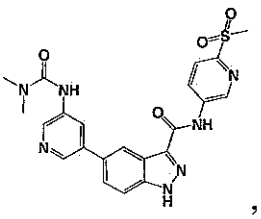
27. The compound of claim 22 having a structure selected from the group consisting of:

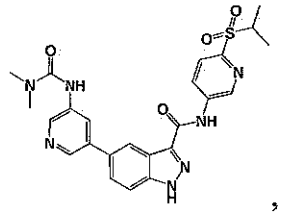
 ,  , and  , or a pharmaceutically acceptable salt thereof.

28. A compound having the structure of:

 ,  ,  ,  ,

 ,  ,  ,  ,

 ,  ,  ,  ,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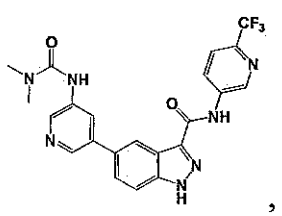
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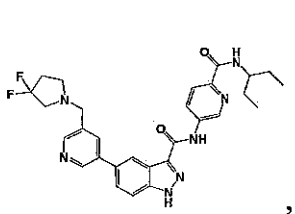
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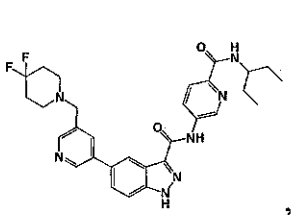
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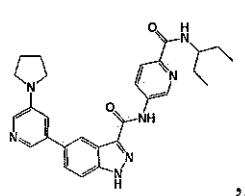
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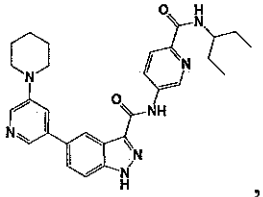
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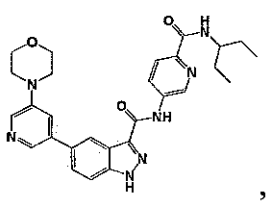
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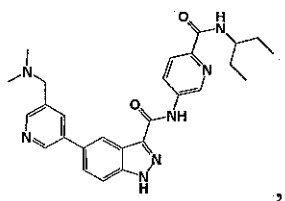
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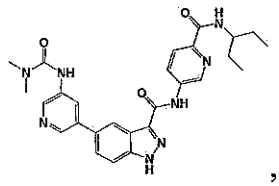
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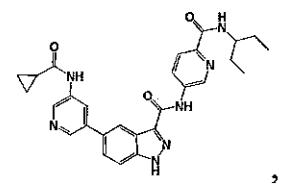
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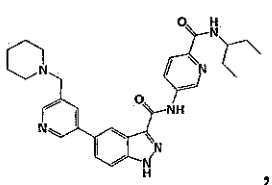
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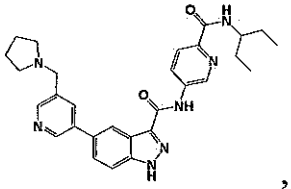
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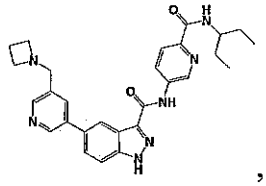
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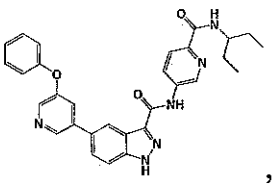
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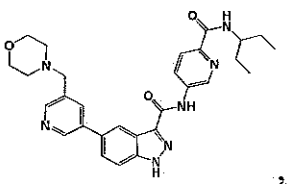
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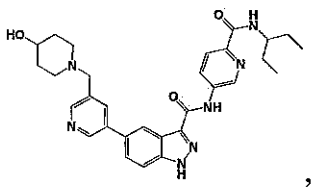
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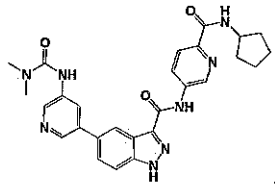
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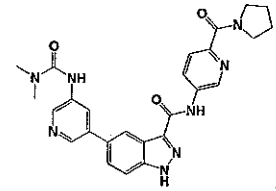
