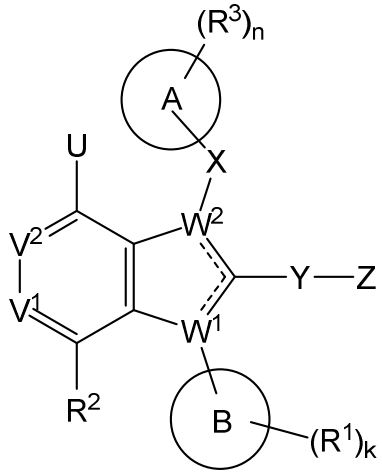
CLAIMS

1. A compound represented by the following structural formula:



(I)

a tautomer thereof, a deuterated derivative of that compound or tautomer, or a pharmaceutically acceptable salt of the foregoing, wherein:

------, for each of the two occurrences, is a single bond or a double bond, provided that one is a single bond and the other is a double bond;

V^1 and **V^2** are each independently N or -C**R^2**;

W^1 and **W^2** are each independently N or C, provided that one of W^1 and W^2 is N and the other is C;

U is -OH;

X is absent or a bond, -(C**R^a****R^b**)**$_p$**-, or -SO_2-;

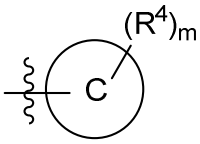
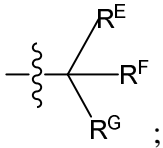
Y is absent or a bond, -(C**R^c****R^d**)**$_q$**-, -C(=O)-, or -SO_2-;

R^a and **R^b**, for each occurrence, are each independently hydrogen, halogen, -OH, C_1-C_6 alkyl, C_2-C_6 alkenyl, C_1-C_6 haloalkyl, C_1-C_6 alkoxy, or C_1-C_6 haloalkoxy;

R^c and **R^d**, for each occurrence, are each independently hydrogen, halogen, -OH, C_1-C_6 alkyl, C_2-C_6 alkenyl, C_1-C_6 haloalkyl, C_1-C_6 alkoxy, or C_1-C_6 haloalkoxy;

Ring A is C_3-C_{12} carbocyclyl, 3 to 12-membered heterocyclyl, C_6 or C_{10} aryl, or 5 to 10-membered heteroaryl; provided that when **W^1** is N and **W^2** is C, **Ring A** is not 1,5,6,7-tetrahydro-4*H*-indol-4-onyl or a tautomer thereof;

Ring B is C_4-C_{12} cycloalkyl, C_6 or C_{10} aryl, 5 to 10-membered heteroaryl, or benzyl;

Z is  or  ; wherein:

Ring C is C_3-C_{12} cycloalkyl, 3 to 12-membered heterocyclyl, C_6 or C_{10} aryl, or 5 to 10-membered heteroaryl;

provided that when **Ring C** is phenyl, the phenyl is substituted with $\mathbf{R^4}$; provided that when **Ring C** is phenyl, **Y** cannot be -SO_2-; and

provided that when **Ring B** is benzyl, **Ring C** cannot be pyridinyl or indolyl;

$\mathbf{R^E}$, $\mathbf{R^F}$, and $\mathbf{R^G}$ are each independently hydrogen, halogen, cyano, C_1-C_6 alkyl, C_2-C_6 alkenyl, C_1-C_6 alkoxy, C_1-C_6 haloalkyl, C_1-C_6 haloalkoxy, -C(=O)$\mathbf{R^s}$, -C(=O)O$\mathbf{R^s}$, -C(=O)N$\mathbf{R^p}\mathbf{R^q}$, -C$\mathbf{R^p}$(=N)O$\mathbf{R^s}$, -N$\mathbf{R^p}$C(=O)$\mathbf{R^s}$, -N$\mathbf{R^p}$C(=O)O$\mathbf{R^s}$, -N$\mathbf{R^p}$C(=O)N$\mathbf{R^q}\mathbf{R^r}$, -O$\mathbf{R^s}$, -OC(=O)$\mathbf{R^s}$, or -OC(=O)N$\mathbf{R^p}\mathbf{R^q}$; wherein:

the C_1-C_6 alkyl or the C_2-C_6 alkenyl of any one of $\mathbf{R^E}$, $\mathbf{R^F}$, and $\mathbf{R^G}$ is optionally substituted with 1 to 3 groups independently chosen from cyano, -C(=O)$\mathbf{R^s}$, -C(=O)O$\mathbf{R^s}$, -C(=O)N$\mathbf{R^p}\mathbf{R^q}$, -N$\mathbf{R^p}$C(=O)$\mathbf{R^s}$, -N$\mathbf{R^p}$C(=O)O$\mathbf{R^s}$, -N$\mathbf{R^p}$C(=O)N$\mathbf{R^q}\mathbf{R^r}$, -N$\mathbf{R^p}$S(=O)$_r\mathbf{R^s}$, -O$\mathbf{R^s}$, -OC(=O)$\mathbf{R^s}$, -OC(=O)O$\mathbf{R^s}$, -OC(=O)N$\mathbf{R^p}\mathbf{R^q}$, -S(=O)$_r\mathbf{R^s}$, and -S(=O)$_r$N$\mathbf{R^p}\mathbf{R^q}$; wherein:

$\mathbf{R^p}$, $\mathbf{R^q}$, and $\mathbf{R^r}$, for each occurrence, are each independently hydrogen, C_1-C_4 alkyl, C_3-C_6 cycloalkyl, or 3 to 6-membered heterocyclyl; wherein:

the C_1-C_4 alkyl of any one of $\mathbf{R^p}$, $\mathbf{R^q}$, and $\mathbf{R^r}$ is optionally substituted with 1 to 3 groups selected from halogen, cyano, -OH, C_1-C_3 alkoxy, -C(=O)NH(C_1-C_2 alkyl), and -C(=O)N(C_1-C_2 alkyl)$_2$; and

the C_3-C_6 cycloalkyl or the 3 to 6-membered heterocyclyl of any one of $\mathbf{R^p}$, $\mathbf{R^q}$, and $\mathbf{R^r}$ is optionally substituted with 1 to 3 groups independently chosen from halogen, cyano, -OH, C_1-C_3 alkyl, C_1-C_3 alkoxy, C_1-C_3 haloalkyl, C_1-C_3 haloalkoxy, -C(=O)O(C_1-C_2 alkyl), -C(=O)NH(C_1-C_2 alkyl), and -C(=O)N(C_1-C_2 alkyl)$_2$;

$\mathbf{R^s}$, for each occurrence, is independently hydrogen, C_1-C_4 alkyl, C_3-C_6 cycloalkyl, phenyl, or 5 or 6-membered heteroaryl; wherein:

the C_1-C_4 alkyl of $\mathbf{R^s}$ is optionally substituted with 1 to 3 groups independently chosen from halogen, cyano, -OH, -NH_2, -NH(C_1-C_2 alkyl), -N(C_1-C_2 alkyl)$_2$, C_1-C_3 alkoxy, -C(=O)OH, -

$C(=O)O(C_1$-C_2 alkyl), -$C(=O)NH_2$, -$C(=O)NH(C_1$-C_2 alkyl), and -$C(=O)N(C_1$-C_2 alkyl)$_2$; and

the C_3-C_6 cycloalkyl, the phenyl, or the 5 or 6-membered heteroaryl of $\mathbf{R^s}$ is optionally substituted with 1 to 3 groups independently chosen from halogen, cyano, -OH, -OCH_3, -NH_2, -$NH(C_1$-C_2 alkyl), -$N(C_1$-C_2 alkyl)$_2$, C_1-C_3 alkyl, C_1-C_3 alkoxy, C_1-C_3 haloalkyl, C_1-C_3 haloalkoxy, -C(=O)OH, -$C(=O)O(C_1$-C_2 alkyl), -$C(=O)NH_2$, -$C(=O)NH(C_1$-C_2 alkyl), and -$C(=O)N(C_1$-C_2 alkyl)$_2$;

