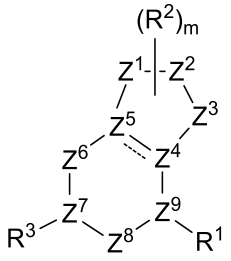
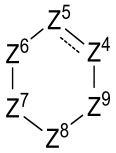
CLAIMS

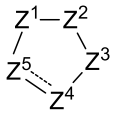
1. A compound containing a benzene ring represented by formula **I**, or a pharmaceutically acceptable salt thereof, a stereoisomer thereof, a tautomer thereof, an isotope compound thereof, a crystalline form thereof, a nitrogen oxide thereof or a solvate thereof, or a solvate of a pharmaceutically acceptable salt thereof;

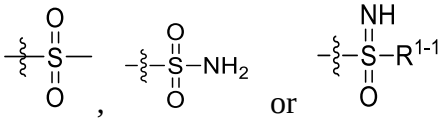


I

wherein,  ~~is a single bond or a double bond;~~

 is a benzene ring~~, a "6 membered heteroalkyl ring containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S", a "6 membered heteroalkenyl ring containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S", or a "6 membered heteroaryl ring containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S"~~;

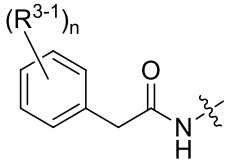
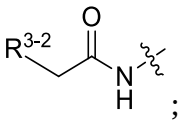
 is a "5 membered heteroaryl ring containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S" or a "5 membered heteroalkenyl ring containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S";

R^1 is  ;

R^{1-1} is ~~halogen, hydroxyl, amino, -NHR^{1-1-4}, -N(R^{1-1-5})(R^{1-1-6}),~~ C_1-C_6 alkyl~~, C_3-C_6 cycloalkyl, C_1-C_6 alkyl substituted with one or more R^{1-1-1}, C_3-C_6 cycloalkyl substituted with one or more R^{1-1-2}, or "4-7 membered heterocycloalkyl containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S" substituted with one or more R^{1-1-3}~~;

~~R^{1-1-1}, R^{1-1-2}, R^{1-1-3}, R^{1-1-4}, R^{1-1-5} and R^{1-1-6} are independently halogen, hydroxyl, C_1-C_6 alkyl, C_3-C_6 cycloalkyl, C_1-C_6 alkoxy or "4-7 membered heterocycloalkyl containing 1, 2 or 3 heteroatoms~~

~~selected from one or more of N, O and S";~~

R^3 is  or  ;

n is 0, 1, 2 or 3;

R^{3-1} is independently halogen, hydroxyl, C_1-C_6 alkyl, C_1-C_6 alkoxy, C_3-C_6 cycloalkyl, or C_1-C_6 alkoxy substituted with C_1-C_6 alkoxy;

R^{3-2} is C_3-C_6 cycloalkyl substituted with one or more R^{3-2-1}, "5-6 membered heterocycloalkyl containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S" substituted with one or more R^{3-2-2}, or "5-6 membered heteroaryl containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S" substituted with one or more R^{3-2-3};

R^{3-2-1}, R^{3-2-2} and R^{3-2-3} are independently halogen, hydroxyl, C_1-C_6 alkyl, C_3-C_6 cycloalkyl, C_1-C_6 alkoxy, or C_1-C_6 alkoxy substituted with C_1-C_6 alkoxy;

m is 0, 1 or 2;

R^2 is oxo, halogen, cyano, C_1-C_{10} alkyl, C_1-C_{10} alkyl substituted with one or more R^{2-1}, C_2-C_6 alkenyl, C_2-C_6 alkenyl substituted with one or more R^{2-7}, C_3-C_6 cycloalkyl, C_3-C_6 cycloalkyl substituted with one or more R^{2-3}, "5-6 membered heterocycloalkyl containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S", "4 membered heterocycloalkyl containing 1 heteroatom selected from one of N, O and S", "4-6 membered heterocycloalkyl containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S" substituted with one or more R^{2-6}, phenyl, phenyl substituted with one or more R^{2-4}, "5-6 membered heteroaryl containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S", "5-6 membered heteroaryl containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S" substituted with one or more R^{2-5}, or -(C=O)-R^{2-2};

R^{2-1} is independently hydroxyl, halogen, C_3-C_6 cycloalkyl, C_3-C_6 cycloalkyl substituted with one or more R^{2-1-8}, "4-6 membered heterocycloalkyl containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S", "4-6 membered heterocycloalkyl containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S" substituted with one or more R^{2-1-7}, phenyl, phenyl substituted with one or more R^{2-1-1}, "5-6 membered heteroaryl containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S", "5-6 membered heteroaryl containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S" substituted with one or more R^{2-1-6}, -OR^{2-1-2}, -N(R^{2-1-3})(R^{2-1-4}), or -S(=O)$_2$-R^{2-1-5};

R^{2-1-1}, R^{2-1-6}, R^{2-1-7} and R^{2-1-8} are independently oxo, hydroxyl, amino, carboxyl, halogen, -CN,

C_1-C_6 alkyl, C_1-C_6 alkyl substituted with one or more halogen, -$OR^{2-1-1-1}$, or -$N(R^{2-1-1-2})(R^{2-1-1-3})$;

$R^{2-1-1-1}$, $R^{2-1-1-2}$ and $R^{2-1-1-3}$ are independently C_1-C_6 alkyl;

R^{2-1-2} is independently C_1-C_6 alkyl or C_3-C_6 cycloalkyl;

R^{2-1-3} and R^{2-1-4} are independently hydrogen, C_1-C_6 alkyl or C_3-C_6 cycloalkyl;

R^{2-1-5} is independently C_1-C_6 alkyl or C_3-C_6 cycloalkyl;

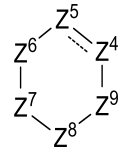
R^{2-3} and R^{2-6} are independently C_1-C_6 alkyl;

R^{2-4} and R^{2-5} are independently halogen, hydroxyl, -$N(R^{2-4-1})(R^{2-4-2})$ or C_1-C_6 alkoxy; R^{2-4-1} and R^{2-4-2} are independently hydrogen, C_1-C_6 alkyl or C_3-C_6 cycloalkyl;

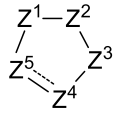
R^{2-7} is independently halogen;

R^{2-2} is C_1-C_6 alkyl, C_3-C_6 cycloalkyl, phenyl or phenyl substituted with one or more R^{2-2-1}; R^{2-2-1} is independently halogen.

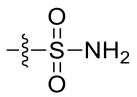
2. The compound containing a benzene ring represented by formula **I**, or the pharmaceutically acceptable salt thereof, the stereoisomer thereof, the tautomer thereof, the isotopic compound thereof, the crystalline form thereof, the nitrogen oxide thereof or the solvate thereof, or the solvate of the pharmaceutically acceptable salt thereof according to claim 1, characterized in that



is a benzene ring~~ or a "6 membered heteroaryl ring containing 1, 2 or 3 heteroatoms selected from N"~~;

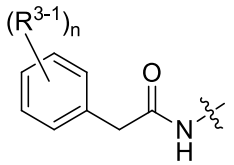
and/or, 

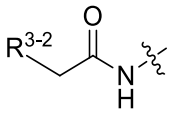
is a "5 membered heteroaryl ring containing 1 or 2 heteroatoms selected from one or more of N, O and S" or a "5 membered heteroalkenyl ring containing 1 or 2 heteroatoms selected from one or more of N, O and S";

and/or, R^1 is 

;

and/or, R^{1-1} is C_1-C_6 alkyl;

and/or, R^3 is 

or 

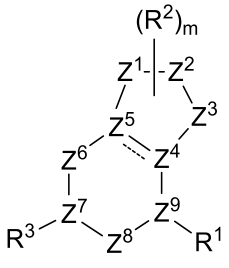
; n is 1; R^{3-1} is halogen, C_1-C_6 alkyl, C_1-C_6 alkoxy, C_3-C_6 cycloalkyl, or C_1-C_6 alkoxy substituted with C_1-C_6 alkoxy; R^{3-2} is C_3-C_6 cycloalkyl substituted with one or more R^{3-2-1}, or "5-6 membered heteroaryl containing 1, 2 or 3 heteroatoms

selected from one or more of N, O and S" substituted with one or more R^{3-2-3}; R^{3-2-1} and R^{3-2-3} are independently halogen or hydroxyl;

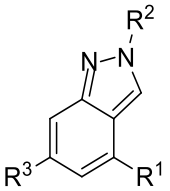
and/or, R^2 is halogen, cyano, C_1-C_{10} alkyl, C_1-C_{10} alkyl substituted with one or more R^{2-1}, C_2-C_6 alkenyl, C_2-C_6 alkenyl substituted with one or more R^{2-7}, C_3-C_6 cycloalkyl, C_3-C_6 cycloalkyl substituted with one or more R^{2-3}, "5-6 membered heterocycloalkyl containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S", "4 membered heterocycloalkyl containing 1 heteroatom selected from one of N, O and S", "4-6 membered heterocycloalkyl containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S" substituted with one or more R^{2-6}, phenyl substituted with one or more R^{2-4}, or -(C=O)-R^{2-2};

R^{2-1} is independently hydroxyl, halogen, C_3-C_6 cycloalkyl, C_3-C_6 cycloalkyl substituted with one or more R^{2-1-8}, "4-6 membered heterocycloalkyl containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S", phenyl substituted with one or more R^{2-1-1}, "5-6 membered heteroaryl containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S" substituted with one or more R^{2-1-6}, -OR^{2-1-2}, -$N(R^{2-1-3})(R^{2-1-4})$, or -$S(=O)_2$-R^{2-1-5}; R^{2-1-1}, R^{2-1-6} and R^{2-1-8} are independently hydroxyl, amino, halogen, -CN, C_1-C_6 alkyl, C_1-C_6 alkyl substituted with one or more halogen, -$OR^{2-1-1-1}$, or -$N(R^{2-1-1-2})(R^{2-1-1-3})$; $R^{2-1-1-1}$, $R^{2-1-1-2}$ and $R^{2-1-1-3}$ are independently C_1-C_6 alkyl; R^{2-1-2} is independently C_1-C_6 alkyl or C_3-C_6 cycloalkyl; R^{2-1-3} and R^{2-1-4} are independently hydrogen, C_1-C_6 alkyl or C_3-C_6 cycloalkyl; R^{2-1-5} is independently C_1-$_6$ alkyl or C_3-C_6 cycloalkyl; R^{2-3} and R^{2-6} are independently C_1-C_6 alkyl; R^{2-4} is independently halogen; R^{2-7} is independently halogen; R^{2-2} is C_1-C_6 alkyl, C_3-C_6 cycloalkyl, phenyl or phenyl substituted with one or more R^{2-2-1}; R^{2-2-1} is independently halogen.

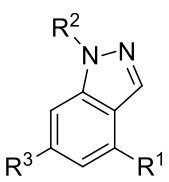
3. The compound containing a benzene ring represented by formula **I**, or the pharmaceutically acceptable salt thereof, the stereoisomer thereof, the tautomer thereof, the isotopic compound thereof, the crystalline form thereof, the nitrogen oxide thereof or the solvate thereof, or the solvate of the pharmaceutically acceptable salt thereof according to claim 2, characterized in that



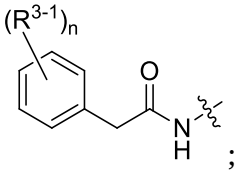
I is



I–1 or



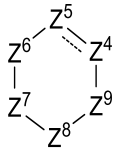
I–2 ;

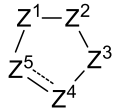
and/or, R^3 is  ; n is 1; R^{3-1} is halogen;

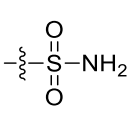
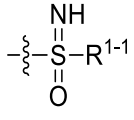
and/or, m is 0 or 1;

and/or, R^2 is C_1-C_{10} alkyl, C_1-C_{10} alkyl substituted with one R^{2-1}, or C_3-C_6 cycloalkyl; R^{2-1} is independently halogen, C_3-C_6 cycloalkyl, phenyl substituted with one or more R^{2-1-1}, "5-6 membered heteroaryl containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S" substituted with one or more R^{2-1-6}, or -OR^{2-1-2}; R^{2-1-1} and R^{2-1-6} are independently amino, halogen, -CN, C_1-C_6 alkyl, C_1-C_6 alkyl substituted with one or more halogen, or -$OR^{2-1-1-1}$; $R^{2-1-1-1}$ is independently C_1-C_6 alkyl; R^{2-1-2} is C_1-C_6 alkyl.

4. The compound containing a benzene ring represented by formula **I**, or the pharmaceutically acceptable salt thereof, the stereoisomer thereof, the tautomer thereof, the isotopic compound thereof, the crystalline form thereof, the nitrogen oxide or the solvate thereof, or the solvate of the pharmaceutically acceptable salt thereof according to claim 1, characterized in that–  ~~is a single bond or a double bond;~~

 is a benzene ring~~, a "6 membered heteroalkyl ring containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S", a "6 membered heteroalkenyl ring containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S", or a "6 membered heteroaryl ring containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S"~~;

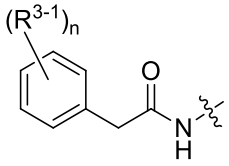
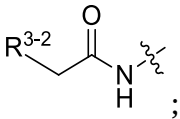
 is a "5 membered heteroaryl ring containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S" or a "5 membered heteroalkenyl ring containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S";

R^1 is  or  ;

R^{1-1} is ~~halogen, hydroxyl, amino, -NHR^{1-1-4}, -$N(R^{1-1-5})(R^{1-1-6})$,~~ C_1-C_6 alkyl~~, C_3-C_6 cycloalkyl, C_1-C_6 alkyl substituted with one or more R^{1-1-1}, C_3-C_6 cycloalkyl substituted with one or more R^{1-1-2}, or "4-7 membered heterocycloalkyl containing 1, 2 or 3 heteroatoms selected from one or more~~

~~of N, O and S" substituted with one or more R^{1-1-3};~~

~~R^{1-1-1}, R^{1-1-2}, R^{1-1-3}, R^{1-1-4}, R^{1-1-5} and R^{1-1-6} are independently halogen, hydroxyl, C_1-C_6 alkyl, C_3-C_6 cycloalkyl, C_1-C_6 alkoxy or "4-7 membered heterocycloalkyl containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S";~~

R^3 is  or  ;

n is 0, 1, 2 or 3;

R^{3-1} is independently halogen, hydroxyl, C_1-C_6 alkyl, C_1-C_6 alkoxy, C_3-C_6 cycloalkyl, or C_1-C_6 alkoxy substituted with C_1-C_6 alkoxy;

R^{3-2} is C_3-C_6 cycloalkyl substituted with one or more R^{3-2-1}, "5-6 membered heterocycloalkyl containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S" substituted with one or more R^{3-2-2}, or "5-6 membered heteroaryl containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S" substituted with one or more R^{3-2-3};

R^{3-2-1}, R^{3-2-2} and R^{3-2-3} are independently halogen, hydroxyl, C_1-C_6 alkyl, C_3-C_6 cycloalkyl, C_1-C_6 alkoxy, or C_1-C_6 alkoxy substituted with C_1-C_6 alkoxy;

m is 0 or 1;

R^2 is oxo, cyano, C_1-C_{10} alkyl, C_1-C_{10} alkyl substituted with one or more R^{2-1}, C_3-C_6 cycloalkyl, C_3-C_6 cycloalkyl substituted with one or more R^{2-3}, "5-6 membered heterocycloalkyl containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S", phenyl, phenyl substituted with one or more R^{2-4}, "5-6 membered heteroaryl containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S", "5-6 membered heteroaryl containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S" substituted with one or more R^{2-5}, or -(C=O)-R^{2-2};