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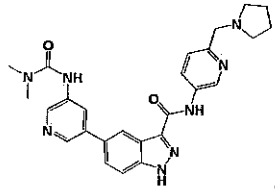
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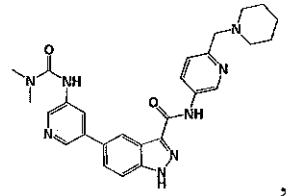
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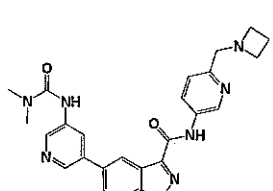
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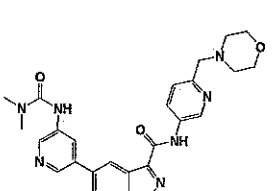
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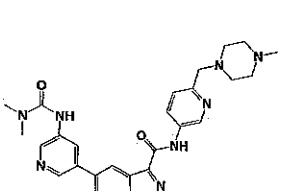
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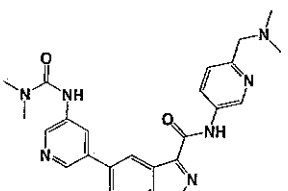
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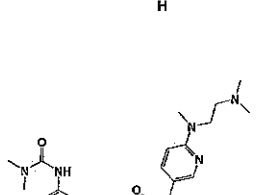
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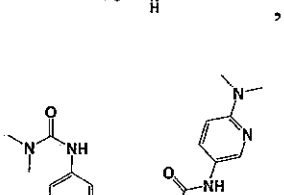
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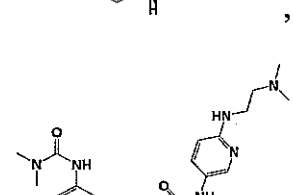
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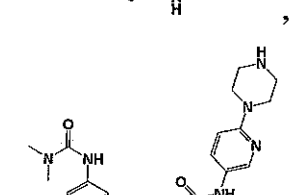
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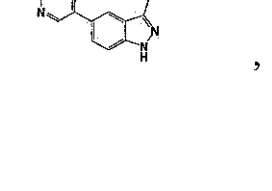
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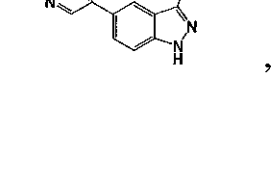
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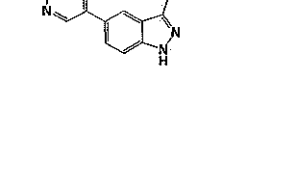
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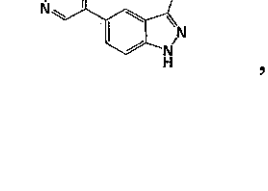
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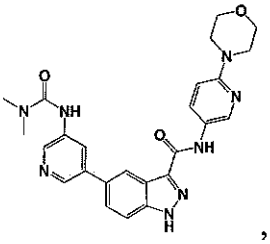
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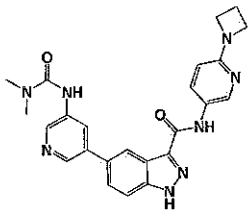
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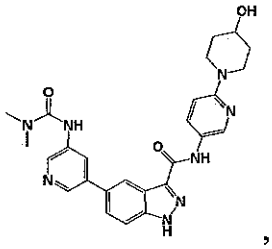
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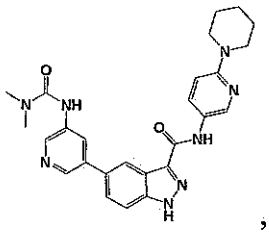
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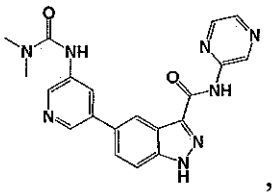
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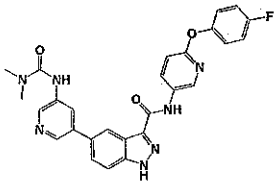