$\mathbf{R^1}$ is halogen, cyano, C_1-C_3 alkyl, C_1-C_3 haloalkyl, C_1-C_3 alkoxy, C_1-C_3 haloalkoxy, or -O-(C_3-C_6 cycloalkyl);

$\mathbf{R^2}$, for each occurrence, is independently hydrogen, halogen, cyano, C_1-C_6 alkyl, C_2-C_6 alkenyl, C_1-C_6 alkoxy, C_1-C_6 haloalkyl, C_1-C_6 haloalkoxy, C_3-C_6 cycloalkyl, -$N\mathbf{R^h R^i}$, phenyl, or 5 or 6-membered heteroaryl; wherein:

the C_1-C_6 alkyl, the C_2-C_6 alkenyl or the C_3-C_6 cycloalkyl of $\mathbf{R^2}$ is optionally substituted with 1 to 3 groups independently chosen from cyano, -$C(=O)\mathbf{R^k}$, -$C(=O)O\mathbf{R^k}$, -$C(=O)N\mathbf{R^h R^i}$, -$N\mathbf{R^h R^i}$, -$N\mathbf{R^h}C(=O)\mathbf{R^k}$, -$N\mathbf{R^h}C(=O)O\mathbf{R^k}$, -$N\mathbf{R^h}C(=O)N\mathbf{R^i R^j}$, -$N\mathbf{R^h}S(=O)_s\mathbf{R^k}$, -$O\mathbf{R^k}$, -$OC(=O)\mathbf{R^k}$, -$OC(=O)O\mathbf{R^k}$, -$OC(=O)N\mathbf{R^h R^i}$, -$S(=O)_s\mathbf{R^k}$, and $S(=O)_sN\mathbf{R^h R^i}$; wherein:

$\mathbf{R^h}$, $\mathbf{R^i}$, and $\mathbf{R^j}$, for each occurrence, are each independently hydrogen, C_1-C_4 alkyl, or C_3-C_6 cycloalkyl; wherein:

the C_1-C_4 alkyl of any one of $\mathbf{R^h}$, $\mathbf{R^i}$, and $\mathbf{R^j}$ is optionally substituted with 1 to 3 groups independently chosen from from halogen, cyano, -OH, -NH_2, -$NH(C_1$-C_2 alkyl), -$N(C_1$-C_2 alkyl)$_2$, C_1-C_3 alkyl, C_1-C_3 alkoxy, C_1-C_3 haloalkyl, C_1-C_3 haloalkoxy, -C(=O)OH, -$C(=O)O(C_1$-C_2 alkyl), -$C(=O)NH_2$, -$C(=O)NH(C_1$-C_2 alkyl), and -$C(=O)N(C_1$-C_2 alkyl)$_2$; and

the C_3-C_6 cycloalkyl of any one of $\mathbf{R^h}$, $\mathbf{R^i}$, and $\mathbf{R^j}$ is optionally substituted with 1 to 3 groups independently chosen from halogen, cyano, -OH, -NH_2, -$NH(C_1$-C_2 alkyl), -$N(C_1$-C_2 alkyl)$_2$, C_1-C_3 alkyl, C_1-C_3 alkoxy, C_1-C_3 haloalkyl, C_1-C_3 haloalkoxy, -C(=O)OH, -$C(=O)O(C_1$-C_2 alkyl), -$C(=O)NH_2$, -$C(=O)NH(C_1$-C_2 alkyl), and -$C(=O)N(C_1$-C_2 alkyl)$_2$;

$\mathbf{R^k}$, for each occurrence, is independently hydrogen, C_1-C_4 alkyl, C_3-C_6 cycloalkyl, phenyl, or 5 or 6-membered heteroaryl; wherein:

-O$\mathbf{R^k}$ cannot be -OH;

the C_1-C_4 alkyl of $\mathbf{R^k}$ is optionally substituted with 1 to 3 groups independently chosen from halogen, cyano, -OH, -NH_2, -NH(C_1-C_2 alkyl), -N(C_1-C_2 alkyl)$_2$, C_1-C_3 alkyl, C_1-C_3 alkoxy, C_1-C_3 haloalkyl, C_1-C_3 haloalkoxy, -C(=O)OH, -C(=O)O(C_1-C_2 alkyl), -C(=O)NH_2, -C(=O)NH(C_1-C_2 alkyl), and -C(=O)N(C_1-C_2 alkyl)$_2$; and

the C_3-C_6 cycloalkyl of $\mathbf{R^k}$ is optionally substituted with 1 to 3 groups independently chosen from halogen, cyano, -OH, -NH_2, -NH(C_1-C_2 alkyl), -N(C_1-C_2 alkyl)$_2$, C_1-C_3 alkyl, C_1-C_3 alkoxy, C_1-C_3 haloalkyl, C_1-C_3 haloalkoxy, -C(=O)OH, -C(=O)O(C_1-C_2 alkyl), -C(=O)NH_2, -C(=O)NH(C_1-C_2 alkyl), and -C(=O)N(C_1- C_2 alkyl)$_2$;

$\mathbf{R^3}$ and $\mathbf{R^4}$, for each occurrence, are each independently halogen, cyano, =O, C_1-C_6 alkyl, C_2-C_6 alkenyl, C_1-C_6 alkoxy, C_1-C_6 haloalkyl, C_1-C_6 haloalkoxy, C_3-C_6 cycloalkyl, -C(=O)$\mathbf{R^y}$, -C(=O)O$\mathbf{R^y}$, -C(=O)N$\mathbf{R^v R^w}$, -C(=O)N$\mathbf{R^v}$O$\mathbf{R^y}$, -C(=O)N$\mathbf{R^v}$S(=O)$_t\mathbf{R^y}$, -N$\mathbf{R^v R^w}$, -N$\mathbf{R^v}$C(=O)$\mathbf{R^y}$, -N$\mathbf{R^v}$C(=O)O$\mathbf{R^y}$, -N$\mathbf{R^v}$C(=O)N$\mathbf{R^w R^x}$, -N$\mathbf{R^v}$S(=O)$_t\mathbf{R^y}$, -O$\mathbf{R^y}$, -OC(=O)$\mathbf{R^y}$, -OC(=O)O$\mathbf{R^y}$, -OC(=O)N$\mathbf{R^v R^w}$, -S(=O)$_t\mathbf{R^y}$, -S(=O)$_t$N$\mathbf{R^v R^w}$, -S(=O)$_t$N$\mathbf{R^v}$C(=O)$\mathbf{R^y}$, -P(=O)$\mathbf{R^z R^z}$, phenyl, or a 5 or 6-membered heteroaryl; wherein:

the C_1-C_6 alkyl, the C_2-C_6 alkenyl, or the C_3-C_6 cycloalkyl of any one of $\mathbf{R^3}$ and $\mathbf{R^4}$ is optionally substituted with 1 to 3 groups independently chosen from cyano, -C(=O)$\mathbf{R^y}$, -C(=O)O$\mathbf{R^y}$, -C(=O)N$\mathbf{R^v R^w}$, -N$\mathbf{R^v R^w}$, -N$\mathbf{R^v}$C(=O)$\mathbf{R^y}$, -N$\mathbf{R^v}$C(=O)O$\mathbf{R^y}$, -N$\mathbf{R^v}$C(=O)N$\mathbf{R^w R^x}$, -NR^{v}S(=O)$_r\mathbf{R^y}$, -O$\mathbf{R^y}$, -OC(=O)$\mathbf{R^y}$, -OC(=O)O$\mathbf{R^y}$, -OC(=O)N$\mathbf{R^v R^w}$, -S(=O)$_t\mathbf{R^y}$, and -S(=O)$_t$N$\mathbf{R^v R^w}$; wherein:

$\mathbf{R^v}$, $\mathbf{R^w}$, and $\mathbf{R^x}$, for each occurrence, are each independently hydrogen, C_1-C_4 alkyl, C_3-C_6 cycloalkyl, 5 or 6-membered heterocyclyl, or 5 or 6-membered heteroaryl; wherein:

the C_1-C_4 alkyl of any one of $\mathbf{R^v}$, $\mathbf{R^w}$, and $\mathbf{R^x}$ is optionally substituted with 1 to 3 groups independently chosen from halogen, cyano -OH, -NH_2, -NH(C_1-C_2 alkyl), -N(C_1-C_2 alkyl)$_2$, C_1-C_3 alkyl, C_1-C_3 alkoxy, C_1-C_3 haloalkyl, C_1-C_3 haloalkoxy, -C(=O)OH,

-C(=O)O(C_1-C_2 alkyl), -C(=O)NH_2, -C(=O)NH(C_1-C_2 alkyl), and -C(=O)N(C_1-C_2 alkyl)$_2$; and

the C_3-C_6 cycloalkyl, the 5 or 6-membered heterocyclyl, or the 5 or 6-membered heteroaryl of any one of $\mathbf{R^v}$, $\mathbf{R^w}$, and $\mathbf{R^x}$ is optionally substituted with 1 to 3 groups independently chosen from halogen, cyano, -OH, -NH_2, -NH(C_1-C_2 alkyl), -N(C_1-C_2 alkyl)$_2$, C_1-C_3 alkyl, C_1-C_3 alkoxy, C_1-C_3 haloalkyl, C_1-C_3 haloalkoxy, -C(=O)OH, -C(=O)O(C_1-C_2 alkyl), -C(=O)NH_2, -C(=O)NH(C_1-C_2 alkyl), and -C(=O)N(C_1-C_2 alkyl)$_2$;

$\mathbf{R^y}$, for each occurrence, is independently hydrogen, C_1-C_4 alkyl, C_3-C_6 cycloalkyl, phenyl, a 5 or 6-membered heterocyclyl, or a 5 or 6-membered heteroaryl; wherein

the C_1-C_4 alkyl of $\mathbf{R^y}$ is optionally substituted with 1 to 3 groups independently chosen from halogen, cyano, -OH, -NH_2, -NH(C_1-C_2 alkyl), -N(C_1-C_2 alkyl)$_2$, C_1-C_3 alkyl, C_1-C_3 alkoxy, C_1-C_3 haloalkyl, C_1-C_3 haloalkoxy, -C(=O)OH, -C(=O)O(C_1-C_2 alkyl), -C(=O)NH_2, -C(=O)NH(C_1-C_2 alkyl), and -C(=O)N(C_1-C_2 alkyl)$_2$; and

the C_3-C_6 cycloalkyl, the phenyl, the 5 or 6-membered heterocyclyl, or the 5 or 6-membered heteroaryl of $\mathbf{R^y}$ is optionally substituted with 1 to 3 groups independently chosen from halogen, cyano, -OH, -NH_2, NH(C_1-C_2 alkyl), -N(C_1-C_2 alkyl)$_2$, C_1-C_3 alkyl, C_1-C_3 alkoxy, C_1-C_3 haloalkyl, C_1-C_3 haloalkoxy, -C(=O)OH, -C(=O)O(C_1-C_2 alkyl), -C(=O)NH_2, -C(=O)NH(C_1-C_2 alkyl), and -C(=O)N(C_1-C_2 alkyl)$_2$;

$\mathbf{R^z}$, for each occurrence, is independently C_1-C_2 alkyl, -OH, or -O(C_1-C_2 alkyl);

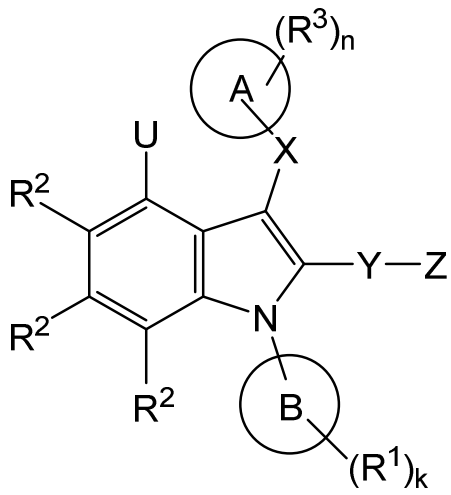
k is an integer selected from 1, 2, and 3;

m and **n** a are each independently an integer selected from 0, 1, 2, and 3;

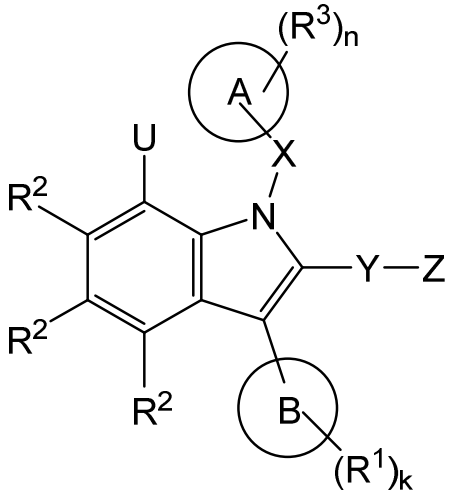
p, **r**, **s**, and **t** are each independently an integer selected from 1 and 2; and

q is an integer selected from 1, 2, and 3.

2. The compound, tautomer, deuterated derivative, or pharmaceutically acceptable salt according to claim 1 represented by one of the following structural formulae:

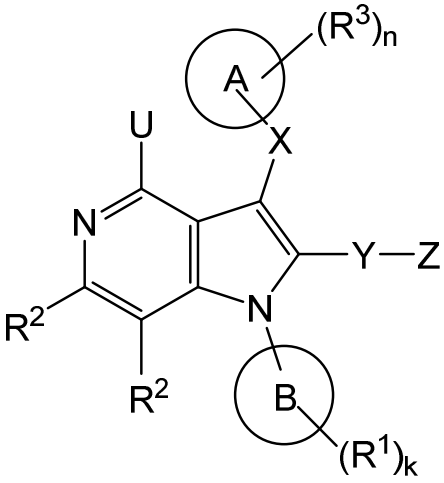


(IIa)

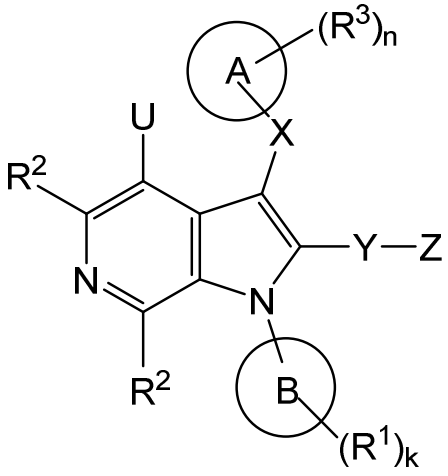


(IIb) .