R^{2-1} is independently hydroxyl, halogen, C_3-C_6 cycloalkyl, C_3-C_6 cycloalkyl substituted with one or more R^{2-1-8}, "4-6 membered heterocycloalkyl containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S", "4-6 membered heterocycloalkyl containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S" substituted with one or more R^{2-1-7}, phenyl, phenyl substituted with one or more R^{2-1-1}, "5-6 membered heteroaryl containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S", "5-6 membered heteroaryl containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S" substituted with one or more R^{2-1-6}, -OR^{2-1-2}, -$N(R^{2-1-3})(R^{2-1-4})$, or -$S(=O)_2$-R^{2-1-5};

R^{2-1-1}, R^{2-1-6}, R^{2-1-7} and R^{2-1-8} are independently oxo, hydroxyl, amino, carboxyl, halogen, -CN, C_1-C_6 alkyl, C_1-C_6 alkyl substituted with one or more halogen, -$OR^{2-1-1-1}$, or -$N(R^{2-1-1-2})(R^{2-1-1-3})$;

$R^{2-1-1-1}$, $R^{2-1-1-2}$ and $R^{2-1-1-3}$ are independently C_1-C_6 alkyl;

R^{2-1-2} is independently C_1-C_6 alkyl or C_3-C_6 cycloalkyl;

R^{2-1-3} and R^{2-1-4} are independently hydrogen, C_1-C_6 alkyl or C_3-C_6 cycloalkyl;

R^{2-1-5} is independently C_1-C_6 alkyl or C_3-C_6 cycloalkyl;

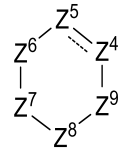
R^{2-3} is independently C_1-C_6 alkyl;

R^{2-4} and R^{2-5} are independently halogen, hydroxyl, -N(R^{2-4-1})(R^{2-4-2}) or C_1-C_6 alkoxy; R^{2-4-1} and R^{2-4-2} are independently hydrogen, C_1-C_6 alkyl or C_3-C_6 cycloalkyl;

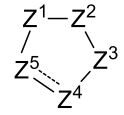
R^{2-2} is C_1-C_6 alkyl, C_3-C_6 cycloalkyl, phenyl or phenyl substituted with one or more R^{2-2-1}; R^{2-2-1} is independently halogen.

5. The compound containing a benzene ring represented by formula **I**, or the pharmaceutically acceptable salt thereof, the stereoisomer thereof, the tautomer thereof, the isotopic compound thereof, the crystalline form thereof, the nitrogen oxide thereof or the solvate thereof, or the solvate of the pharmaceutically acceptable salt thereof according to claim 1, characterized in that the compound containing a benzene ring represented by formula **I** is a compound represented by scheme 1, scheme 2, scheme 3, scheme 4, scheme 5, or scheme 6:

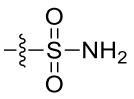
scheme 1:



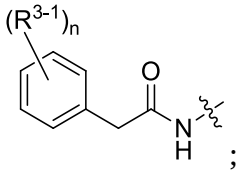
is a benzene ring~~ or a "6 membered heteroaryl ring containing 1, 2 or 3 heteroatoms selected from N"~~;



is a "5 membered heteroaryl ring containing 1 or 2 heteroatoms selected from one or more of N, O and S";

R^1 is 

;

R^3 is 

;

n is 1;

R^{3-1} is halogen;

m is 0 or 1;

R^2 is cyano, C_1-C_{10} alkyl, C_1-C_{10} alkyl substituted with one or more R^{2-1}, C_3-C_6 cycloalkyl, C_3-C_6 cycloalkyl substituted with one or more R^{2-3}, phenyl substituted with one or more R^{2-4}, or -(C=O)-R^{2-2};

R^{2-1} is independently hydroxyl, halogen, C_3-C_6 cycloalkyl, phenyl substituted with one or more R^{2-1-1}, "5-6 membered heteroaryl containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S" substituted with one or more R^{2-1-6}, -OR^{2-1-2}, -$N(R^{2-1-3})(R^{2-1-4})$, or -$S(=O)_2$-R^{2-1-5};

R^{2-1-1} and R^{2-1-6} are independently hydroxyl, halogen, -$OR^{2-1-1-1}$, or -$N(R^{2-1-1-2})(R^{2-1-1-3})$; $R^{2-1-1-1}$, $R^{2-1-1-2}$ and $R^{2-1-1-3}$ are independently C_1-C_6 alkyl;

R^{2-1-2} is independently C_1-C_6 alkyl or C_3-C_6 cycloalkyl;

R^{2-1-3} and R^{2-1-4} are independently hydrogen, C_1-C_6 alkyl or C_3-C_6 cycloalkyl;

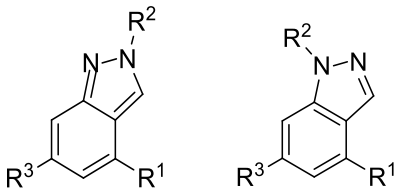
R^{2-1-5} is independently C_1-C_6 alkyl or C_3-C_6 cycloalkyl;

R^{2-3} is independently C_1-C_6 alkyl;

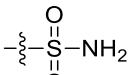
R^{2-4} is independently halogen;

R^{2-2} is C_1-C_6 alkyl, C_3-C_6 cycloalkyl, phenyl or phenyl substituted with one or more R^{2-2-1}; R^{2-2-1} is independently halogen;

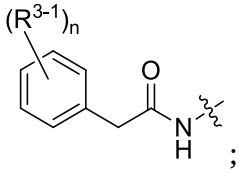
scheme 2:



;

R^1 is 

;

R^3 is 

;

n is 1;

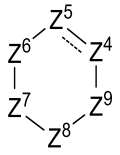
R^{3-1} is halogen;

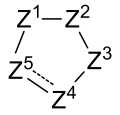
m is 0 or 1;

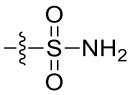
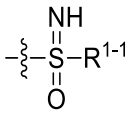
R^2 is C_1-C_{10} alkyl, C_1-C_{10} alkyl substituted with one R^{2-1}, or C_3-C_6 cycloalkyl;

R^{2-1} is independently halogen, C_3-C_6 cycloalkyl, phenyl substituted with one or more R^{2-1-1}, or -OR^{2-1-2}; R^{2-1-1} is halogen; R^{2-1-2} is C_1-C_6 alkyl;

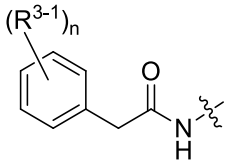
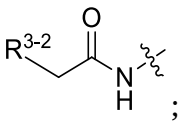
scheme 3:

 is a benzene ring ~~or a "6 membered heteroaryl ring containing 1, 2 or 3 heteroatoms selected from N"~~;

 is a "5 membered heteroaryl ring containing 1 or 2 heteroatoms selected from one or more of N, O and S" or a "5 membered heteroalkenyl ring containing 1 or 2 heteroatoms selected from one or more of N, O and S";

R^1 is  or  ;

R^{1-1} is C_1-C_6 alkyl;

R^3 is  or  ;

n is 1;

R^{3-1} is halogen, C_1-C_6 alkyl, C_1-C_6 alkoxy, C_3-C_6 cycloalkyl, or C_1-C_6 alkoxy substituted with C_1-C_6 alkoxy;

R^{3-2} is C_3-C_6 cycloalkyl substituted with one or more R^{3-2-1}, or "5-6 membered heteroaryl containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S" substituted with one or more R^{3-2-3};

R^{3-2-1} and R^{3-2-3} are independently halogen or hydroxyl;

m is 0, 1 or 2;

R^2 is halogen, cyano, C_1-C_{10} alkyl, C_1-C_{10} alkyl substituted with one or more R^{2-1}, C_2-C_6 alkenyl, C_2-C_6 alkenyl substituted with one or more R^{2-7}, C_3-C_6 cycloalkyl, C_3-C_6 cycloalkyl substituted with one or more R^{2-3}, "5-6 membered heterocycloalkyl containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S", "4 membered heterocycloalkyl containing 1 heteroatom selected from one of N, O and S", "4-6 membered heterocycloalkyl containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S" substituted with one or more R^{2-6}, phenyl substituted with one or more R^{2-4}, or -(C=O)-R^{2-2};

R^{2-1} is independently hydroxyl, halogen, C_3-C_6 cycloalkyl, "4-6 membered heterocycloalkyl containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S", phenyl substituted with one or more R^{2-1-1}, "5-6 membered heteroaryl containing 1, 2 or 3 heteroatoms selected

from one or more of N, O and S" substituted with one or more R^{2-1-6}, $-OR^{2-1-2}$, $-N(R^{2-1-3})(R^{2-1-4})$, or $-S(=O)_2-R^{2-1-5}$;

R^{2-1-1} and R^{2-1-6} are independently hydroxyl, amino, halogen, -CN, C_1-C_6 alkyl, C_1-C_6 alkyl substituted with one or more halogen, $-OR^{2-1-1-1}$, or $-N(R^{2-1-1-2})(R^{2-1-1-3})$; $R^{2-1-1-1}$, $R^{2-1-1-2}$ and $R^{2-1-1-3}$ are independently C_1-C_6 alkyl;

R^{2-1-2} is independently C_1-C_6 alkyl or C_3-C_6 cycloalkyl;

R^{2-1-3} and R^{2-1-4} are independently hydrogen, C_1-C_6 alkyl or C_3-C_6 cycloalkyl;

R^{2-1-5} is independently C_1-C_6 alkyl or C_3-C_6 cycloalkyl;

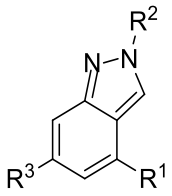
R^{2-3} and R^{2-6} are independently C_1-C_6 alkyl;

R^{2-4} is independently halogen;

R^{2-7} is independently halogen;

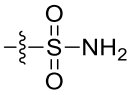
R^{2-2} is C_1-C_6 alkyl, C_3-C_6 cycloalkyl, phenyl or phenyl substituted with one or more R^{2-2-1}; R^{2-2-1} is independently halogen;

scheme 4:

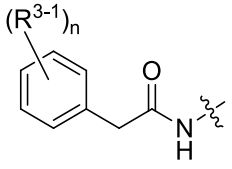


I–1 or 

I–2 ;

R^1 is 

;

R^3 is 

;

n is 1;

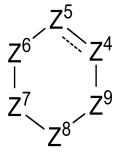
R^{3-1} is halogen;

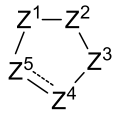
m is 0 or 1;

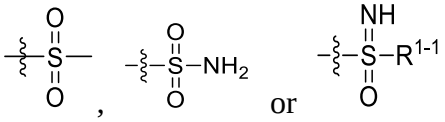
R^2 is C_1-C_{10} alkyl, C_1-C_{10} alkyl substituted with one R^{2-1}, or C_3-C_6 cycloalkyl;

R^{2-1} is independently halogen, C_3-C_6 cycloalkyl, phenyl substituted with one or more R^{2-1-1}, or $-OR^{2-1-2}$; R^{2-1-1} is independently amino, halogen, -CN, C_1-C_6 alkyl, C_1-C_6 alkyl substituted with one or more halogen or $-OR^{2-1-1-1}$; $R^{2-1-1-1}$ is independently C_1-C_6 alkyl; R^{2-1-2} is C_1-C_6 alkyl;

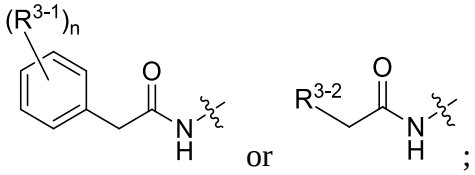
scheme 5:

 is a benzene ring ~~or a "6 membered heteroaryl ring containing 1, 2 or 3 heteroatoms selected from N"~~;

 is a "5 membered heteroaryl ring containing 1 or 2 heteroatoms selected from one or more of N, O and S" or a "5 membered heteroalkenyl ring containing 1 or 2 heteroatoms selected from one or more of N, O and S";

R^1 is  ;

R^{1-1} is C_1-C_6 alkyl;

R^3 is  ;

n is 1;

R^{3-1} is halogen, C_1-C_6 alkyl, C_1-C_6 alkoxy, C_3-C_6 cycloalkyl, or C_1-C_6 alkoxy substituted with C_1-C_6 alkoxy;

R^{3-2} is C_3-C_6 cycloalkyl substituted with one or more R^{3-2-1}, or "5-6 membered heteroaryl containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S" substituted with one or more R^{3-2-3};

R^{3-2-1} and R^{3-2-3} are independently halogen or hydroxyl;

m is 0, 1 or 2;

R^2 is halogen, cyano, C_1-C_{10} alkyl, C_1-C_{10} alkyl substituted with one or more R^{2-1}, C_2-C_6 alkenyl, C_2-C_6 alkenyl substituted with one or more R^{2-7}, C_3-C_6 cycloalkyl, C_3-C_6 cycloalkyl substituted with one or more R^{2-3}, "5-6 membered heterocycloalkyl containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S", "4 membered heterocycloalkyl containing 1 heteroatom selected from one of N, O and S", "4-6 membered heterocycloalkyl containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S" substituted with one or more R^{2-6}, phenyl substituted with one or more R^{2-4}, or -(C=O)-R^{2-2};

R^{2-1} is independently hydroxyl, halogen, C_3-C_6 cycloalkyl, C_3-C_6 cycloalkyl substituted with one or more R^{2-1-8}, "4-6 membered heterocycloalkyl containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S", phenyl substituted with one or more R^{2-1-1}, "5-6 membered heteroaryl

containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S" substituted with one or more R^{2-1-6}, $-OR^{2-1-2}$, $-N(R^{2-1-3})(R^{2-1-4})$, or $-S(=O)_2-R^{2-1-5}$;

R^{2-1-1}, R^{2-1-6} and R^{2-1-8} are independently hydroxyl, amino, halogen, -CN, C_1-C_6 alkyl, C_1-C_6 alkyl substituted with one or more halogen, $-OR^{2-1-1-1}$, or $-N(R^{2-1-1-2})(R^{2-1-1-3})$; $R^{2-1-1-1}$, $R^{2-1-1-2}$ and $R^{2-1-1-3}$ are independently C_1-C_6 alkyl;

R^{2-1-2} is independently C_1-C_6 alkyl or C_3-C_6 cycloalkyl;

R^{2-1-3} and R^{2-1-4} are independently hydrogen, C_1-C_6 alkyl or C_3-C_6 cycloalkyl;

R^{2-1-5} is independently C_1-C_6 alkyl or C_3-C_6 cycloalkyl;

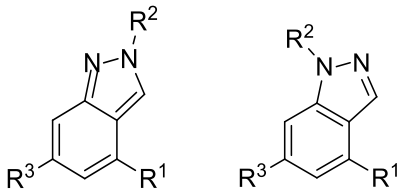
R^{2-3} and R^{2-6} are independently C_1-C_6 alkyl;

R^{2-4} is independently halogen;

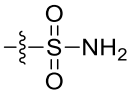
R^{2-7} is independently halogen;

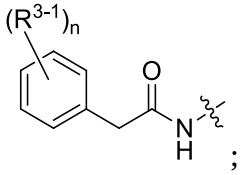
R^{2-2} is C_1-C_6 alkyl, C_3-C_6 cycloalkyl, phenyl or phenyl substituted with one or more R^{2-2-1}; R^{2-2-1} is independently halogen;

scheme 6:



I–1 or I–2 ;

R^1 is  ;

R^3 is  ;

n is 1;

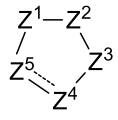
R^{3-1} is halogen;

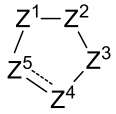
m is 0 or 1;

R^2 is C_1-C_{10} alkyl, C_1-C_{10} alkyl substituted with one R^{2-1}, or C_3-C_6 cycloalkyl;

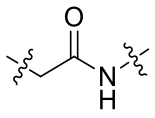
R^{2-1} is independently halogen, C_3-C_6 cycloalkyl, phenyl substituted with one or more R^{2-1-1}, "5-6 membered heteroaryl containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S" substituted with one or more R^{2-1-6}, or $-OR^{2-1-2}$; R^{2-1-1} and R^{2-1-6} are independently amino, halogen, -CN, C_1-C_6 alkyl, C_1-C_6 alkyl substituted with one or more halogen, or $-OR^{2-1-1-1}$; $R^{2-1-1-1}$ is independently C_1-C_6 alkyl; R^{2-1-2} is C_1-C_6 alkyl.