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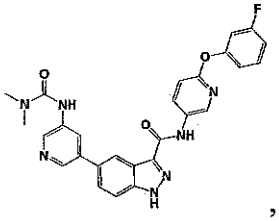
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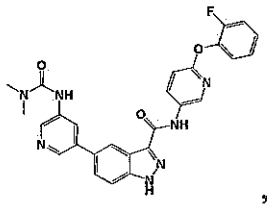
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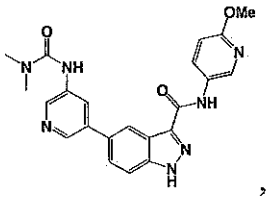
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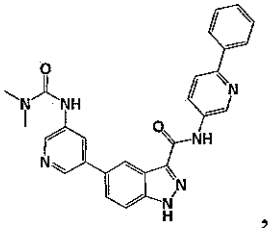
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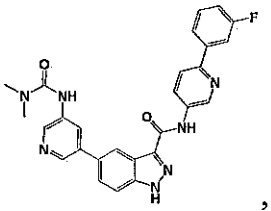
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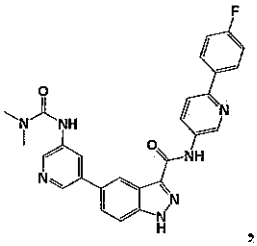
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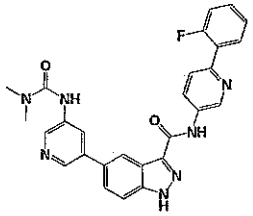
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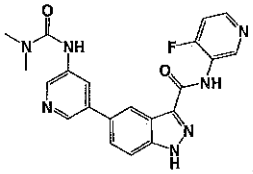
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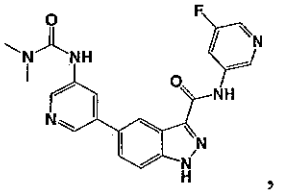
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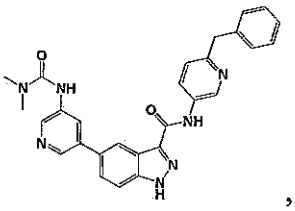
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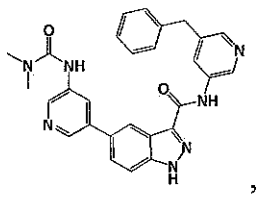
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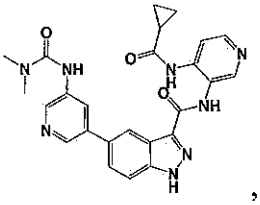
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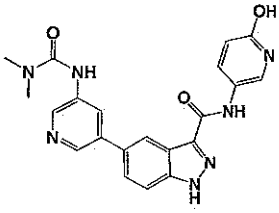
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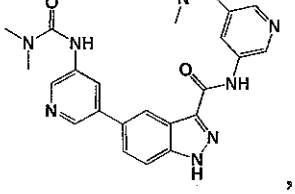
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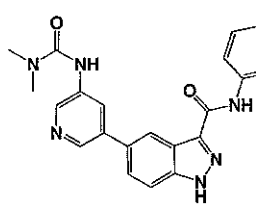
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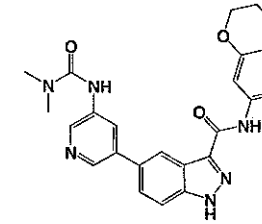
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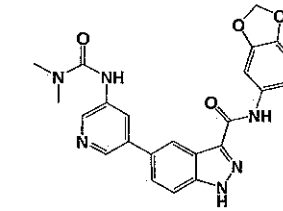
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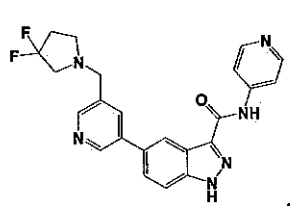
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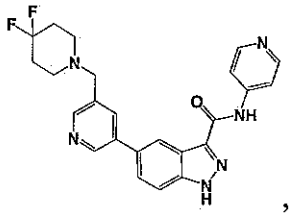
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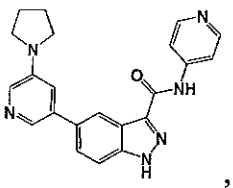