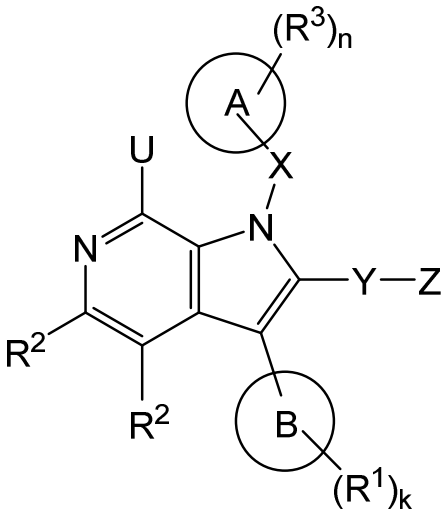
3. The compound, tautomer, deuterated derivative, or pharmaceutically acceptable salt according to claim 1 represented by one of the following structural formulae:



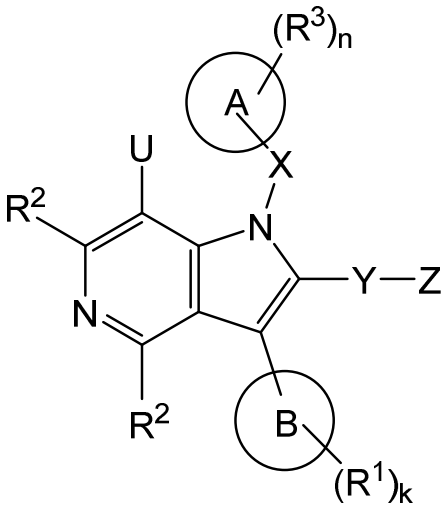
(IIc)



(IId)

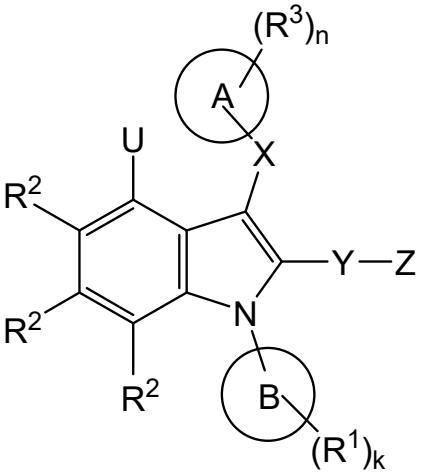


(IIe)

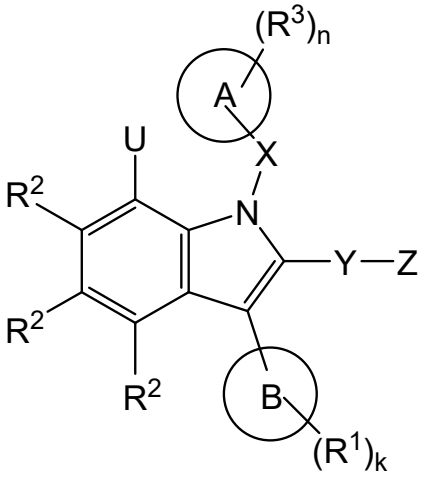


(IIf) .

4. The compound, tautomer, deuterated derivative, or pharmaceutically acceptable salt according to claim 1 or claim 2 represented by one of the following structural formulae:



(IIIa)



(IIIb)

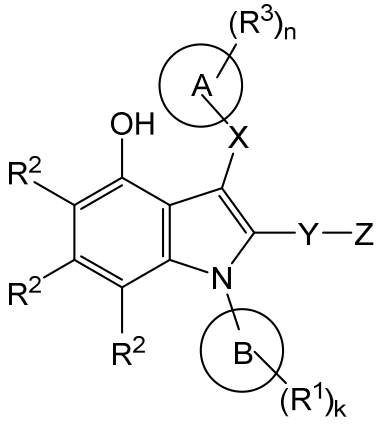
wherein:

Ring A is optionally substituted with $\mathbf{R^3}$ and **Ring A** is C_3-C_7 carbocyclyl, 6 to 9-membered heterocyclyl, phenyl, or 5 to 9-membered heteroaryl;

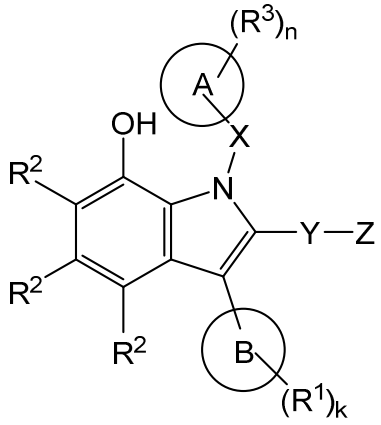
Ring B is substituted with $\mathbf{R^1}$ and **Ring B** is C_4-C_6 cycloalkyl, phenyl, 5 to 6-membered heteroaryl, or benzyl; and

when **Z** is **Ring C** optionally substituted with $\mathbf{R^4}$, **Ring C** is C_4-C_8 cycloalkyl, 4 to 8-membered heterocyclyl, phenyl, or 5 or 6-membered heteroaryl.

5. The compound, tautomer, deuterated derivative, or pharmaceutically acceptable salt according to any one of claims 1, 2, and 4 represented by one of the following structural formulae:



(IVa)

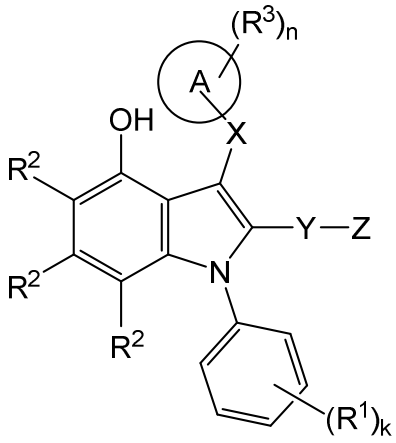


(IVb)

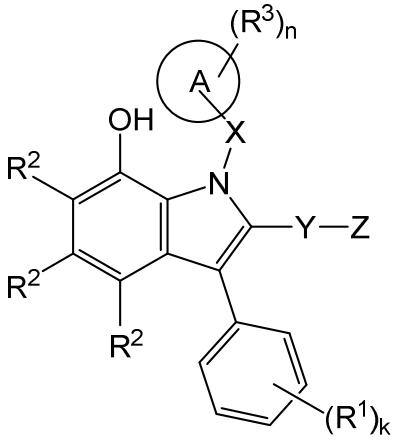
wherein:

Ring B is substituted with $\mathbf{R^1}$ and **Ring B** is cyclohexyl, phenyl, pyridinyl, or benzyl.

6. The compound, tautomer, deuterated derivative, or pharmaceutically acceptable salt according to any one of claims 1, 2, 4, and 5 represented by the following structural formula:



(Va)



(Vb)

wherein:

$\mathbf{R^1}$ is halogen, cyano, C_1-C_2 alkyl, C_1-C_2 haloalkyl, or C_1-C_2 alkoxy; and

k is an integer selected from 1 and 2.

7. The compound, tautomer, deuterated derivative, or pharmaceutically acceptable salt according to any one of claims 1 to 6, wherein $\mathbf{R^1}$ is cyano, F, Cl, $-CH_3$, $-CHF_2$, $-CF_3$,

$-OCH_3$, or $-OCH(CH_3)_2$.

8. The compound, tautomer, deuterated derivative, or pharmaceutically acceptable salt according to any one of claims 1 to 7, wherein at least one $\mathbf{R^1}$ is F.

9. The compound, tautomer, deuterated derivative, or pharmaceutically acceptable salt according to any one of claims 1 to 8, wherein:

X is absent or a bond, $-(C\mathbf{R^a}\mathbf{R^b})-$, or $-SO_2-$;

$\mathbf{R^a}$ and $\mathbf{R^b}$, for each occurrence, are each independently hydrogen, C_1-C_3 alkyl, C_1-C_3 haloalkyl, or C_1-C_3 alkoxy.