6. The compound containing a benzene ring represented by formula **I**, or the pharmaceutically acceptable salt thereof, the stereoisomer thereof, the tautomer thereof, the isotopic compound thereof, the crystalline form thereof, the nitrogen oxide thereof or the solvate thereof, or the solvate of the pharmaceutically acceptable salt thereof according to at least one of claims 1 to 5,

characterized in that, when  is a "5 membered heteroaryl ring containing 1 or 2 heteroatoms selected from one or more of N, O and S", the "5 membered heteroaryl ring containing 1 or 2 heteroatoms selected from one or more of N, O and S" is a "5 membered heteroaryl ring containing 1 or 2 heteroatoms selected from N";

and/or, when  is a "5 membered heteroalkenyl ring containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S", the "5 membered heteroalkenyl ring containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S" is a "5 membered heteroalkenyl ring containing 1 or 2 heteroatoms selected from N";

and/or, when R^{1-1} is C_1-C_6 alkyl, the C_1-C_6 alkyl is C_1-C_4 alkyl;

and/or, when n is 1 or 2, R^{3-1} is independently located in the ortho-, meta- or para-position relative to  ;

and/or, when R^{3-1} is independently halogen, the halogen is fluorine, chlorine, bromine or iodine;

and/or, when R^{3-1} is C_1-C_6 alkyl, the C_1-C_6 alkyl is C_1-C_4 alkyl;

and/or, when R^{3-1} is C_1-C_6 alkoxy, the C_1-C_6 alkoxy is C_1-C_4 alkoxy;

and/or, when R^{3-1} is C_1-C_6 alkoxy substituted with C_1-C_6 alkoxy, the C_1-C_6 alkoxy is C_1-C_4 alkoxy;

and/or, when R^{3-2} is C_3-C_6 cycloalkyl substituted with one or more R^{3-2-1}, the C_3-C_6 cycloalkyl is cyclopropyl, cyclobutyl, cyclopentyl or cyclohexyl;

and/or, when R^{3-2-3} is halogen, the halogen is fluorine, chlorine, bromine or iodine;

and/or, when R^{3-2} is "5-6 membered heteroaryl containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S" substituted with one or more R^{3-2-3}, the "5-6 membered heteroaryl containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S" is "5-6 membered heteroaryl containing 1 or 2 heteroatoms selected from N";

and/or, when R^2 is halogen, the halogen is fluorine, chlorine, bromine or iodine;

and/or, when R^2 is C_1-C_{10} alkyl, the C_1-C_{10} alkyl is C_1-C_6 alkyl;

and/or, when R^2 is C_1-C_{10} alkyl substituted with one or more R^{2-1}, the C_1-C_{10} alkyl is C_1-C_6 alkyl;

and/or, when R^{2-1} is independently halogen, the halogen is fluorine, chlorine, bromine or iodine;

and/or, when R^{2-1} is independently C_3-C_6 cycloalkyl, the C_3-C_6 cycloalkyl is cyclopropyl, cyclobutyl, cyclopentyl or cyclohexyl;

and/or, when R^{2-1} is C_3-C_6 cycloalkyl substituted with one or more R^{2-1-8}, the C_3-C_6 cycloalkyl is cyclopropyl, cyclobutyl, cyclopentyl or cyclohexyl;

and/or, when R^{2-1} is "4-6 membered heterocycloalkyl containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S", the "4-6 membered heterocycloalkyl containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S" is "5 or 6 membered heterocycloalkyl containing 1 or 2 heteroatoms selected from one or more of N, O and S";

and/or, when R^{2-1} is independently "5-6 membered heteroaryl containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S" substituted with one or more R^{2-1-6}, the "5-6 membered heteroaryl containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S" is "5-6 membered heteroaryl containing 1 heteroatom selected from one or more of N, O and S";

and/or, R^{2-1-1} is independently located in the ortho-, meta- or para-position relative to phenyl;

and/or, R^{2-1-6} is independently located in the ortho-, meta- or para-position relative to 6 membered heteroaryl;

and/or, R^{2-1-6} is independently located in the ortho- or meta-position relative to 5 membered heteroaryl;

and/or, when R^{2-1-1} is independently halogen, the halogen is fluorine, chlorine, bromine or iodine;

and/or, when R^{2-1-1} is C_1-C_6 alkyl, the C_1-C_6 alkyl is C_1-C_4 alkyl;

and/or, when R^{2-1-1} is C_1-C_6 alkyl substituted with one or more halogen, the halogen is fluorine, chlorine, bromine or iodine;

and/or, when R^{2-1-1} is C_1-C_6 alkyl substituted with one or more halogen, the C_1-C_6 alkyl is C_1-C_4 alkyl;

and/or, when R^{2-1-6} is independently halogen, the halogen is fluorine, chlorine, bromine or iodine;

and/or, when $R^{2-1-1-1}$, $R^{2-1-1-2}$ and $R^{2-1-1-3}$ are independently C_1-C_6 alkyl, the C_1-C_6 alkyl is C_1-C_4 alkyl;

and/or, when R^{2-1-2} is independently C_1-C_6 alkyl, the C_1-C_6 alkyl is C_1-C_4 alkyl;

and/or, when R^{2-1-2} is independently C_3-C_6 cycloalkyl, the C_3-C_6 cycloalkyl is cyclopropyl, cyclobutyl, cyclopentyl or cyclohexyl;

and/or, when R^{2-1-3} and R^{2-1-4} are independently C_1-C_6 alkyl, the C_1-C_6 alkyl is C_1-C_4 alkyl;

and/or, when R^{2-1-3} and R^{2-1-4} are independently C_3-C_6 cycloalkyl, the C_3-C_6 cycloalkyl is

cyclopropyl, cyclobutyl, cyclopentyl or cyclohexyl;

and/or, when R^{2-1-5} is independently C_1-C_6 alkyl, the C_1-C_6 alkyl is C_1-C_4 alkyl;

and/or, when R^{2-1-5} is independently C_3-C_6 cycloalkyl, the C_3-C_6 cycloalkyl is cyclopropyl, cyclobutyl, cyclopentyl or cyclohexyl;

and/or, when R^2 is C_3-C_6 cycloalkyl, the C_3-C_6 cycloalkyl is cyclopropyl, cyclobutyl, cyclopentyl or cyclohexyl;

and/or, when R^2 is C_3-C_6 cycloalkyl substituted with one or more R^{2-3}, the C_3-C_6 cycloalkyl is cyclopropyl, cyclobutyl, cyclopentyl or cyclohexyl;

and/or, when R^{2-3} is independently C_1-C_6 alkyl, the C_1-C_6 alkyl is C_1-C_4 alkyl;

and/or, when R^2 is C_2-C_6 alkenyl, the C_2-C_6 alkenyl is C_2-C_4 alkenyl;

and/or, when R^2 is C_2-C_6 alkenyl substituted with one or more R^{2-7}, the C_2-C_6 alkenyl is C_2-C_4 alkenyl;

and/or, when R^{2-7} is halogen, the halogen is fluorine, chlorine, bromine or iodine;

and/or, when R^2 is "4 membered heterocycloalkyl containing 1 heteroatom selected from one of N, O and S", the "4 membered heterocycloalkyl containing 1 heteroatom selected from one of N, O and S" is oxetanyl;

and/or, when R^{2-6} is C_1-C_6 alkyl, the C_1-C_6 alkyl is C_1-C_4 alkyl;

and/or, when R^2 is "4-6 membered heterocycloalkyl containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S" substituted with one or more R^{2-6}, the "4-6 membered heterocycloalkyl containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S" is "4-6 membered heterocycloalkyl containing 1 heteroatom selected from one of N, O and S";

and/or, R^{2-4} is independently located in the ortho-, meta- or para-position relative to phenyl;

and/or, when R^{2-4} is independently halogen, the halogen is fluorine, chlorine, bromine or iodine;

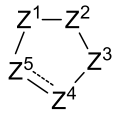
and/or, when R^{2-2} is independently C_1-C_6 alkyl, the C_1-C_6 alkyl is C_1-C_4 alkyl;

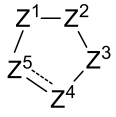
and/or, when R^{2-2} is C_3-C_6 cycloalkyl, the C_3-C_6 cycloalkyl is cyclopropyl, cyclobutyl, cyclopentyl or cyclohexyl;

and/or, R^{2-2-1} is independently located in the ortho-, meta- or para-position relative to phenyl;

and/or, when R^{2-2-1} is independently halogen, the halogen is fluorine, chlorine, bromine or iodine.

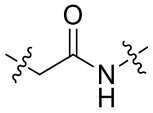
7. The compound containing a benzene ring represented by formula **I**, or the pharmaceutically acceptable salt thereof, the stereoisomer thereof, the tautomer thereof, the isotopic compound thereof, the crystalline form thereof, the nitrogen oxide thereof or the solvate thereof, or the solvate of the pharmaceutically acceptable salt thereof according to claim 6, wherein, when

 is a "5 membered heteroaryl ring containing 1 or 2 heteroatoms selected from one or more of N, O and S", the "5 membered heteroaryl ring containing 1 or 2 heteroatoms selected from one or more of N, O and S" is a pyrrole ring, a pyrazole ring or an imidazole ring;

and/or, when  is a "5 membered heteroalkenyl ring containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S", the "5 membered heteroalkenyl ring containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S" is a 2,5-dihydropyrrole ring;

and/or, when R^{1-1} is C_1-C_6 alkyl, the C_1-C_6 alkyl is methyl, ethyl, *n*-propyl, isopropyl, *n*-butyl, isobutyl, *sec*-butyl or *tert*-butyl;

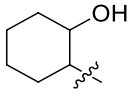
and/or, when R^{3-1} is independently halogen, the halogen is chlorine;

and/or, when n is 1 or 2, R^{3-1} is independently located in the ortho-position relative to  ;

and/or, when R^{3-1} is C_1-C_6 alkyl, the C_1-C_6 alkyl is methyl, ethyl, *n*-propyl, isopropyl, *n*-butyl, isobutyl, *sec*-butyl or *tert*-butyl;

and/or, when R^{3-1} is C_1-C_6 alkoxy, the C_1-C_6 alkoxy is methoxy, ethoxy, *n*-propoxy, isopropoxy, *n*-butoxy, isobutoxy, *sec*-butoxy or *tert*-butoxy;

and/or, when R^{3-1} is C_1-C_6 alkoxy substituted with C_1-C_6 alkoxy, the C_1-C_6 alkoxy is methoxy, ethoxy, *n*-propoxy, isopropoxy, *n*-butoxy, isobutoxy, *sec*-butoxy or *tert*-butoxy;

and/or, when R^{3-2} is C_3-C_6 cycloalkyl substituted with one or more R^{3-2-1}, the C_3-C_6 cycloalkyl substituted with one R^{3-2-1} is  ;

and/or, when R^{3-2-3} is halogen, the halogen is chlorine;

and/or, when R^{3-2} is "5-6 membered heteroaryl containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S" substituted with one or more R^{3-2-3}, the "5-6 membered heteroaryl containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S" is pyridinyl;

and/or, when R^2 is halogen, the halogen is chlorine;

and/or, when R^2 is C_1-C_{10} alkyl, the C_1-C_{10} alkyl is C_1-C_5 alkyl;

and/or, when R^2 is C_1-C_{10} alkyl substituted with one or more R^{2-1}, the C_1-C_{10} alkyl is C_1-C_4 alkyl;

and/or, when R^{2-1} is independently halogen, the halogen is fluorine;

and/or, when R^{2-1} is "4-6 membered heterocycloalkyl containing 1, 2 or 3 heteroatoms selected

from one or more of N, O and S", the "4-6 membered heterocycloalkyl containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S" is tetrahydrofuranyl, morpholinyl or tetrahydropyranyl;

and/or, when R^{2-1} is independently "5-6 membered heteroaryl containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S" substituted with one or more R^{2-1-6}, the "5-6 membered heteroaryl containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S" is pyridinyl;

and/or, when R^{2-1-1} is independently halogen, the halogen is fluorine;

and/or, when R^{2-1-1} is C_1-C_6 alkyl, the C_1-C_6 alkyl is methyl, ethyl, *n*-propyl, isopropyl, *n*-butyl, isobutyl, *sec*-butyl or *tert*-butyl;

and/or, when R^{2-1-1} is C_1-C_6 alkyl substituted with one or more halogen, the halogen is fluorine;

and/or, when R^{2-1-1} is C_1-C_6 alkyl substituted with one or more halogen, the C_1-C_6 alkyl is methyl, ethyl, *n*-propyl, isopropyl, *n*-butyl, isobutyl, *sec*-butyl or *tert*-butyl;

and/or, when R^{2-1-6} is independently halogen, the halogen is fluorine;

and/or, when $R^{2-1-1-1}$, $R^{2-1-1-2}$ and $R^{2-1-1-3}$ are independently C_1-C_6 alkyl, the C_1-C_6 alkyl is methyl, ethyl, *n*-propyl, isopropyl, *n*-butyl, isobutyl, *sec*-butyl or *tert*-butyl;

and/or, when R^{2-1-2} is independently C_1-C_6 alkyl, the C_1-C_6 alkyl is methyl, ethyl, *n*-propyl, isopropyl, *n*-butyl, isobutyl, *sec*-butyl or *tert*-butyl;

and/or, when R^{2-1-2} is independently C_3-C_6 cycloalkyl, the C_3-C_6 cycloalkyl is cyclopropyl;

and/or, when R^{2-1-3} and R^{2-1-4} are independently C_1-C_6 alkyl, the C_1-C_6 alkyl is methyl, ethyl, *n*-propyl, isopropyl, *n*-butyl, isobutyl, *sec*-butyl or *tert*-butyl;

and/or, when R^{2-1-3} and R^{2-1-4} are independently C_3-C_6 cycloalkyl, the C_3-C_6 cycloalkyl is cyclopropyl;

and/or, when R^{2-1-5} is independently C_1-C_6 alkyl, the C_1-C_6 alkyl is methyl, ethyl, *n*-propyl, isopropyl, *n*-butyl, isobutyl, *sec*-butyl or *tert*-butyl;

and/or, when R^{2-1-5} is independently C_3-C_6 cycloalkyl, the C_3-C_6 cycloalkyl is cyclopropyl;

and/or, when R^2 is C_3-C_6 cycloalkyl, the C_3-C_6 cycloalkyl is cyclopropyl;

and/or, when R^2 is C_3-C_6 cycloalkyl substituted with one or more R^{2-3}, the C_3-C_6 cycloalkyl is cyclopropyl;

and/or, when R^{2-3} is independently C_1-C_6 alkyl, the C_1-C_6 alkyl is methyl, ethyl, *n*-propyl, isopropyl, *n*-butyl, isobutyl, *sec*-butyl or *tert*-butyl;

and/or, when R^2 is C_2-C_6 alkenyl, the C_2-C_6 alkenyl is vinyl or propenyl;

and/or, when R^2 is C_2-C_6 alkenyl substituted with one or more R^{2-7}, the C_2-C_6 alkenyl is vinyl or propenyl;

and/or, when R^{2-7} is halogen, the halogen is fluorine;

and/or, when R^2 is "4 membered heterocycloalkyl containing 1 heteroatom selected from one of N, O and S", the "4 membered heterocycloalkyl containing 1 heteroatom selected from one of N, O and S" is oxetan-3-yl;

and/or, when R^{2-6} is C_1-C_6 alkyl, the C_1-C_6 alkyl is methyl, ethyl, *n*-propyl, isopropyl, *n*-butyl, isobutyl, *sec*-butyl or *tert*-butyl;