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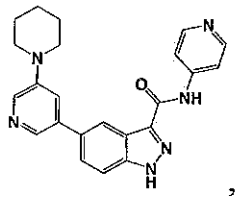
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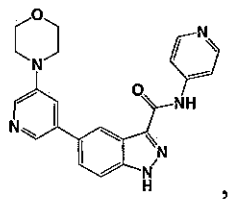
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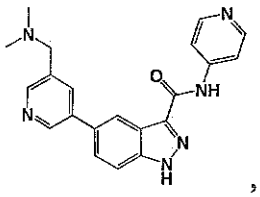
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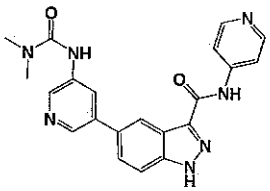
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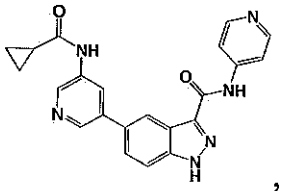
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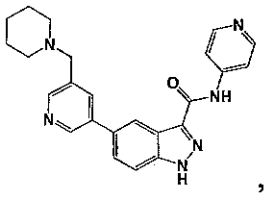
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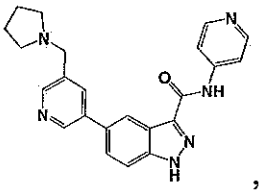
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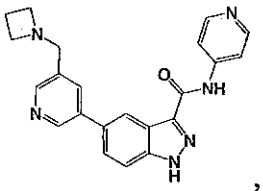
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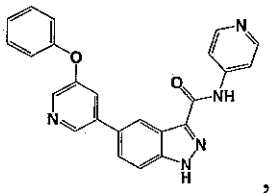
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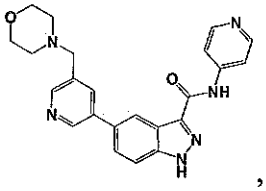
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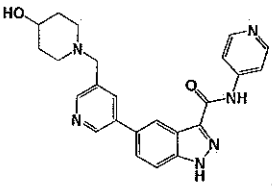
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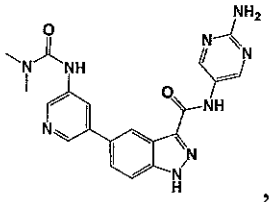
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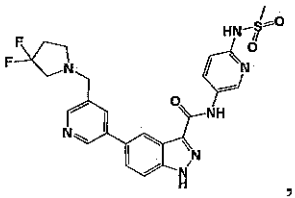
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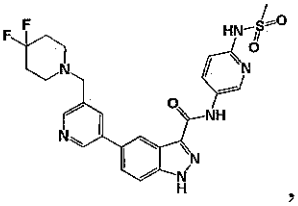
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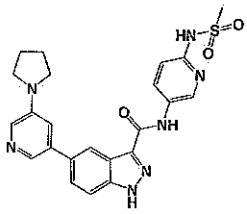
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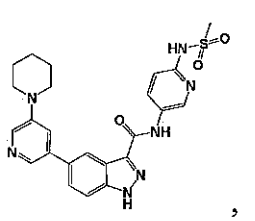
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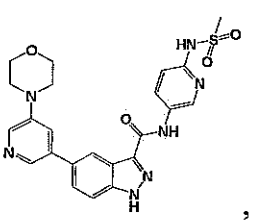
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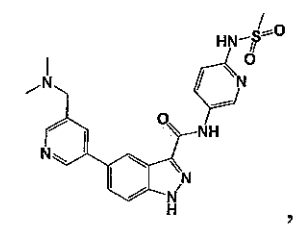
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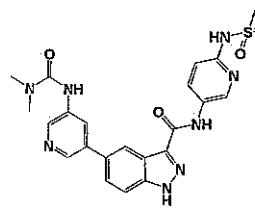
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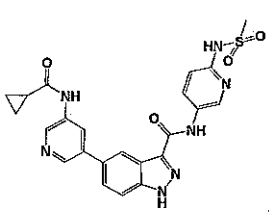