10. The compound, tautomer, deuterated derivative, or pharmaceutically acceptable salt according to any one of claims 1 to 9, wherein **X** is absent or a bond, $-CH_2-$, or $-SO_2-$.

11. The compound, tautomer, deuterated derivative, or pharmaceutically acceptable salt according to any one of claims 1 to 10, wherein:

Y is absent or a bond, $-(C\mathbf{R^c}\mathbf{R^d})_q-$, -C(=O)-, or $-SO_2-$;

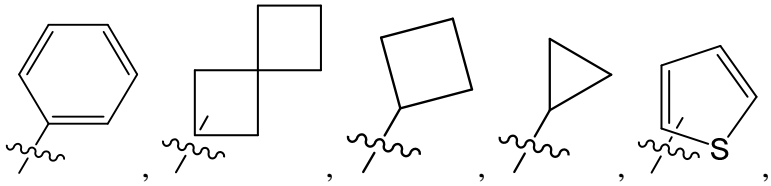
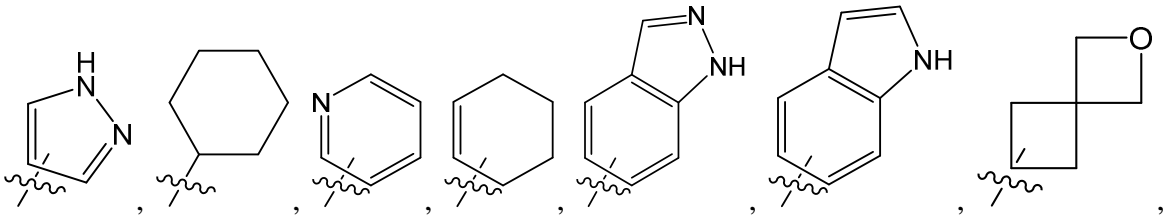
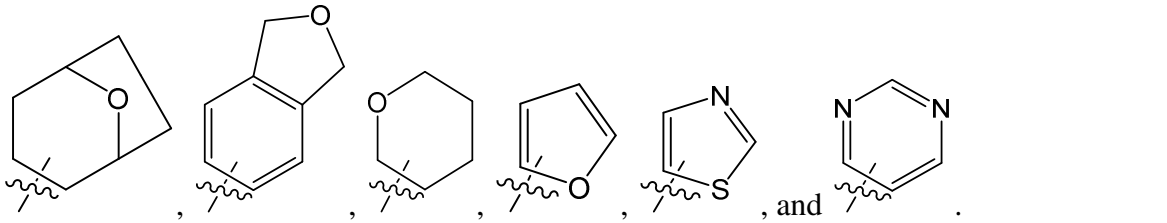
$\mathbf{R^c}$ and $\mathbf{R^d}$, for each occurrence, are each independently hydrogen, C_1-C_3 alkyl, C_1-C_3 haloalkyl, or C_1-C_3 alkoxy.

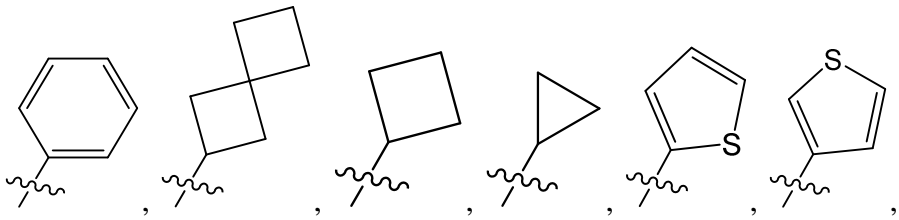
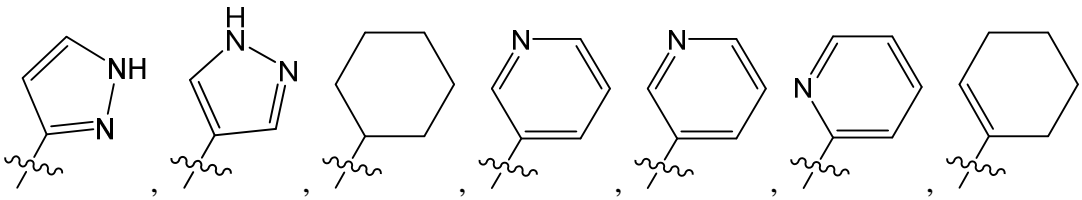
12. The compound, tautomer, deuterated derivative, or pharmaceutically acceptable salt according to any one of claims 1 to 11, wherein **q** is an integer selected from 1 and 2.

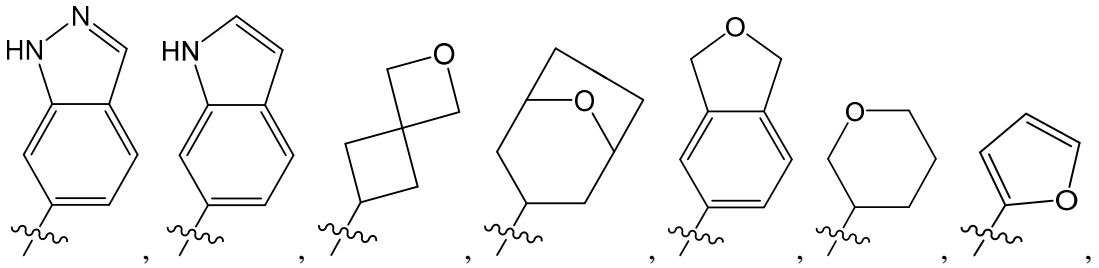
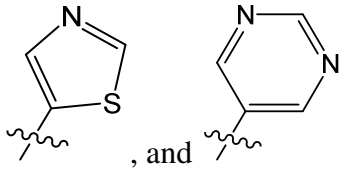
13. The compound, tautomer, deuterated derivative, or pharmaceutically acceptable salt according to any one of claims 1 to 12, wherein **Y** is absent or a bond, $-CH_2-$, $-CHCH_3-$, $-C(CH_3)_2-$, -C(=O)-, or $-SO_2-$.

14. The compound, tautomer, deuterated derivative, or pharmaceutically acceptable salt according to any one of claims 1 to 13, wherein **Ring A** is optionally substituted with $\mathbf{R^3}$ and **Ring A** is C_3-C_7 carbocyclyl, 6 to 9-membered heterocyclyl containing 1 to 3 oxygen atoms, phenyl, or 5 to 9-membered heteroaryl containing 1 to 3 heteroatoms selected from O and N.