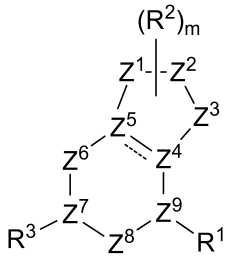
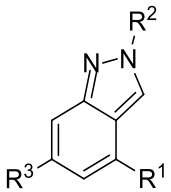
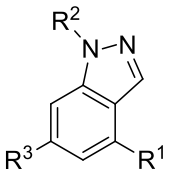
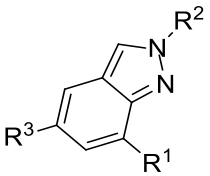
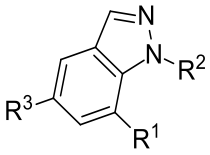
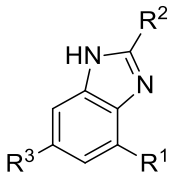
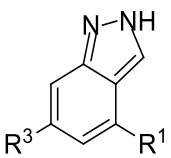
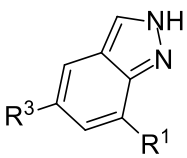
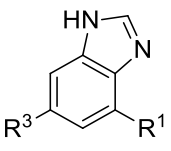
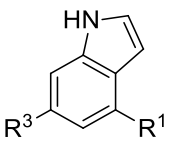
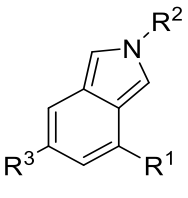
and/or, when R^2 is "4-6 membered heterocycloalkyl containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S" substituted with one or more R^{2-6}, the "4-6 membered heterocycloalkyl containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S" is oxetan-3-yl;

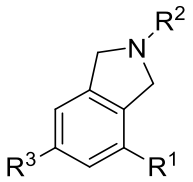
and/or, when R^{2-4} is independently halogen, the halogen is fluorine or chlorine;

and/or, when R^{2-2} is independently C_1-C_6 alkyl, the C_1-C_6 alkyl is methyl, ethyl, *n*-propyl, isopropyl, *n*-butyl, isobutyl, *sec*-butyl or *tert*-butyl;

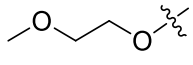
and/or, when R^{2-2} is C_3-C_6 cycloalkyl, the C_3-C_6 cycloalkyl is cyclopropyl;

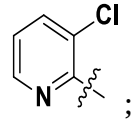
and/or, when R^{2-2-1} is independently halogen, the halogen is fluorine.

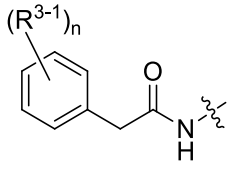
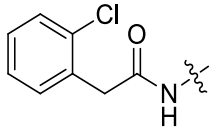
8. The compound containing a benzene ring represented by formula **I**, or the pharmaceutically acceptable salt thereof, the stereoisomer thereof, the tautomer thereof, the isotopic compound thereof, the crystalline form thereof, the nitrogen oxide thereof or the solvate thereof, or the solvate of the pharmaceutically acceptable salt thereof according to claim 7, characterized in that,  I is  I–1,  I–2,  I–3,  I–4,  I–5,  I–6,  I–7,  I–8,  I–9,  I–10,

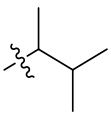


or I–11 ;

and/or, when R^{3-1} is C_1-C_6 alkoxy substituted with C_1-C_6 alkoxy, the C_1-C_6 alkoxy substituted with C_1-C_6 alkoxy is  ;

and/or, when R^{3-2} is "5-6 membered heteroaryl containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S" substituted with one or more R^{3-2-3}, the "5-6 membered heteroaryl containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S" substituted with one R^{3-2-3} is  ;

and/or,  is  ;

and/or, when R^2 is C_1-C_{10} alkyl, the C_1-C_{10} alkyl is methyl, ethyl, *n*-propyl, isopropyl, *n*-butyl, isobutyl, *sec*-butyl, *tert*-butyl, *n*-pentyl, isopentyl or  ;

and/or, when R^2 is C_1-C_{10} alkyl substituted with one or more R^{2-1}, the C_1-C_{10} alkyl is methyl, ethyl, *n*-propyl, isopropyl, *n*-butyl, isobutyl, *sec*-butyl or *tert*-butyl;

and/or, when R^{2-1} is "4-6 membered heterocycloalkyl containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S", the "4-6 membered heterocycloalkyl containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S" is tetrahydrofuran-2-yl, tetrahydrofuran-3-yl, morpholin-1-yl or tetrahydropyran-4-yl;

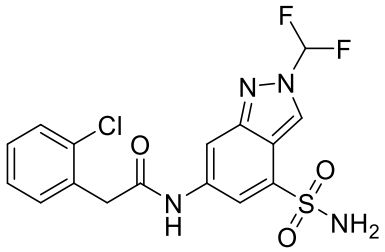
and/or, when R^{2-1} is independently "5-6 membered heteroaryl containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S" substituted with one or more R^{2-1-6}, the "5-6 membered heteroaryl containing 1, 2 or 3 heteroatoms selected from one or more of N, O and S" is pyridin-3-yl or pyridin-4-yl;

and/or, when R^{2-1-1} is C_1-C_6 alkyl, the C_1-C_6 alkyl is methyl or isopropyl;

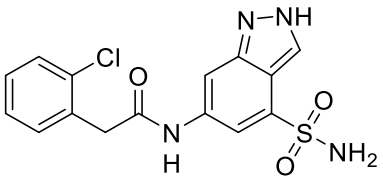
and/or, when R^{2-1-1} is C_1-C_6 alkyl substituted with one or more halogen, the C_1-C_6 alkyl substituted with a plurality of halogen is trifluoromethyl;

and/or, when $R^{2-1-1-1}$, $R^{2-1-1-2}$ and $R^{2-1-1-3}$ are independently C_1-C_6 alkyl, the C_1-C_6 alkyl is methyl;
and/or, when R^{2-1-2} is independently C_1-C_6 alkyl, the C_1-C_6 alkyl is methyl or isopropyl;
and/or, when R^{2-1-3} and R^{2-1-4} are independently C_1-C_6 alkyl, the C_1-C_6 alkyl is methyl or isopropyl;
and/or, when R^{2-1-5} is independently C_1-C_6 alkyl, the C_1-C_6 alkyl is methyl or isopropyl;
and/or, when R^{2-3} is independently C_1-C_6 alkyl, the C_1-C_6 alkyl is methyl, ethyl or isopropyl;
and/or, when R^{2-6} is C_1-C_6 alkyl, the C_1-C_6 alkyl is methyl;
and/or, when R^{2-2} is independently C_1-C_6 alkyl, the C_1-C_6 alkyl is isopropyl.

9. The compound containing a benzene ring represented by formula **I**, or the pharmaceutically acceptable salt thereof, the stereoisomer thereof, the tautomer thereof, the isotopic compound thereof, the crystalline form thereof, the nitrogen oxide thereof or the solvate thereof, or the solvate of the pharmaceutically acceptable salt thereof according to claim 1, characterized in that, the compound containing a benzene ring represented by formula **I** is any one of the following compounds:



1 ,



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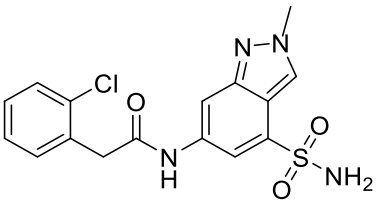
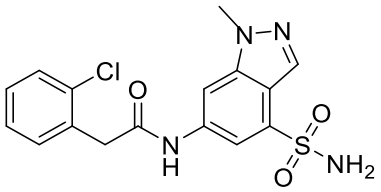
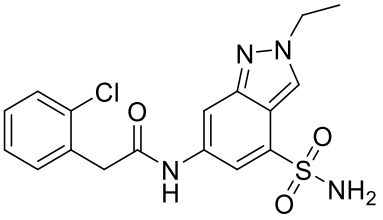


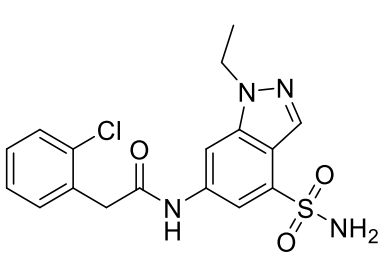
3-A



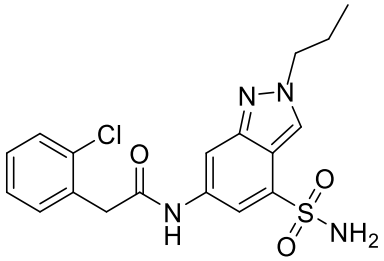
3-B ,



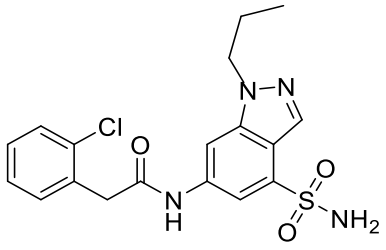
4-A ,



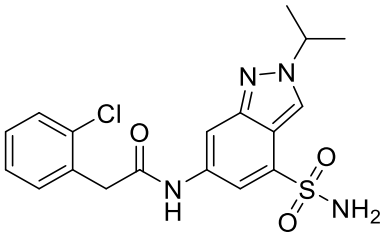
4-B ,



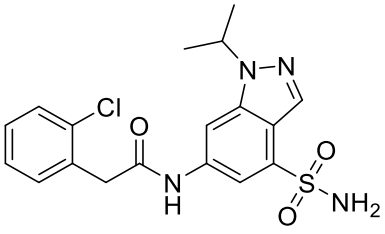
5-A ,



5-B ,



6-A



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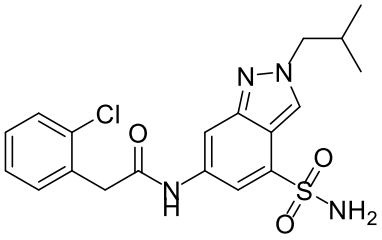

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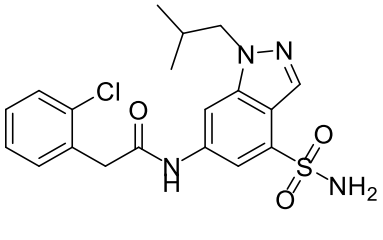

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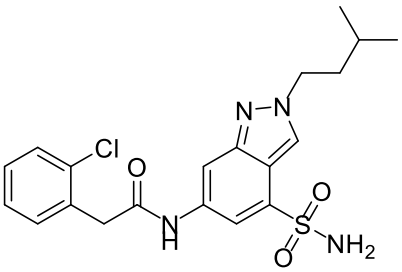

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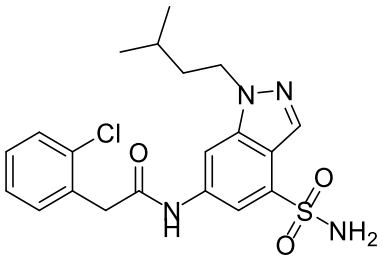

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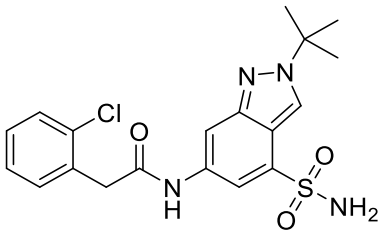

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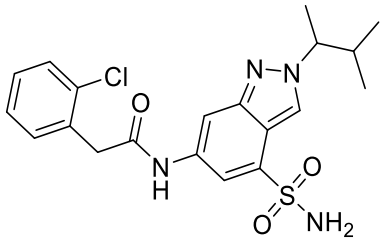

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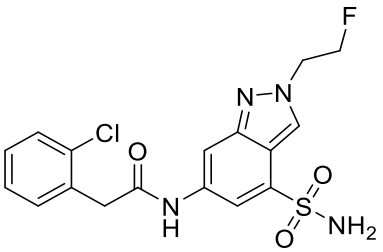

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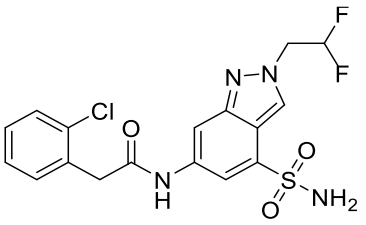

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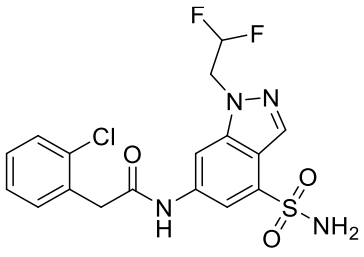

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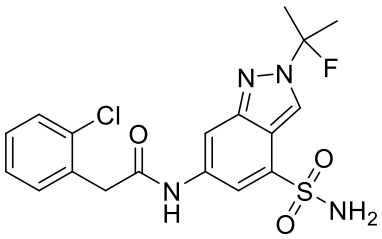

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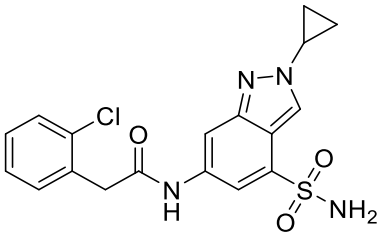

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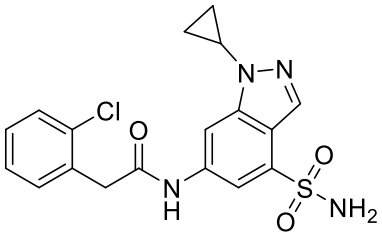

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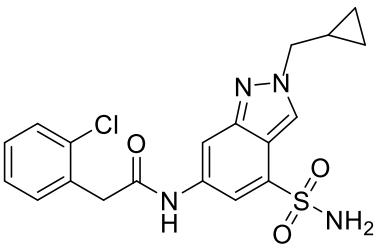
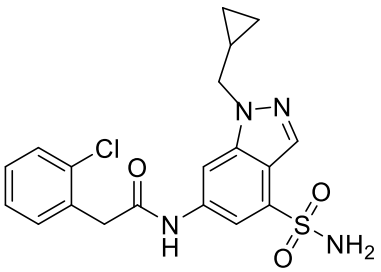


15-A



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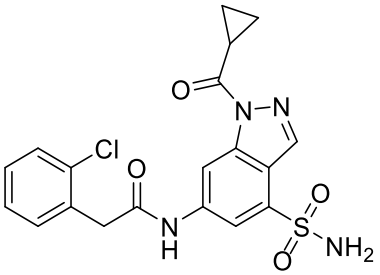