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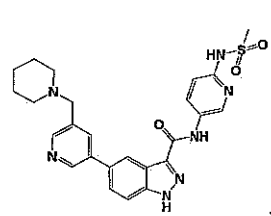
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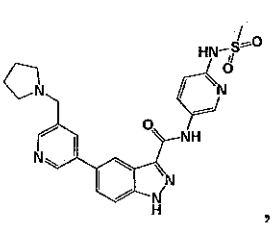
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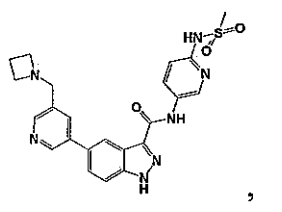
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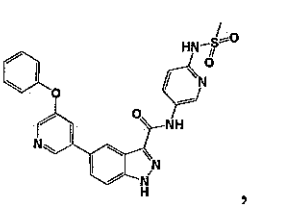
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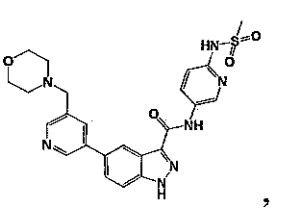
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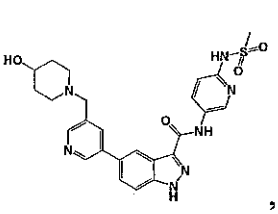
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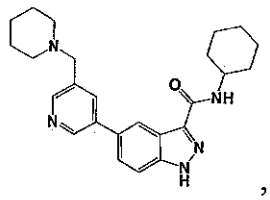
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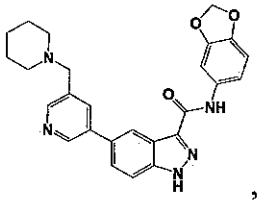
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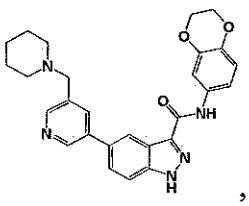
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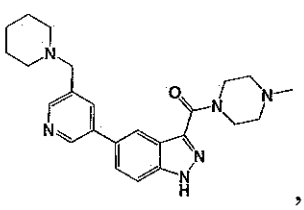
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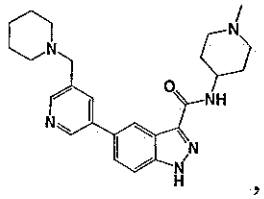
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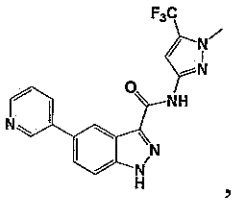
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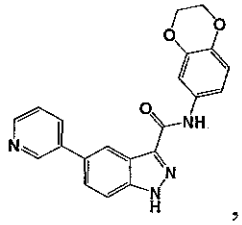
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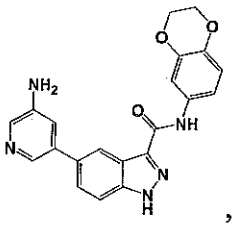
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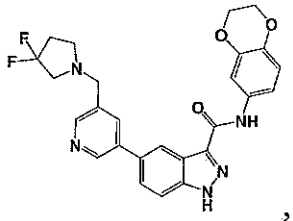
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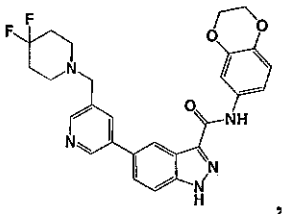
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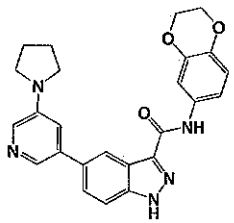
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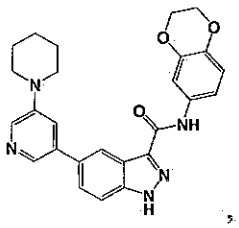
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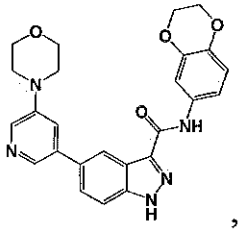
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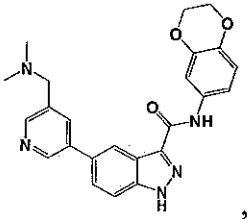