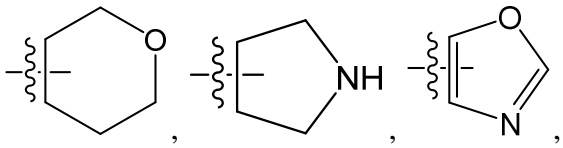
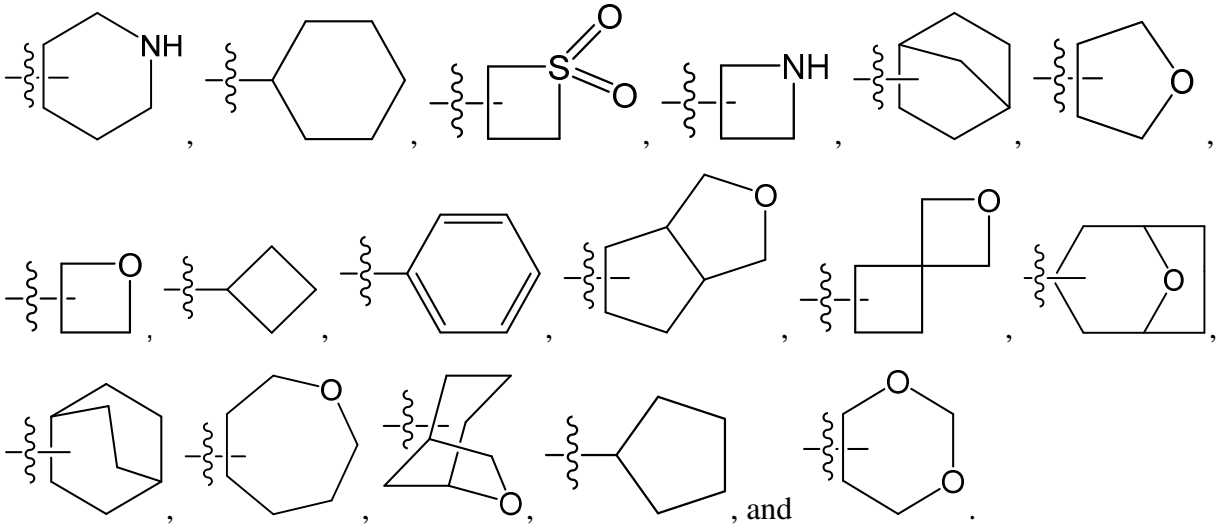
15. The compound, tautomer, deuterated derivative, or pharmaceutically acceptable salt according to any one of claims 1 to 14, wherein **Ring A** is optionally substituted with $\mathbf{R^3}$ and **Ring A** is C_3-C_7 carbocyclyl, 6 to 9-membered heterocyclyl containing one or two oxygen atoms, phenyl, or 5 to 9-membered heteroaryl containing one or two nitrogen atoms or one or two oxygen atoms.

16. The compound, tautomer, deuterated derivative, or pharmaceutically acceptable salt according to any one of claims 1 to 15, wherein **Ring A** is optionally substituted with $\mathbf{R^3}$ and **Ring A** is selected from , , , and .

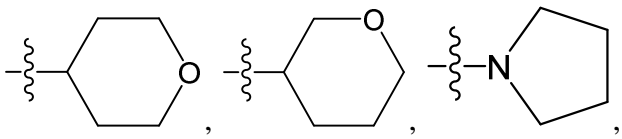
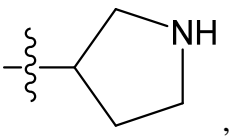
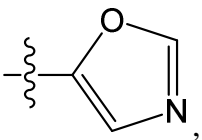
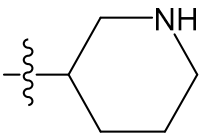
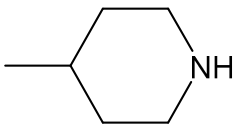
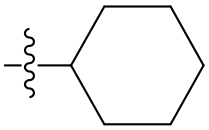
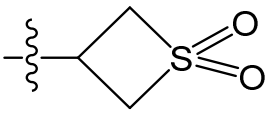
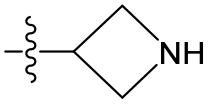
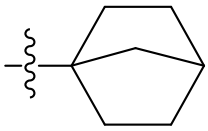
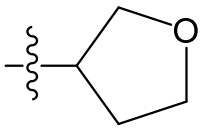
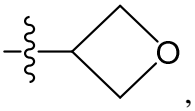
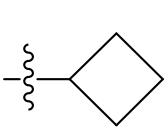
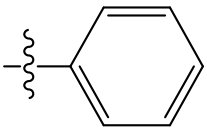
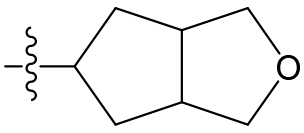
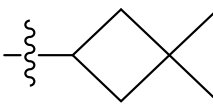
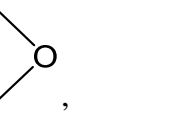
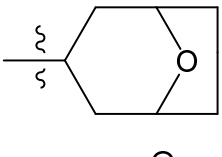
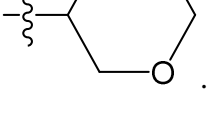
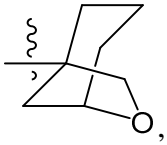
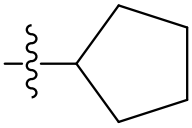
17. The compound, tautomer, deuterated derivative, or pharmaceutically acceptable salt according to any one of claims 1 to 16, wherein **Ring A** is optionally substituted with $\mathbf{R^3}$ and **Ring A** is selected from , .



, and .

18. The compound, tautomer, deuterated derivative, or pharmaceutically acceptable salt according to any one of claims 1 to 17, wherein **Z** is **Ring C**, **Ring C** is optionally substituted with $\mathbf{R^4}$, and **Ring C** is C_4-C_8 cycloalkyl; 4 to 8-membered heterocyclyl containing one or two heteroatoms selected from O, N, and S; phenyl; or 5-membered heteroaryl containing one or two heteroatoms selected from O and N.

19. The compound, tautomer, deuterated derivative, or pharmaceutically acceptable salt according to any one of claims 1 to 18, wherein **Z** is **Ring C**, **Ring C** is optionally substituted with $\mathbf{R^4}$, and **Ring C** is selected from 

, and .

20. The compound, tautomer, deuterated derivative, or pharmaceutically acceptable salt according to any one of claims 1 to 19, wherein **Z** is **Ring C**, **Ring C** is optionally substituted

with $(\mathbf{R^4})_o$, and **Ring C** is selected from , , , , , , , , , , , , , , , , , , , , , , , , and .

21. The compound, tautomer, deuterated derivative, or pharmaceutically acceptable salt according to any one of claims 1 to 20, wherein $\mathbf{R^E}$, $\mathbf{R^F}$, and $\mathbf{R^G}$ are each independently hydrogen, halogen, cyano (-C≡N), C_1-C_4 alkyl, C_1-C_4 alkoxy, C_1-C_4 haloalkyl, -C(=O)O$\mathbf{R^s}$, -C(=O)N$\mathbf{R^pR^q}$, -C$\mathbf{R^p}$(=N)O$\mathbf{R^s}$, or -O$\mathbf{R^s}$; wherein:

the C_1-C_4 alkyl of any one of $\mathbf{R^E}$, $\mathbf{R^F}$, and $\mathbf{R^G}$ is optionally substituted with 1 to 3 groups independently chosen from cyano, -C(=O)$\mathbf{R^s}$, -C(=O)O$\mathbf{R^s}$, -C(=O)N$\mathbf{R^pR^q}$,
-O$\mathbf{R^s}$, -OC(=O)$\mathbf{R^s}$, -OC(=O)O$\mathbf{R^s}$, -OC(=O)N$\mathbf{R^pR^q}$, and -S(=O)$_2$$\mathbf{R^s}$; wherein:

$\mathbf{R^p}$ and $\mathbf{R^q}$, for each occurrence, are each independently hydrogen, C_1-C_2 alkyl, C_3-C_5 cycloalkyl, or 5 or 6-membered heterocyclyl; wherein:

the C_1-C_2 alkyl of any one of $\mathbf{R^p}$ and $\mathbf{R^q}$ is optionally substituted with 1 to 3 groups independently chosen from halogen, cyano, and -OH;

the C_3-C_5 cycloalkyl or the 5 or 6-membered heteroaryl of $\mathbf{R^p}$ and $\mathbf{R^q}$ is optionally substituted with 1 to 3 groups independently chosen from halogen, cyano, and -OH;

$\mathbf{R^s}$, for each occurrence, is independently hydrogen, C_1-C_2 alkyl, or 5 or 6-membered heteroaryl; wherein the C_1-C_2 alkyl of $\mathbf{R^s}$ is optionally substituted with 1 to 3 groups independently chosen from halogen, cyano, -OH, and $-NH_2$; wherein:

the 5 or 6-membered heteroaryl of $\mathbf{R^s}$ is optionally substituted with 1 to 3 groups independently chosen from halogen, cyano, -OH, and $-NH_2$.