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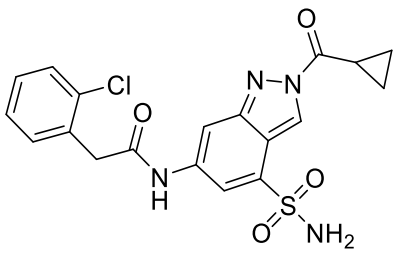

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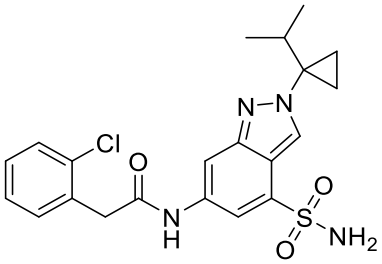

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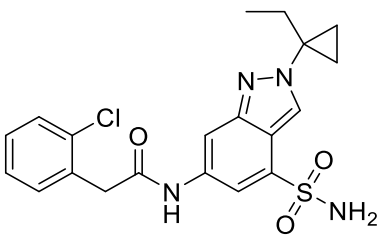

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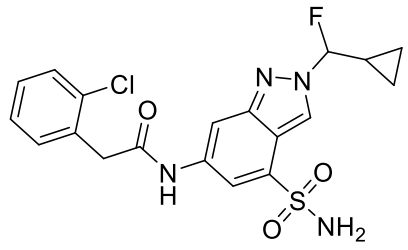

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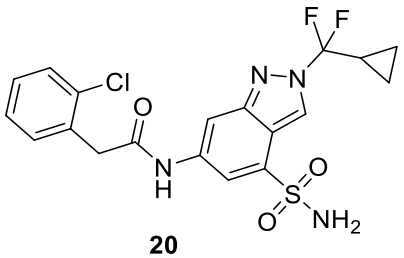

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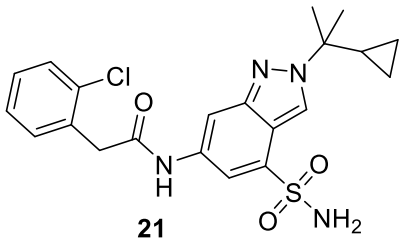

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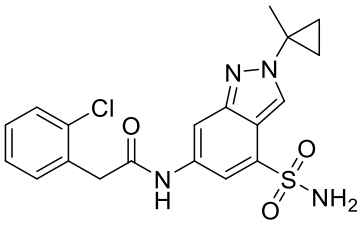

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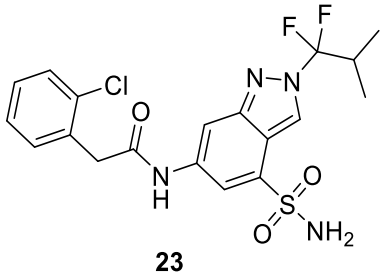

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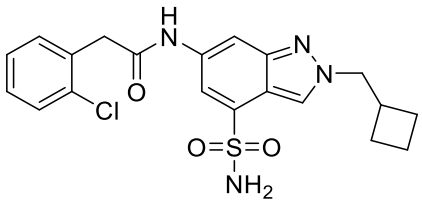

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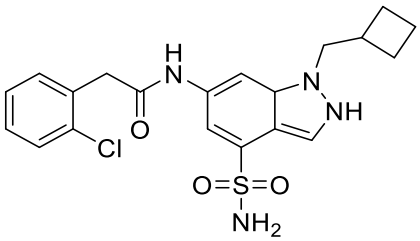

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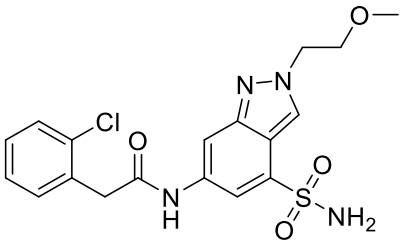

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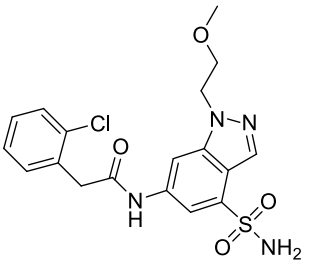

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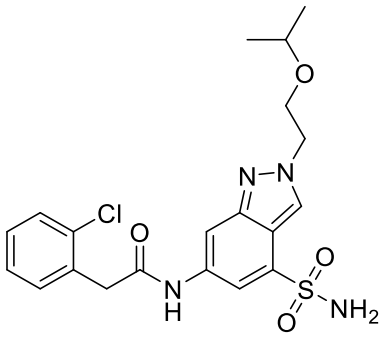

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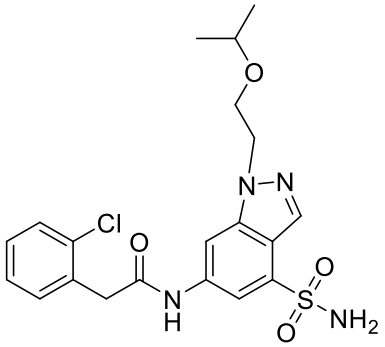

26-B ,

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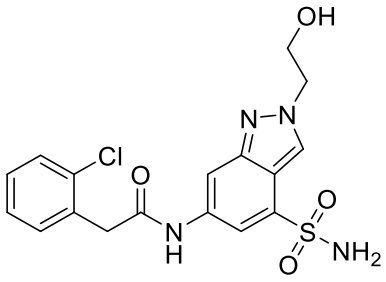
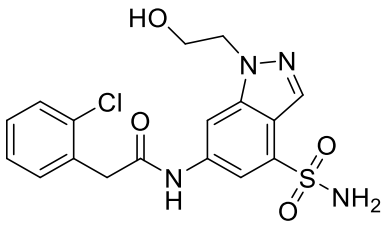
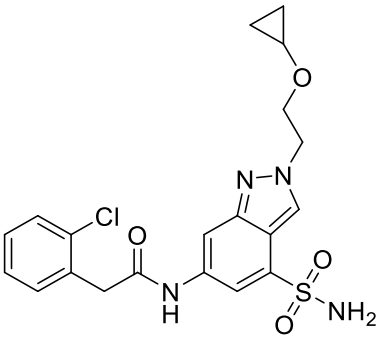


27-A



27-B ,



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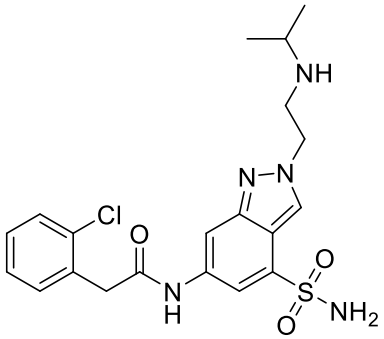

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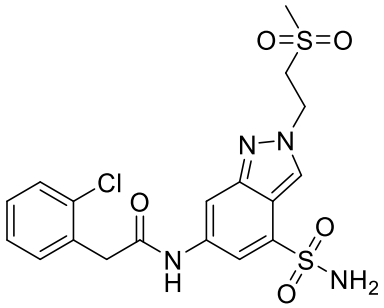

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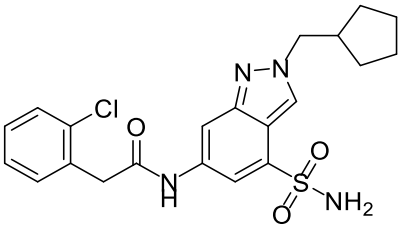
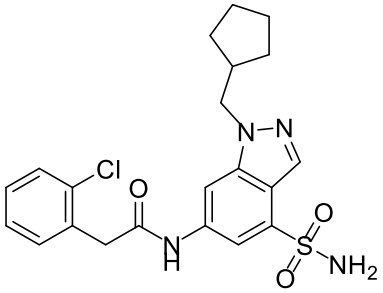
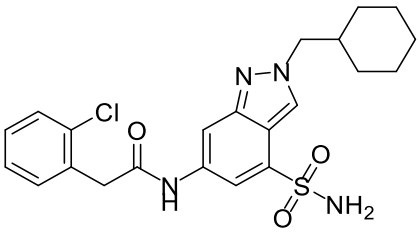


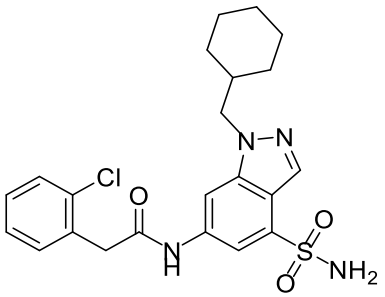
31-A ,



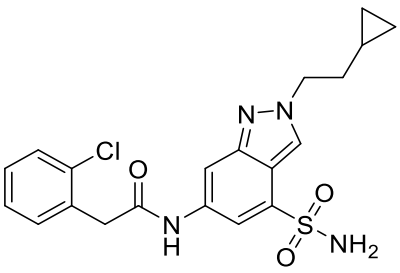
31-B ,



32-A ,



32-B ,



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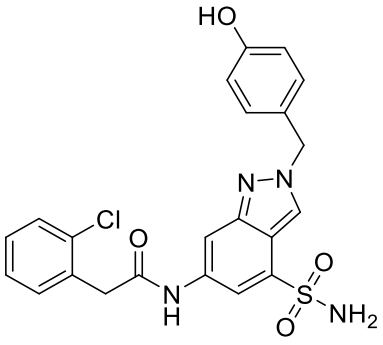

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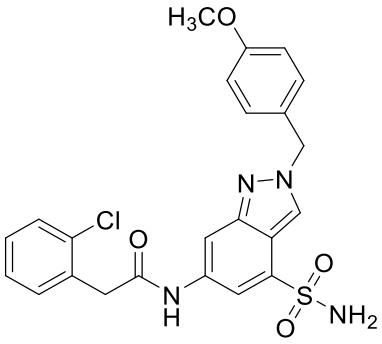

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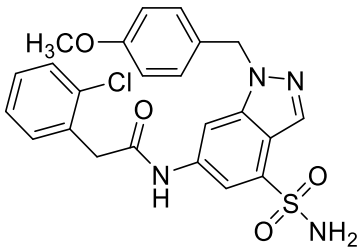

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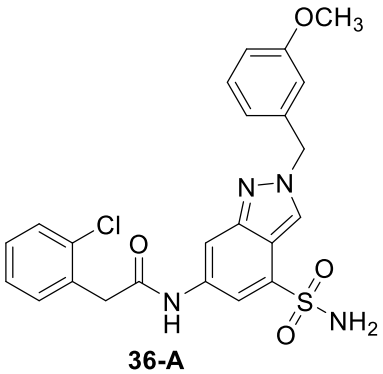
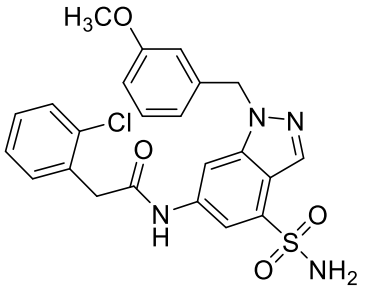
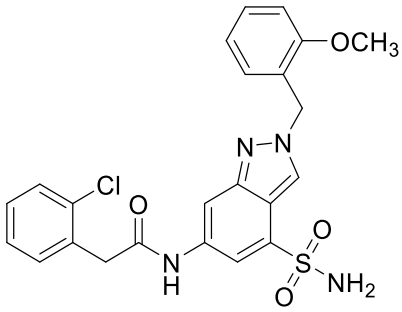


36-A ,



36-B ,



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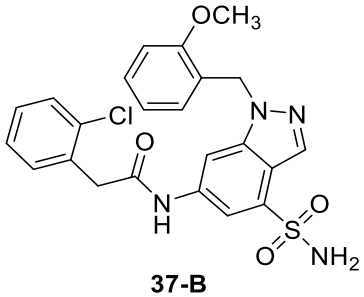
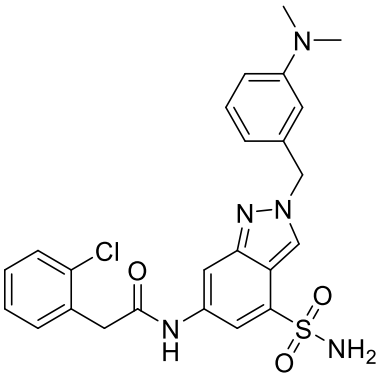


37-B ,



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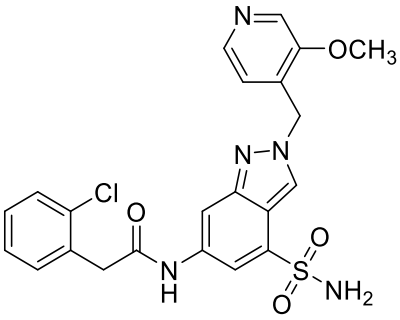

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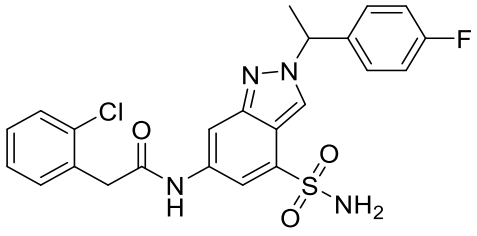

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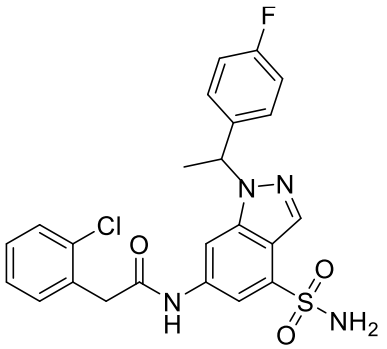

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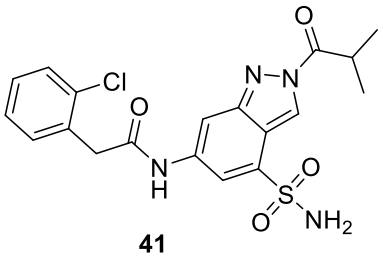

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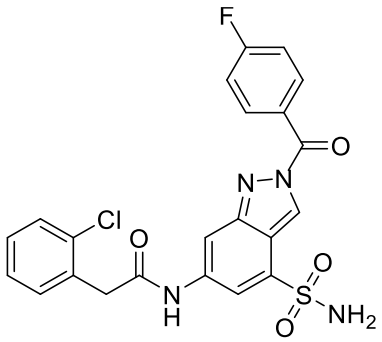
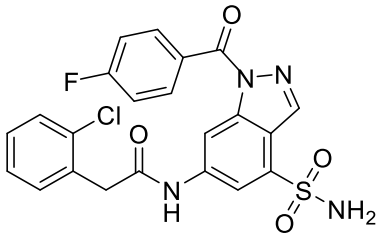


42-A



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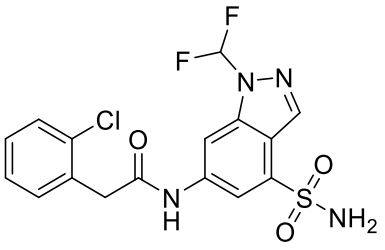

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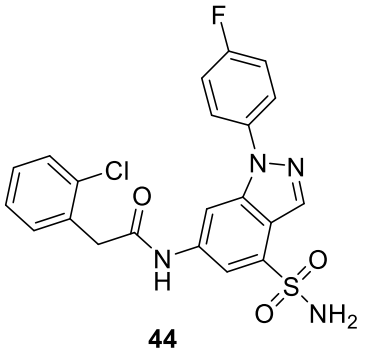

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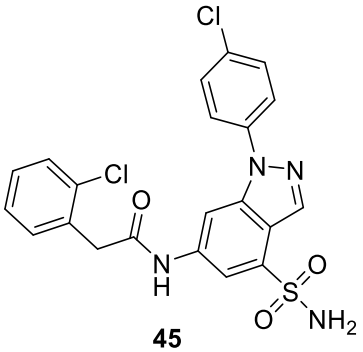