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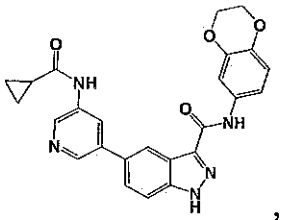
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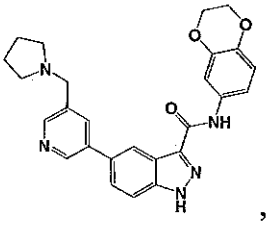
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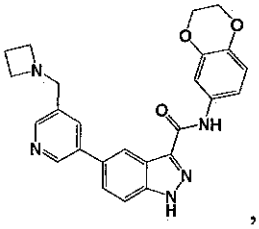
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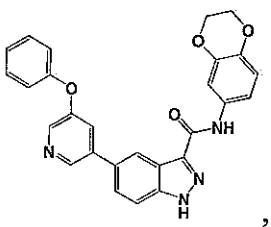
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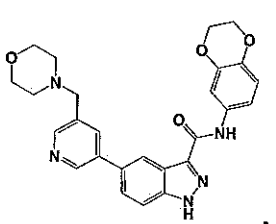
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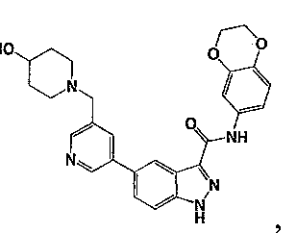
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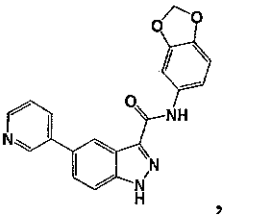
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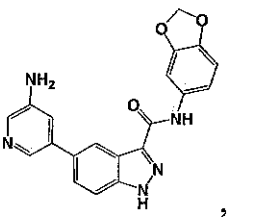
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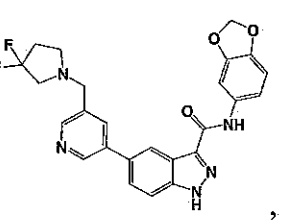
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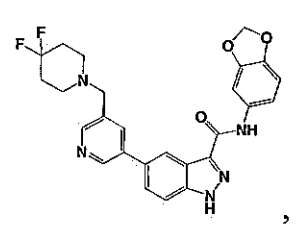
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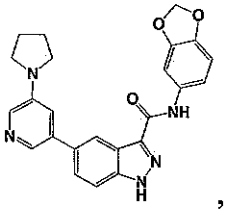
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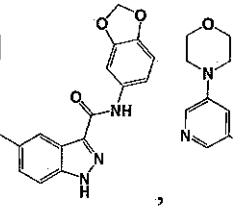
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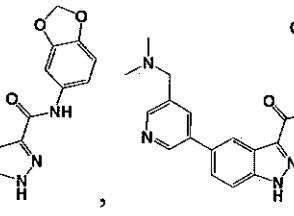
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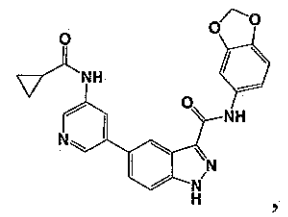
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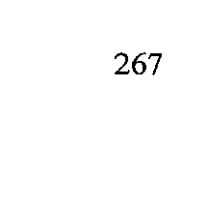
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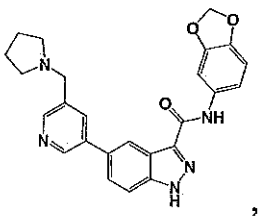
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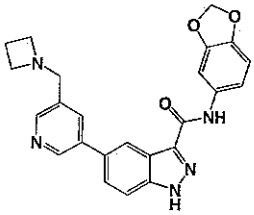
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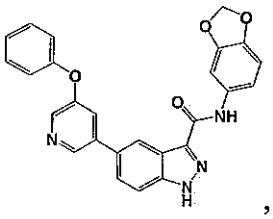
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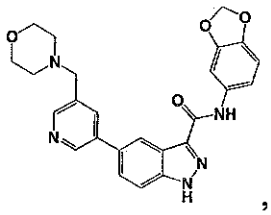
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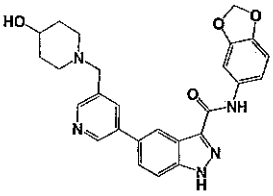
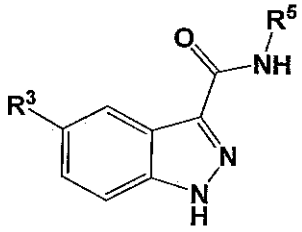