22. The compound, tautomer, deuterated derivative, or pharmaceutically acceptable salt according to any one of claims 1 to 21, wherein $\mathbf{R^E}$, $\mathbf{R^F}$, and $\mathbf{R^G}$ are each independently hydrogen, F, Cl, C_1-C_2 alkyl, C_1-C_2 haloalkyl, $-C(=O)N\mathbf{R^pR^q}$, $-C\mathbf{R^p}(=N)O\mathbf{R^s}$, or $-O\mathbf{R^s}$; wherein:

the C_1-C_2 alkyl of any one of $\mathbf{R^E}$, $\mathbf{R^F}$, and $\mathbf{R^G}$ is optionally substituted with 1 to 3 groups independently chosen from cyano, $-C(=O)N\mathbf{R^pR^q}$, $-O\mathbf{R^s}$, $-OC(=O)N\mathbf{R^pR^q}$, and
$-S(=O)_2\mathbf{R^s}$; wherein:

$\mathbf{R^p}$ and $\mathbf{R^q}$, for each occurrence, are each independently hydrogen, C_1-C_2 alkyl, cyclopentyl, or tetrahydrofuranyl; wherein:

the C_1-C_2 alkyl of any one of $\mathbf{R^p}$ and $\mathbf{R^q}$ is optionally substituted with 1 to 3 halogen groups independently chosen from F and Cl;

$\mathbf{R^s}$, for each occurrence, is independently hydrogen, C_1-C_2 alkyl, pyridinyl, or pyrimidinyl; wherein:

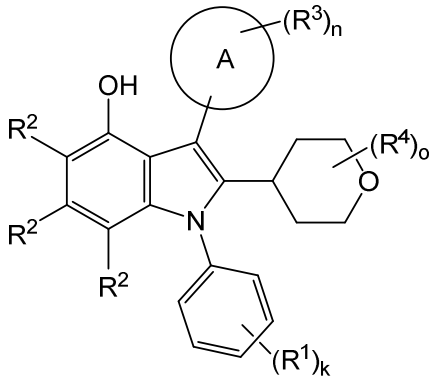
the C_1-C_2 alkyl of $\mathbf{R^s}$ is optionally substituted with 1 to 3 halogen groups independently chosen from F and Cl.

23. The compound, tautomer, deuterated derivative, or pharmaceutically acceptable salt according to any one of claims 1 to 22, wherein $\mathbf{R^E}$, $\mathbf{R^F}$, and $\mathbf{R^G}$ are each independently hydrogen, F, -OH, $-CH(OH)CH_3$, $-C(=O)NHCH_3$, $-C(=N)OCH_3$, $-CH_3$, $-CF_3$, $-CH_2F$, $-CH_2CN$, $-(CH_2)_2CN$, $-CH_2OH$, $-C_2H_5$, $-(CH_2)_2OH$, $-CH_2OCH_3$,

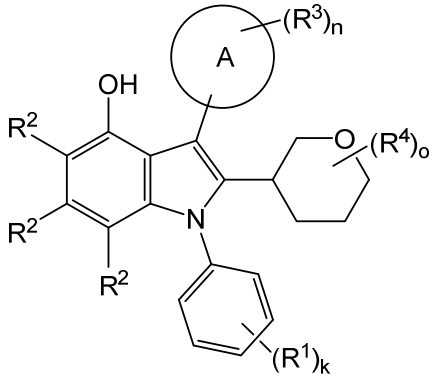
$-CH_2OC_2H_5$, $-(CH_2)_2OCH_3$, $-CH_2OCHF_2$, $-(CH_2)_2OCHF_2$, $-CH_2C(=O)NH_2$, $-CH_2C(=O)N(CH_3)_2$, $-CH_2S(=O)_2CH_3$, $-(CH_2)_2S(=O)_2CH_3$, $-CH_2(O)C(=O)NHCH_3$, $-CH_2(O)C(=O)N(CH_3)C_2H_5$,$-CH_2(O)C(=O)N(CH_3)_2$, $-CH_2(O)C(=O)N(C_2H_5)_2$, -CH_2(O)C(=O)NH(cyclopentyl), -CH_2(O)C(=O)NH(tetrahydrofuranyl), -CH_2(O)(pyridin-2-yl), or -CH_2(O)(pyrimidin-2-yl).

24. The compound, tautomer, deuterated derivative, or pharmaceutically acceptable salt according to any one of claims 1 to 23, wherein $\mathbf{R^E}$, $\mathbf{R^F}$, and $\mathbf{R^G}$ are each independently hydrogen, F, $-CH(OH)CH_3$, $-CH_3$, $-CH_2CN$, $-CH_2OH$, or $-CH_2OCH_3$.

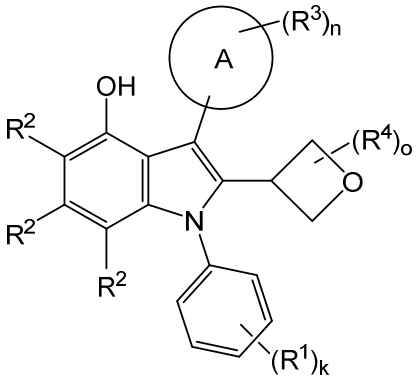
25. The compound, tautomer, deuterated derivative, or pharmaceutically acceptable salt according to any one of claims 1 to 24 represented by one of the following structural formulae:



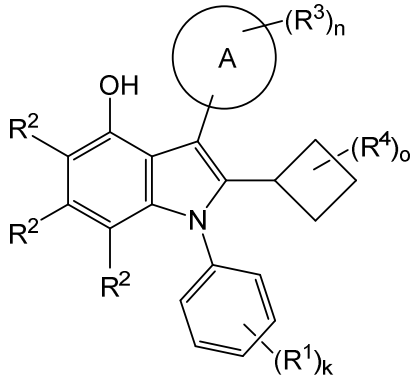
(VIa)



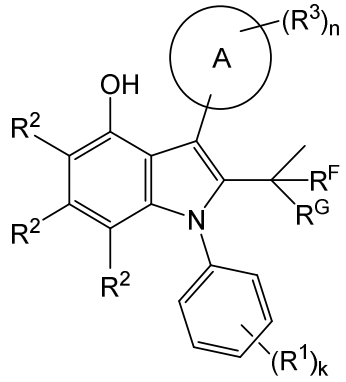
(VIb)



(VIc)

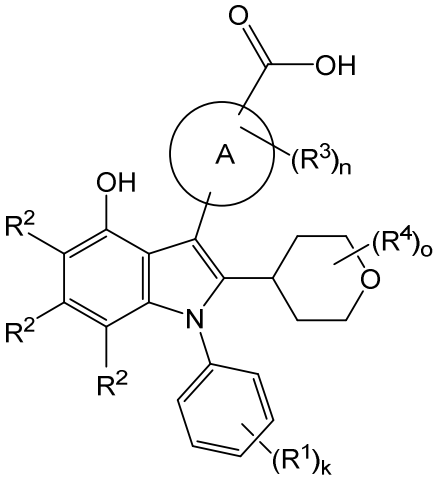


(VId)

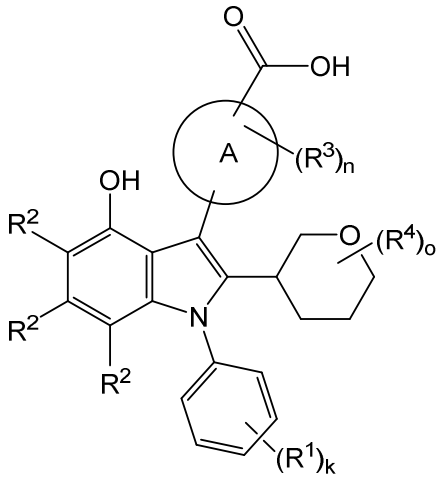


(VIe).