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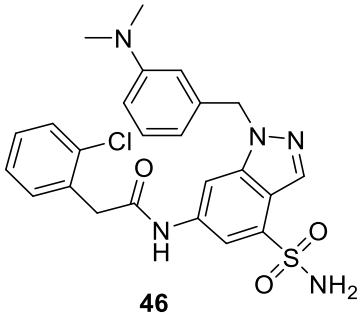

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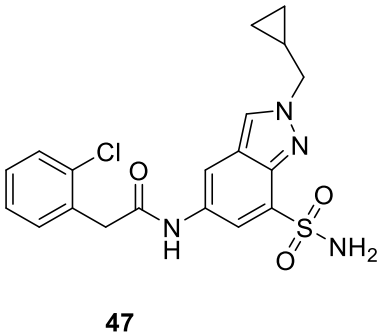

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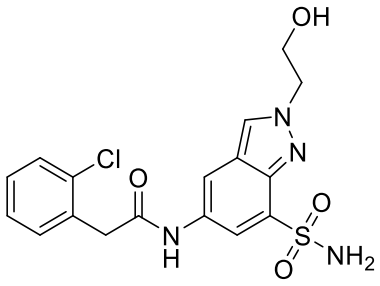

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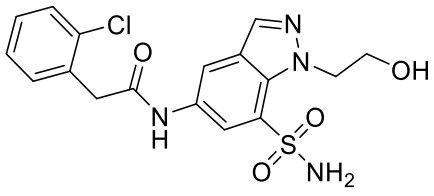

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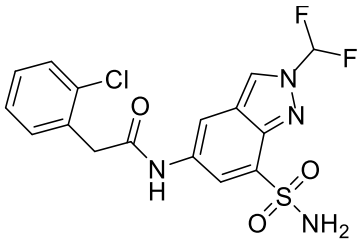

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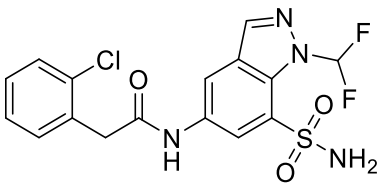

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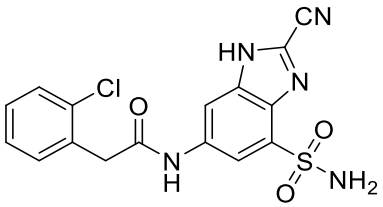

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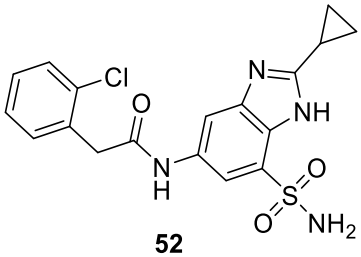

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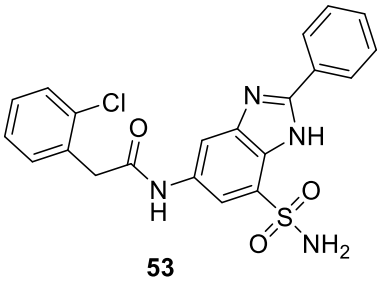

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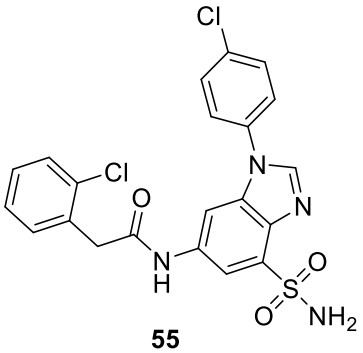

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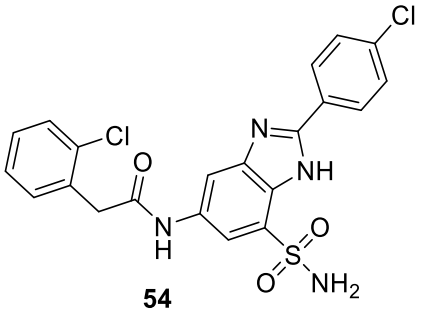

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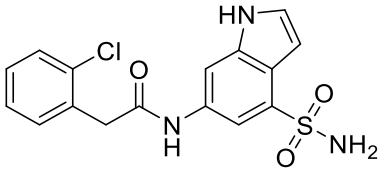

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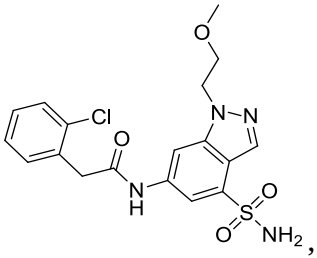

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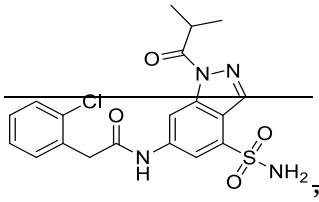

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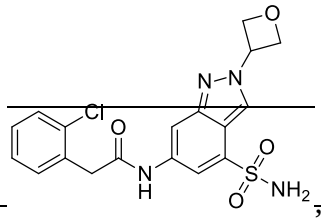

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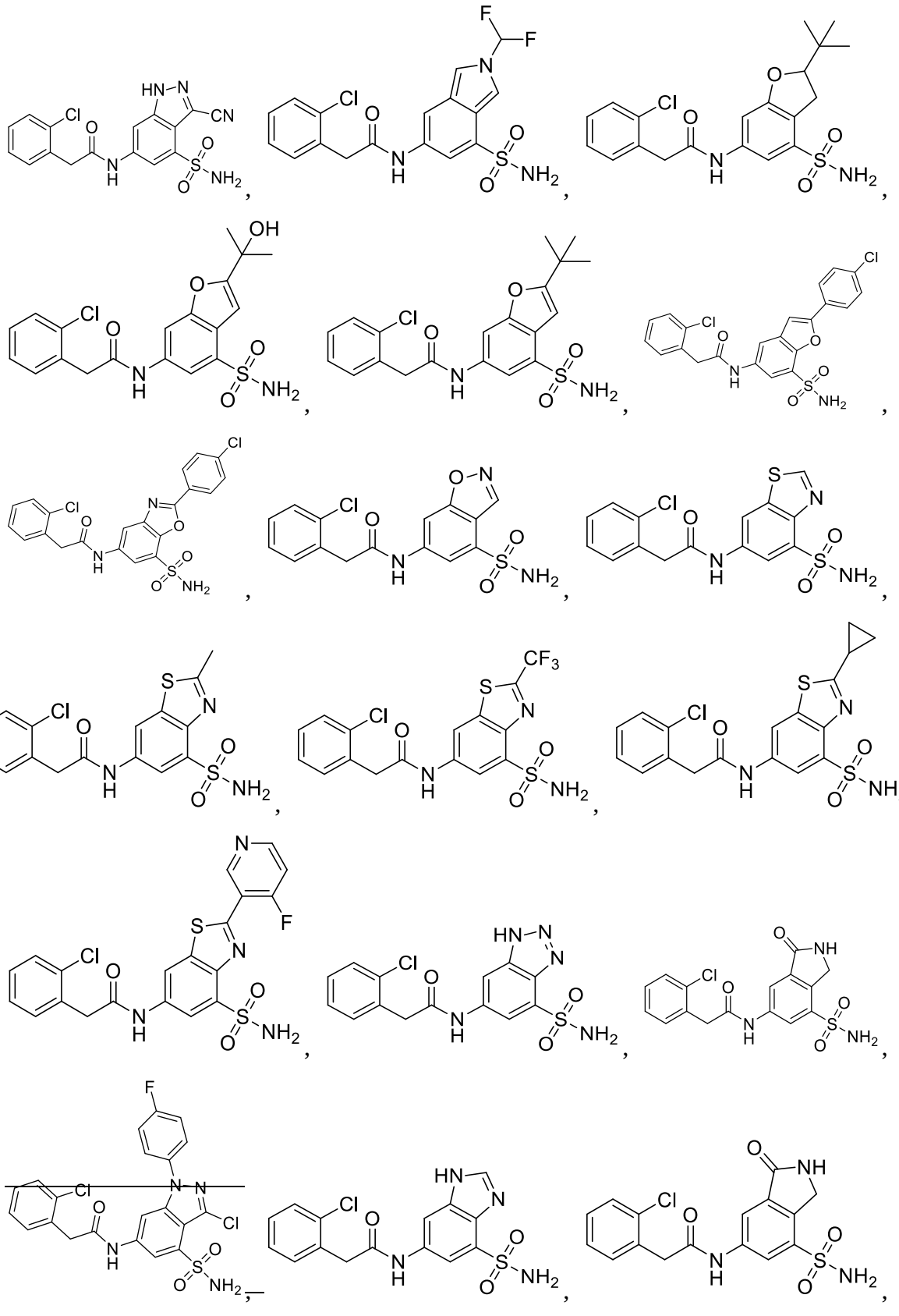