, or a pharmaceutically acceptable salt thereof.

29. The compound of claim 1, wherein the structure of Formula **Ia** is:



Ia

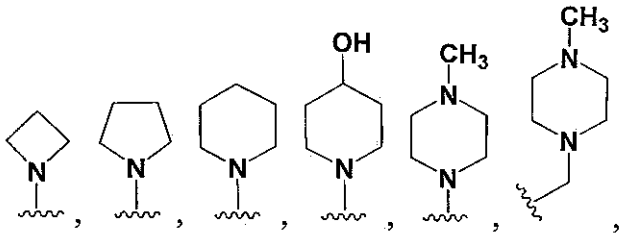
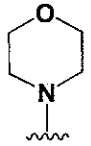
or a pharmaceutically acceptable salt thereof,

wherein:

R^3 is 3-pyridylR^6;

R^5 is selected from the group consisting of pyridylR^7, -pyrimidinylR^7, and -pyridazinylR^7;

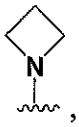
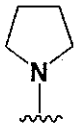
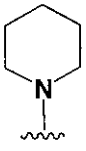
R^6 is $-CH_2$heterocyclylR^8;

R^7 is 1-2 substituents each independently selected from the group consisting of H, F, methyl, $-NH_2$, $-CF_3$, -CN, -OMe, $-SO_2Me$,

, and

;

R^8 is 1-2 substituents each independently selected from the group consisting of H and halide.

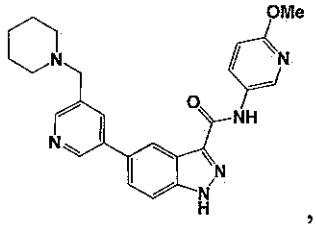
30. The compound of claim 29, wherein the R^6 heterocyclyl is selected from the group consisting of azetidinylR^8, pyrrolidinylR^8, piperidinylR^8, piperazinylR^8, and morpholinylR^8.

31. The compound of claim 29, wherein R^6 is $-CH_2$piperidinylR^8.

32. The compound of claim 29, wherein R^7 is selected from the group consisting of H, -CF_3, -OMe, -CN,  ,  , and  .

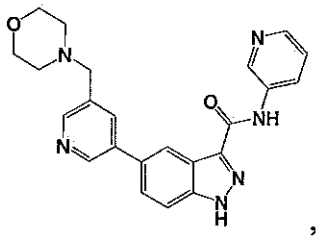
33. The compound according to any one of claims 29-32, wherein R^8 is H.

34. The compound of claim 29 having a structure of:



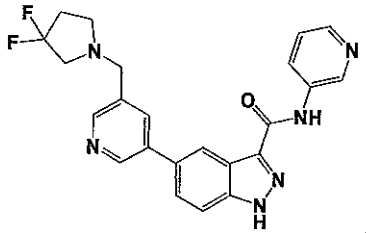
, or a pharmaceutically acceptable salt thereof.

35. The compound of claim 29 having a structure of:



, or a pharmaceutically acceptable salt thereof.

36. The compound of claim 29 having a structure of:



, or a pharmaceutically acceptable salt thereof.

37. A pharmaceutical composition comprising a therapeutically effective amount of at least one compound according to any one of claims 1-36, or a pharmaceutically acceptable salt thereof, and a pharmaceutically acceptable excipient.

38. Use of at least one compound according to any one of claims 1-36, or a pharmaceutically acceptable salt thereof for the manufacture of a medicament for treating a disorder or disease in a patient, wherein the disorder or disease is selected from the group consisting of cancer, diabetic retinopathy, rheumatoid arthritis, a mycotic or viral infection, a bone or cartilage disease, a neurological condition, lung disease, and a fibrotic disorder.

39. The use of claim 38, wherein the disorder or disease is cancer.

40. The use of claim 38, wherein the disorder or disease is diabetic retinopathy.

41. The use of claim 38, wherein the disorder or disease is rheumatoid arthritis.

42. The use of claim 38, wherein the disorder or disease is a mycotic or viral infection.

43. The use of claim 38, wherein the disorder or disease is a bone or cartilage disease.

44. The use of claim 38, wherein the disorder or disease is a neurological condition, wherein the neurological condition/disorder/disease is selected from Alzheimer's disease, frontotemporal dementias, dementia with lewy bodies, prion diseases, Parkinson's disease, Huntington's disease, progressive supranuclear palsy, corticobasal degeneration, multiple system atrophy, amyotrophic lateral sclerosis (ALS), inclusion body myositis, autism, degenerative myopathies, diabetic neuropathy, other metabolic neuropathies, endocrine neuropathies, orthostatic hypotension, multiple sclerosis and Charcot-Marie-Tooth disease.

45. The use of claim 38, wherein the disorder or disease is lung disease.

46. The use of claim 43, wherein the bone or cartilage disease is osteoarthritis.

47. The use of claim 38, wherein the disorder or disease is a genetic disease caused by mutations in Wnt signaling components, wherein the genetic disease is selected from: polyposis coli, osteoporosis-pseudoglioma syndrome, familial exudative vitreoretinopathy, retinal angiogenesis, early coronary disease, tetra-amelia syndrome, Müllerian-duct regression and virilization, SERKAL syndrome, diabetes mellitus type 2, Fuhrmann syndrome, Al-Awadi/Raas-Rothschild/Schinzel phocomelia syndrome, odonto-onycho-dermal dysplasia, obesity, split-hand/foot malformation, caudal duplication syndrome, tooth agenesis, Wilms tumor, skeletal dysplasia, focal dermal hypoplasia, autosomal recessive anonychia, neural tube defects, alpha-thalassemia (ATRX) syndrome, fragile X syndrome, ICF syndrome, Angelman syndrome, Prader-Willi syndrome, Beckwith-Wiedemann Syndrome, Norrie disease and Rett syndrome.

48. The use of claim 38, wherein the disorder or disease is a fibrotic disorder, wherein the fibrotic disorder is selected from: skin fibrosis; scleroderma; progressive systemic fibrosis;

lung fibrosis; muscle fibrosis; kidney fibrosis; glomerulosclerosis; glomerulonephritis; hypertrophic scar formation; uterine fibrosis; renal fibrosis; cirrhosis of the liver, liver fibrosis; adhesions, such as those occurring in the abdomen, pelvis, spine or tendons; chronic obstructive pulmonary disease; fibrosis following myocardial infarction; pulmonary fibrosis; fibrosis and scarring associated with diffuse/interstitial lung disease; central nervous system fibrosis, such as fibrosis following stroke; fibrosis associated with neuro-degenerative disorders such as Alzheimer's Disease or multiple sclerosis; fibrosis associated with proliferative vitreoretinopathy (PVR); restenosis; endometriosis; ischemic disease and radiation fibrosis.

49. The use of claim 38, wherein the patient is a human.

50. The use of claim 39, wherein the cancer is selected from the group consisting of hepatocellular carcinoma, colon cancer, breast cancer, pancreatic cancer, chronic myeloid leukemia (CML), chronic myelomonocytic leukemia, chronic lymphocytic leukemia (CLL), acute myeloid leukemia, acute lymphocytic leukemia, Hodgkin lymphoma, lymphoma, sarcoma and ovarian cancer.

51. The use of claim 39, wherein the cancer is selected from the group consisting of lung cancer - non-small cell, lung cancer - small cell, multiple myeloma, nasopharyngeal cancer, neuroblastoma, osteosarcoma, penile cancer, pituitary tumors, prostate cancer, retinoblastoma, rhabdomyosarcoma, salivary gland cancer, skin cancer - basal and squamous cell, skin cancer – melanoma, small intestine cancer, stomach cancers, testicular cancer, thymus cancer, thyroid cancer, uterine sarcoma, vaginal cancer, vulvar cancer, laryngeal or hypopharyngeal cancer, kidney cancer, Kaposi sarcoma, gestational trophoblastic disease, gastrointestinal stromal tumor, gastrointestinal carcinoid tumor, gallbladder cancer, eye cancer (melanoma and lymphoma), Ewing tumor, esophagus cancer, endometrial cancer, colorectal cancer, cervical cancer, brain or spinal cord tumor, bone metastasis, bone cancer, bladder cancer, bile duct cancer, anal cancer and adrenal cortical cancer.