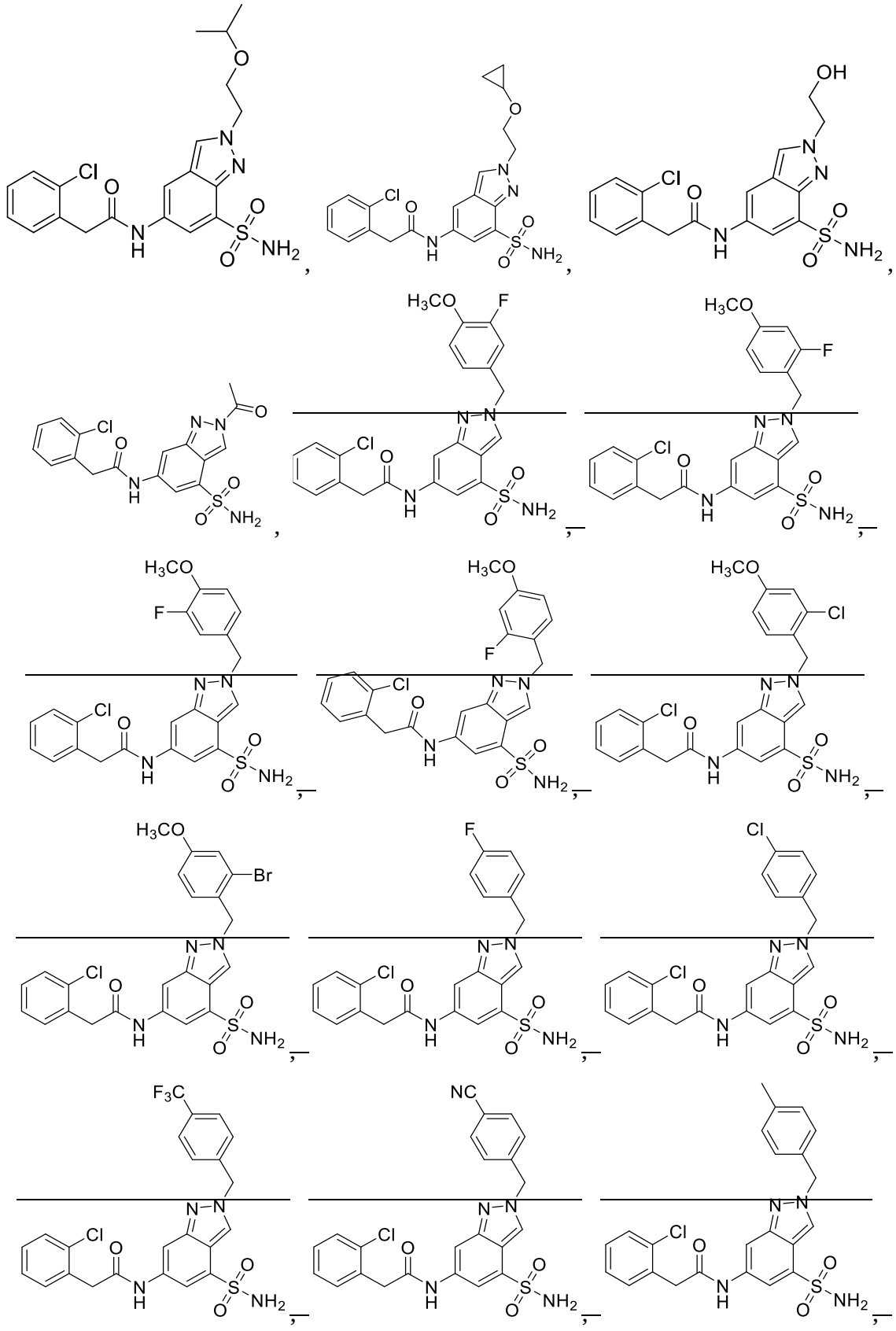

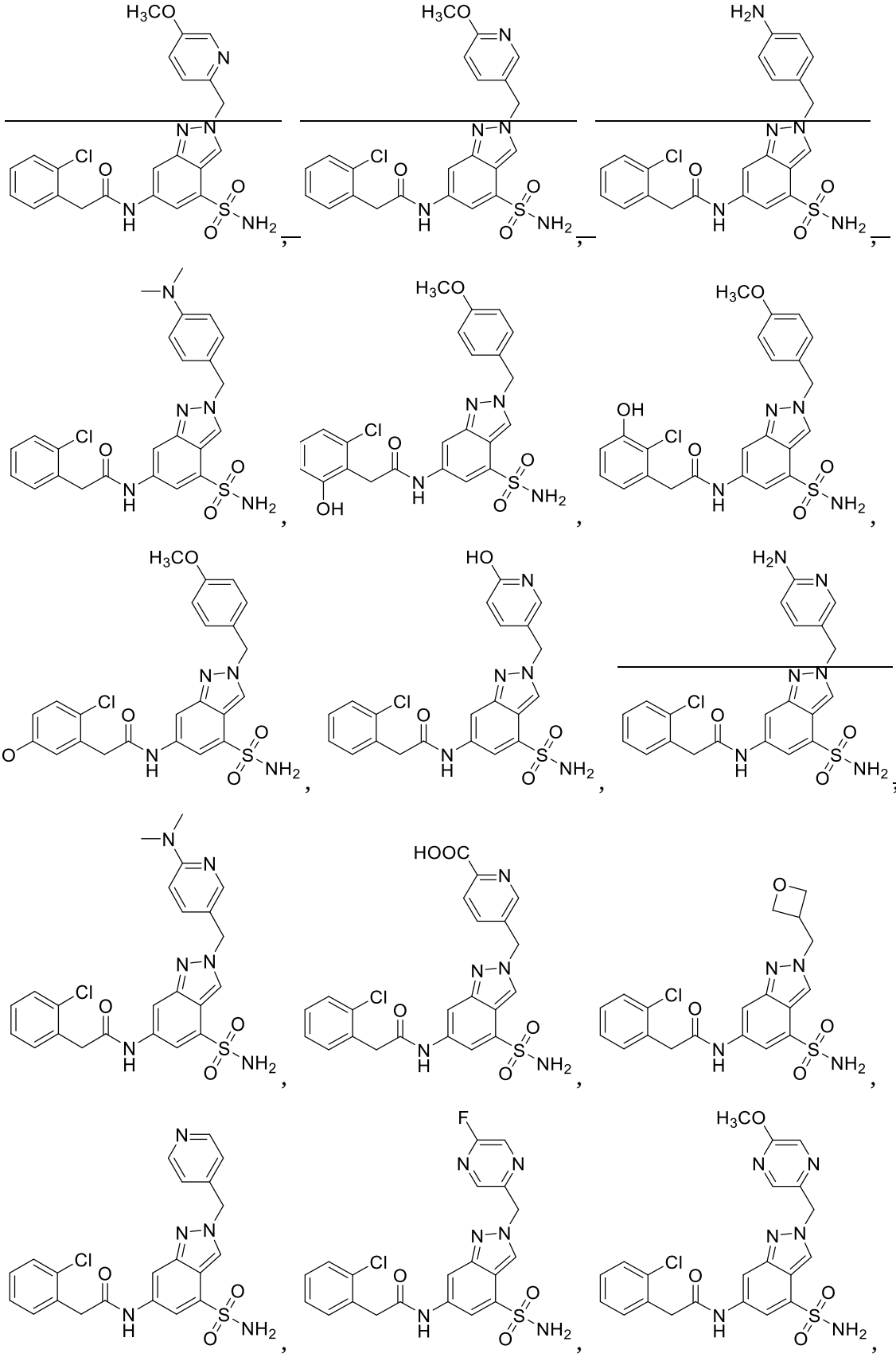

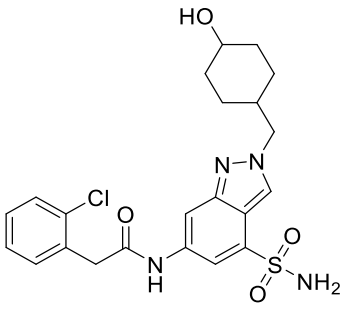
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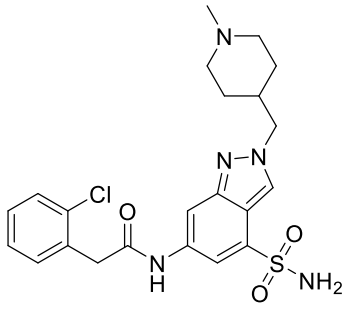
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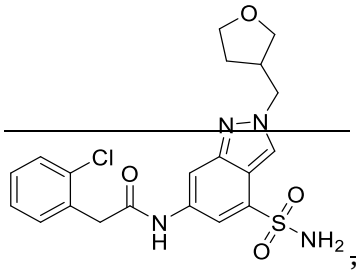
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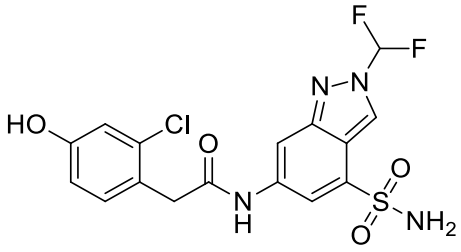
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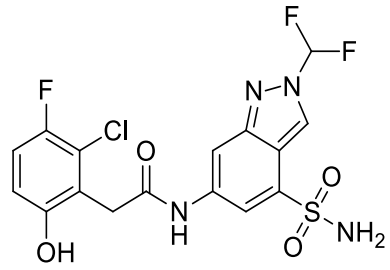
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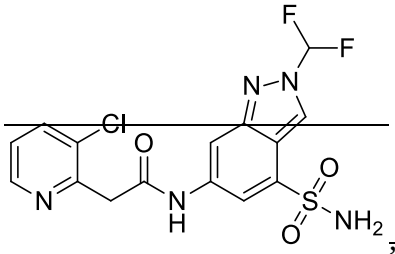
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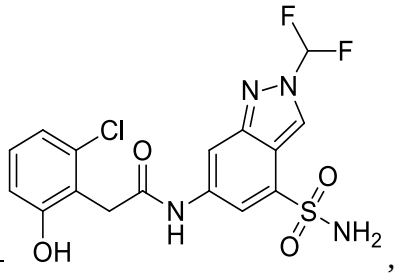
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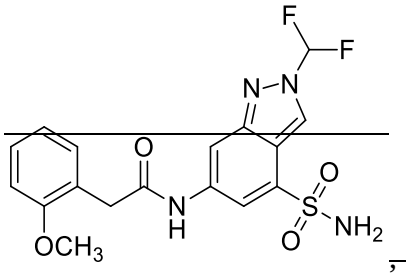
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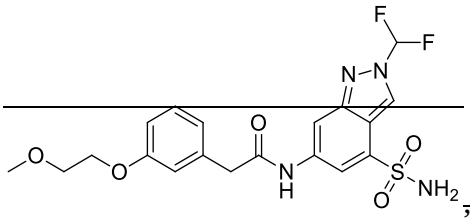
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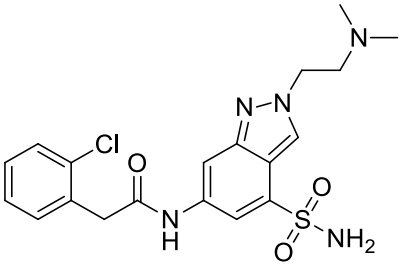
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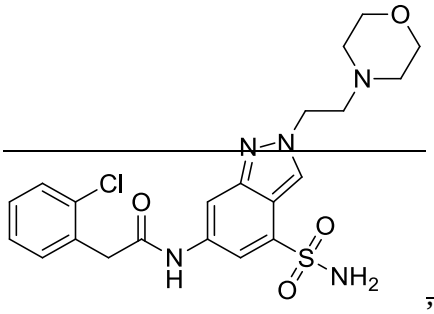
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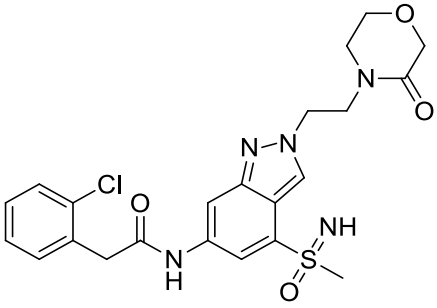
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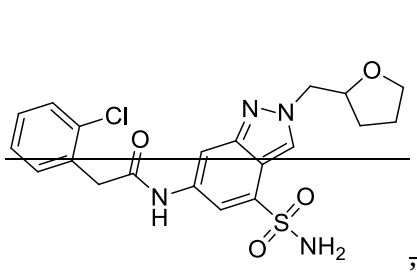
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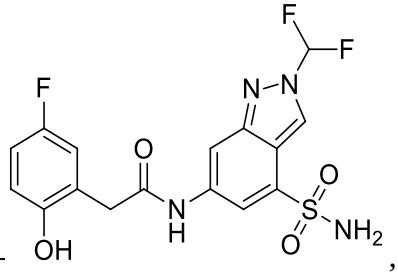
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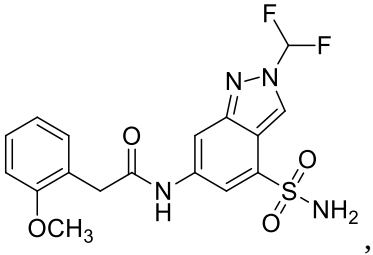
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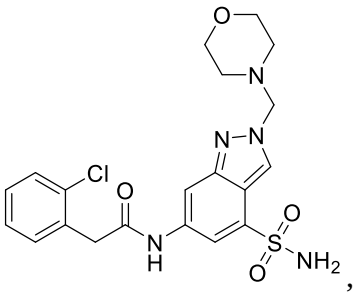
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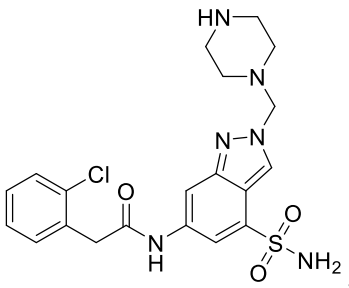
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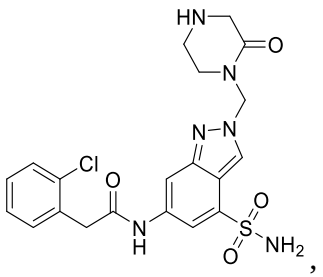
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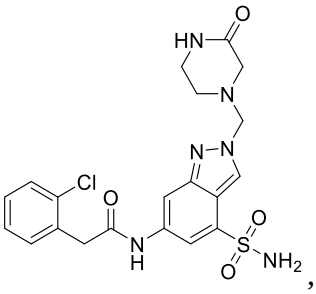
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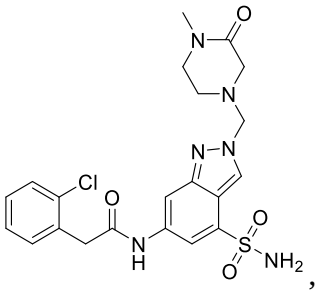
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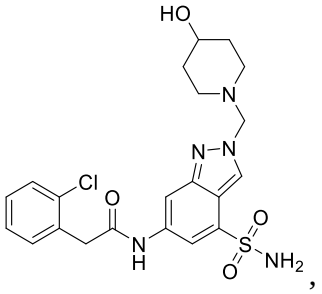
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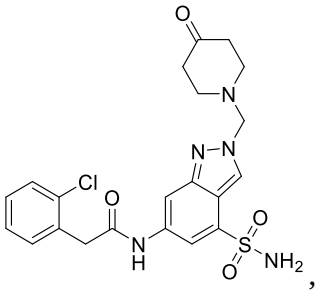
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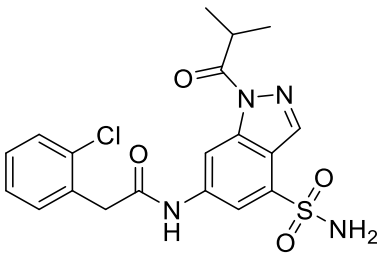
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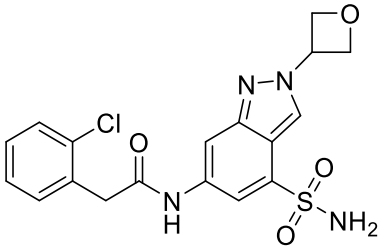
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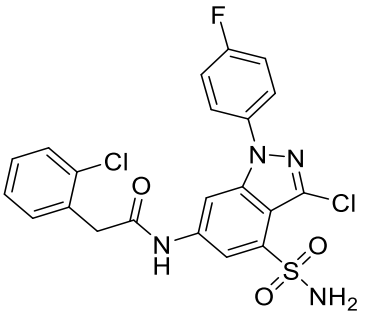
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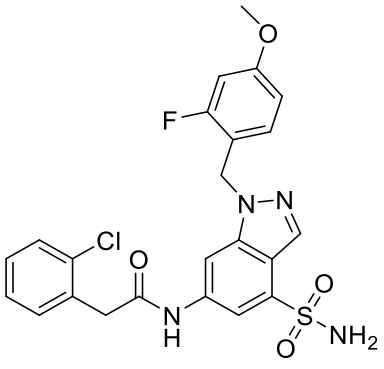
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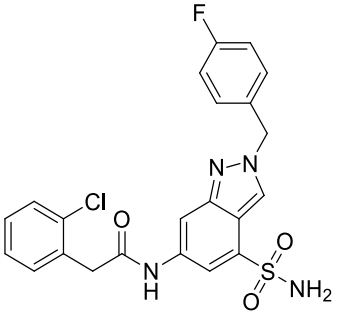
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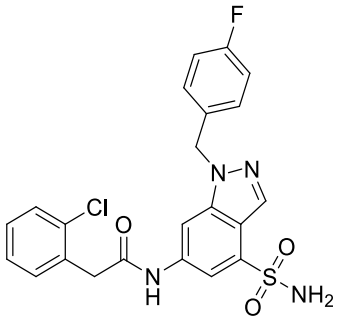
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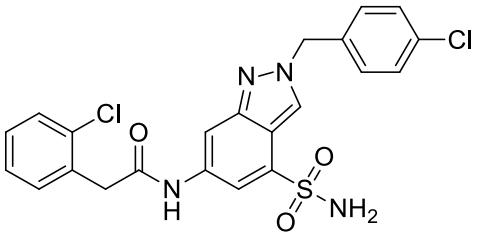

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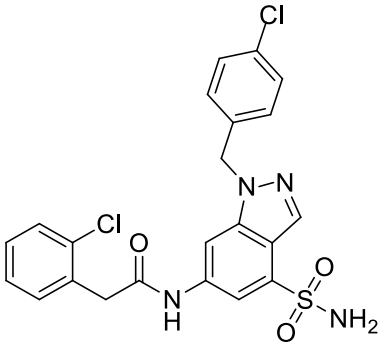

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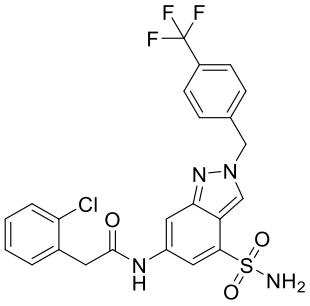

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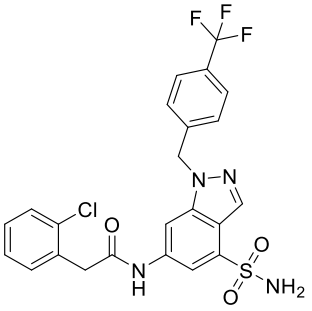

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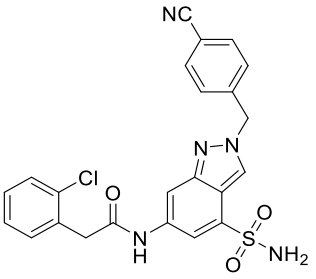

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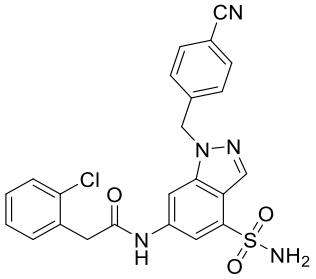

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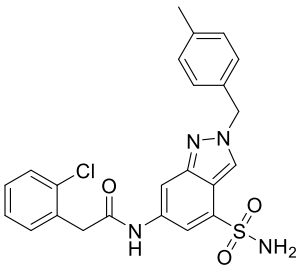

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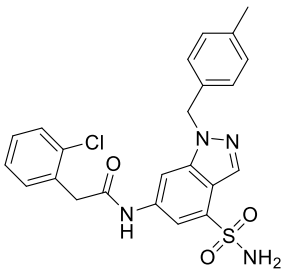

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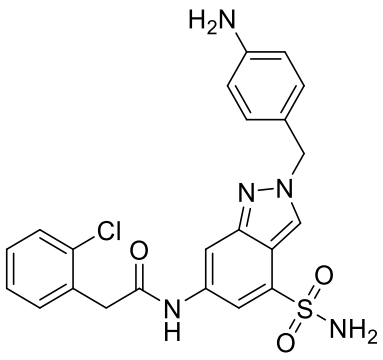

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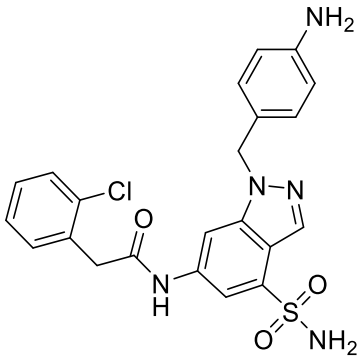

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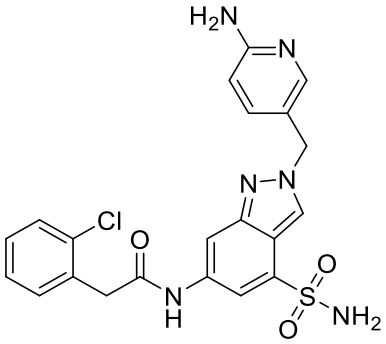

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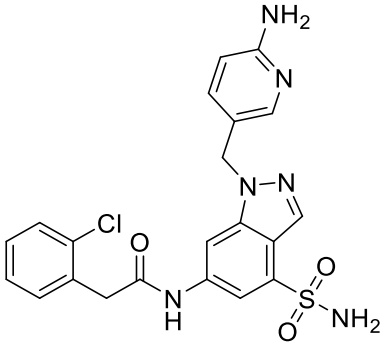

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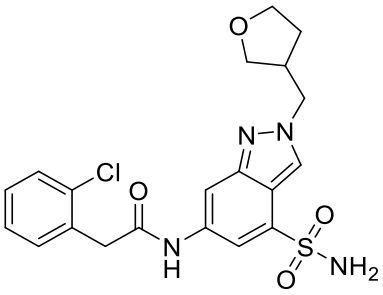

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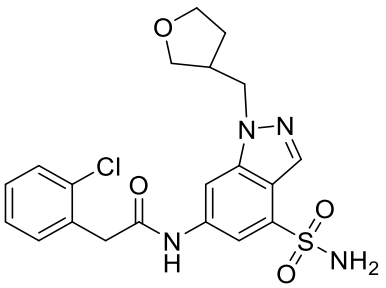

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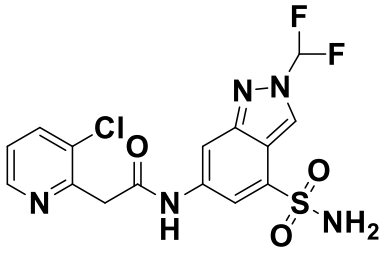

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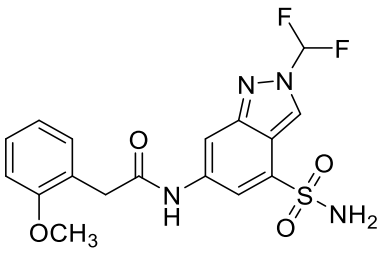

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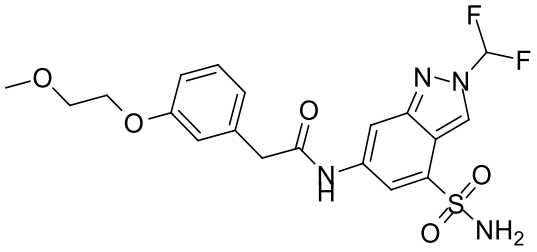

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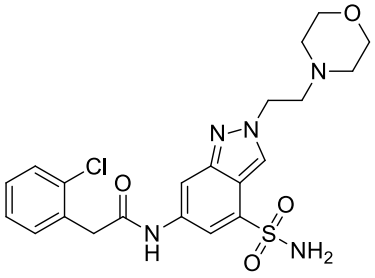

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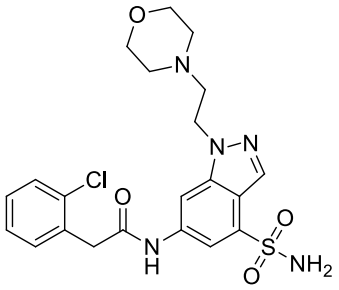

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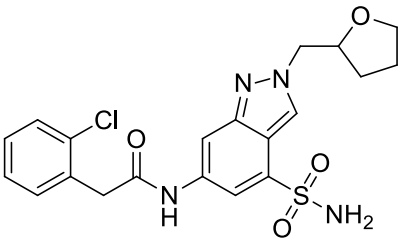

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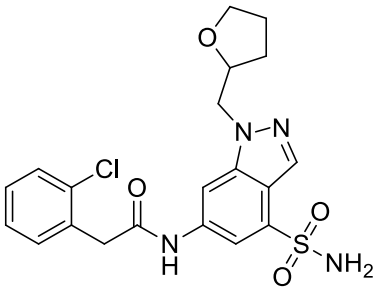

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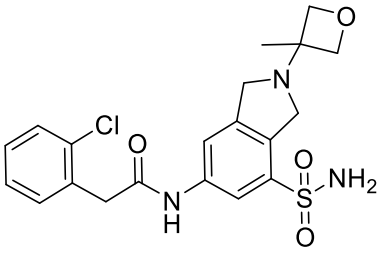

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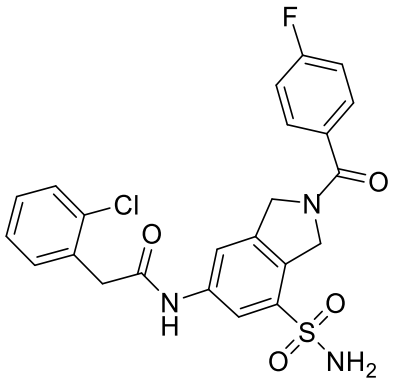

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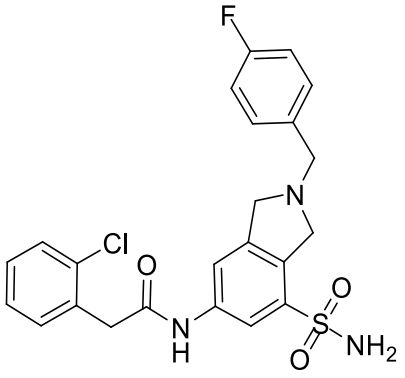

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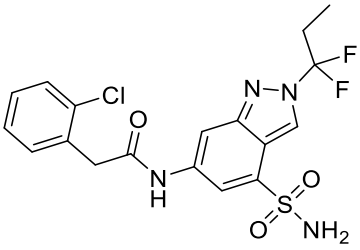

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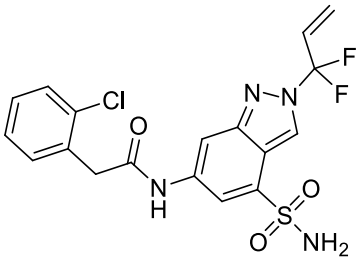

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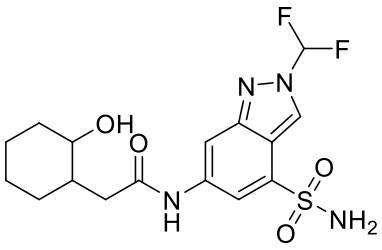

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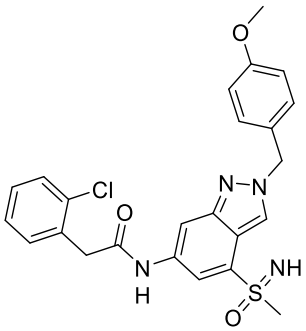

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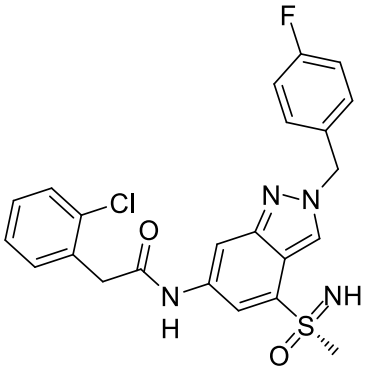

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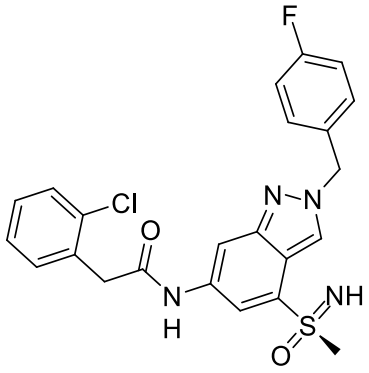

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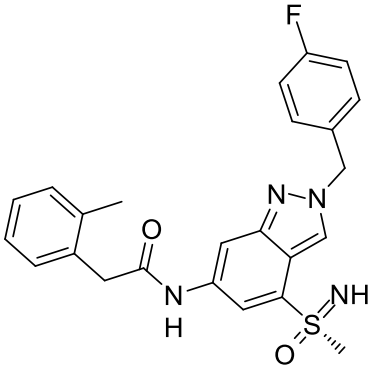

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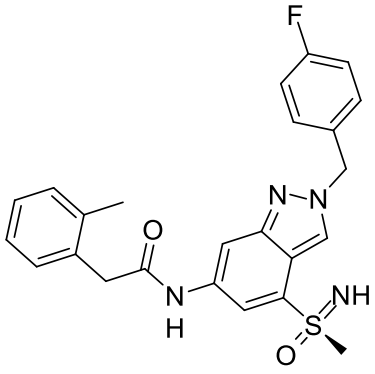

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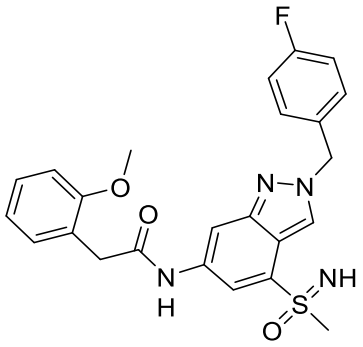

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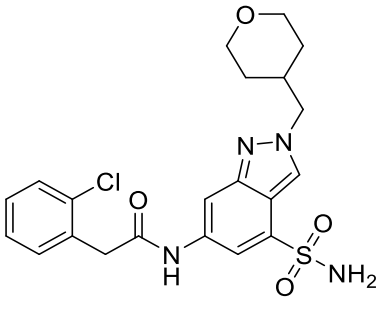

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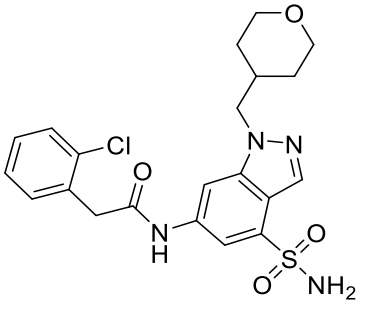

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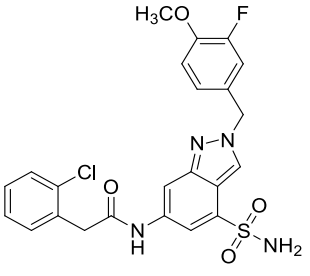

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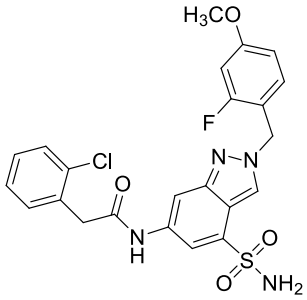

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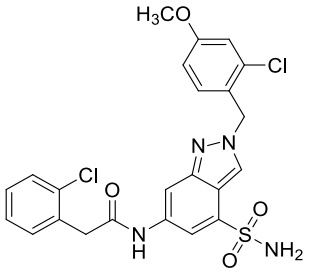

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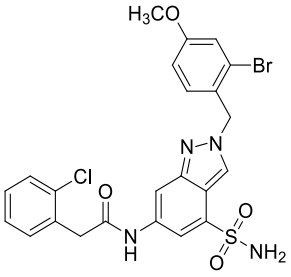

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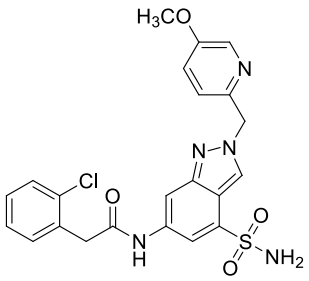

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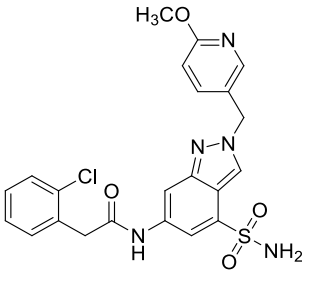

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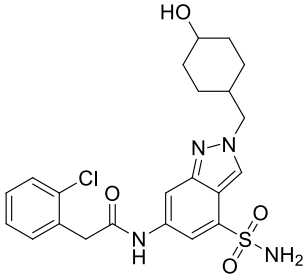

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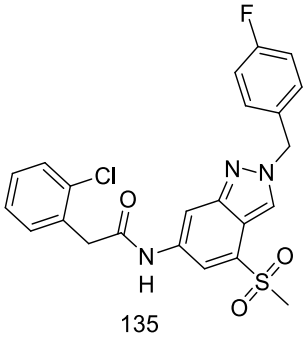

135

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10. A pharmaceutical composition, comprising substance **A** and at least one pharmaceutically acceptable excipient; wherein

substance **A** is the compound containing a benzene ring represented by formula **I**, or the pharmaceutically acceptable salt thereof, the stereoisomer thereof, the tautomer thereof, the isotope compound thereof, the crystalline form thereof, the nitrogen oxide thereof or the solvate

thereof, or the solvate of the pharmaceutically acceptable salt thereof according to at least one of claims 1 to 9.

11. Use of substance **A** ~~in the preparation~~for the manufacture of a P2X4 receptor antagonist or ~~drug~~a medicament; wherein
substance **A** is the compound containing a benzene ring represented by formula **I**, or the pharmaceutically acceptable salt thereof, the stereoisomer thereof, the tautomer thereof, the isotope compound thereof, the crystalline form thereof, the nitrogen oxide thereof or the solvate thereof, or the solvate of the pharmaceutically acceptable salt thereof according to at least one of claims 1 to 9.

12. The use according to claim 11, wherein the P2X4 receptor antagonist is for use *in vitro*~~;~~. ~~and/or,~~

13. The use according to claim 11, wherein the ~~drug~~ medicament is used for the treatment or prevention of diseases, which are urinary tract diseases, respiratory diseases, pain, autoimmune diseases, inflammation, Alzheimer’s disease, Parkinson's disease, sleep disorders, epilepsy, psychiatric disorders, arthritis, neurodegeneration, traumatic brain injury, myocardial infarction, rheumatoid arthritis, cerebral stroke, thrombosis, atherosclerosis, colon syndrome, inflammatory bowel disease, digestive tract diseases, gastrointestinal dysfunction, respiratory failure, sexual dysfunction, cardiovascular diseases, heart failure, hypertension, urinary incontinence, cystitis, arthritis, endometriosis, hematological diseases, musculoskeletal and connective tissue developmental disorders, or systemic disorder diseases in an animal (e.g., a human).~~,~~ ~~; or, the drug is used for the prevention or treatment of diseases~~

14. The use according to claim 13, wherein each of the diseases is mediated at least in part by P2X4 in an animal (e.g., a human).

~~13. A method for treating or preventing diseases comprising administering a therapeutically effective amount of substance **A** to a patient (e.g., a human);~~
~~the diseases are urinary tract diseases, respiratory diseases, pain, autoimmune diseases, inflammation, Alzheimer’s disease, Parkinson's disease, sleep disorders, epilepsy, psychiatric disorders, arthritis, neurodegeneration, traumatic brain injury, myocardial infarction, rheumatoid arthritis, cerebral stroke, thrombosis, atherosclerosis, colon syndrome, inflammatory bowel disease, digestive tract diseases, gastrointestinal dysfunction, respiratory failure, sexual~~

~~dysfunction, cardiovascular diseases, heart failure, hypertension, urinary incontinence, cystitis, arthritis, endometriosis, hematological diseases, musculoskeletal and connective tissue developmental disorders, or systemic disorder diseases;~~

~~substance **A** is the compound containing a benzene ring represented by formula **I**, or the pharmaceutically acceptable salt thereof, the stereoisomer thereof, the tautomer thereof, the isotope compound thereof, the crystalline form thereof, the nitrogen oxide thereof or the solvate thereof, or the solvate of the pharmaceutically acceptable salt thereof according to at least one of claims 1 to 9.~~

~~14. A method for treating or preventing diseases mediated at least in part by P2X4, comprising administering a therapeutically effective amount of substance **A** to a patient (e.g., a human); wherein~~

~~substance **A** is the compound containing a benzene ring represented by formula **I**, or the pharmaceutically acceptable salt thereof, the stereoisomer thereof, the tautomer thereof, the isotope compound thereof, the crystalline form thereof, the nitrogen oxide thereof or the solvate thereof, or the solvate of the pharmaceutically acceptable salt thereof according to at least one of claims 1 to 9.~~