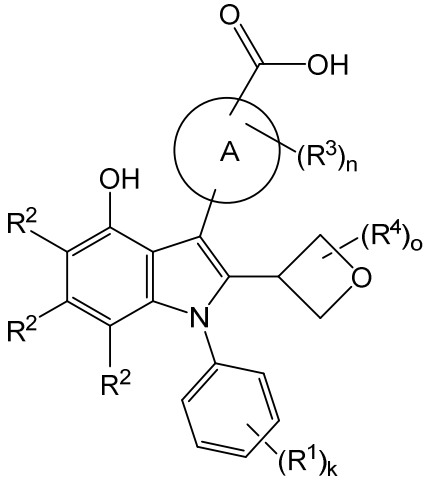
26. The compound, tautomer, deuterated derivative, or pharmaceutically acceptable salt according to any one of claims 1 to 25 represented by one of the following structural formulae:



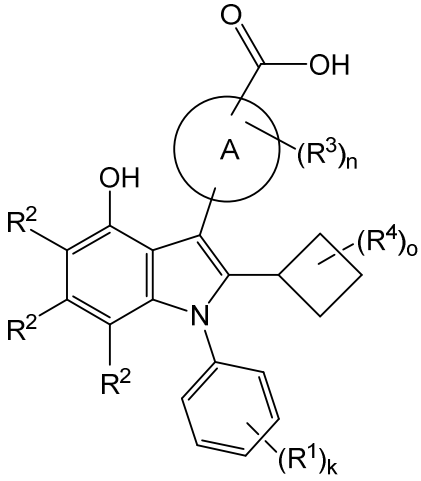
(VIIa)



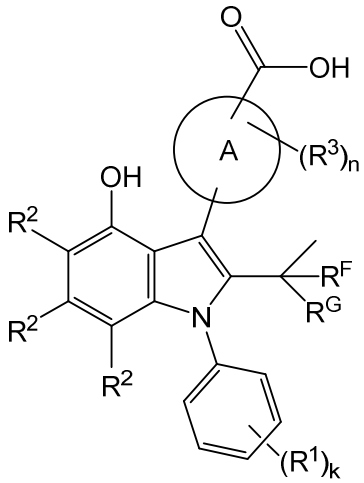
(VIIb)



(VIIc)



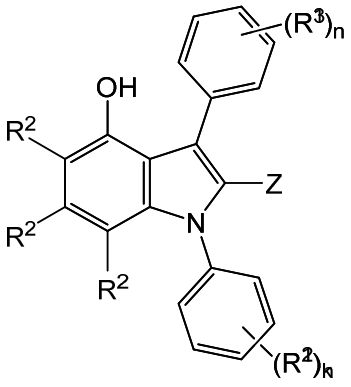
(VIId)



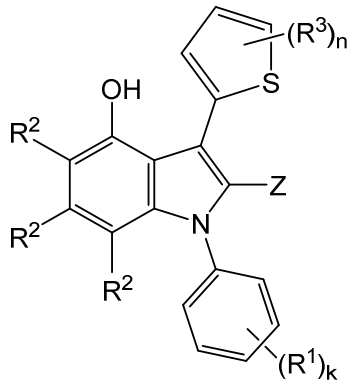
(VIIe);

wherein **n** is an integer selected from 0, 1, and 2.

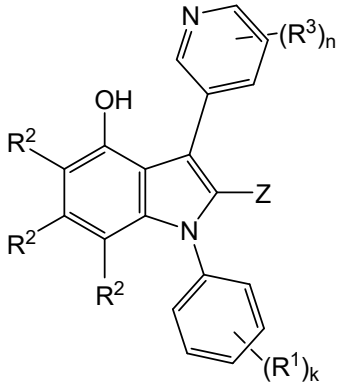
27. The compound, tautomer, deuterated derivative, or pharmaceutically acceptable salt according to any one of claims 1 to 26 represented by one of the following structural formulae:



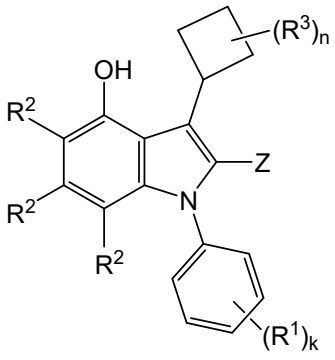
(VIIIa)



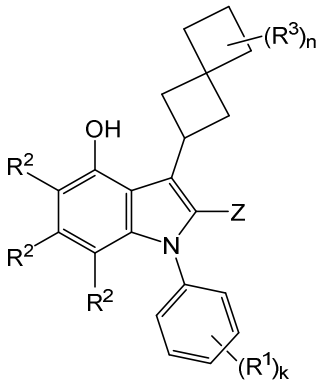
(VIIIb)



(VIIIc)

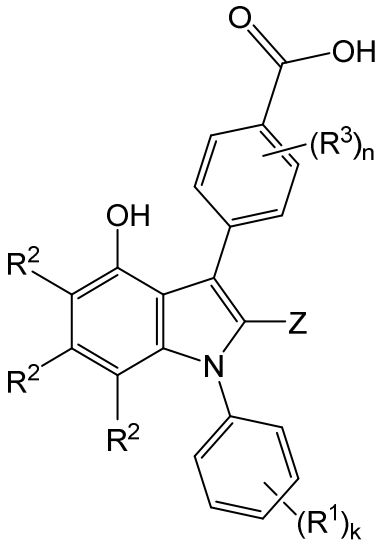


(VIIId)

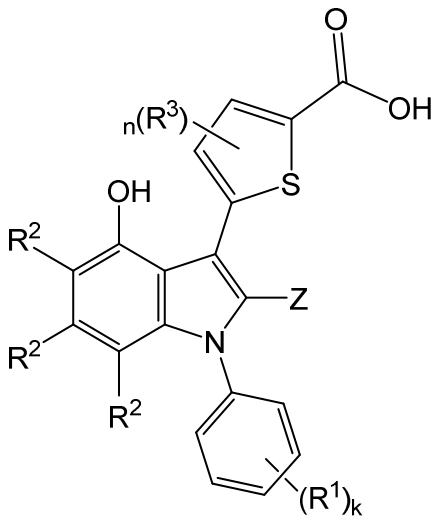


(VIIIe).

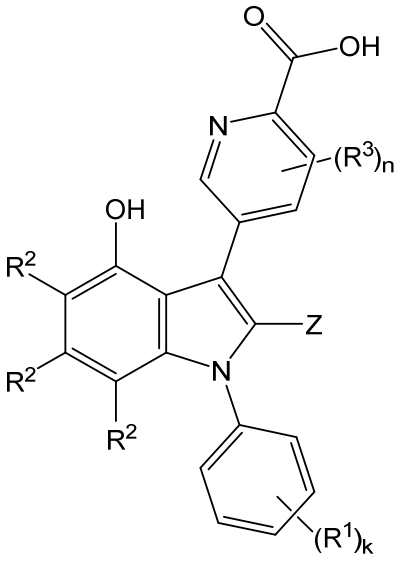
28. The compound, tautomer, deuterated derivative, or pharmaceutically acceptable salt according to any one of claims 1 to 27 represented by one of the following structural formulae:

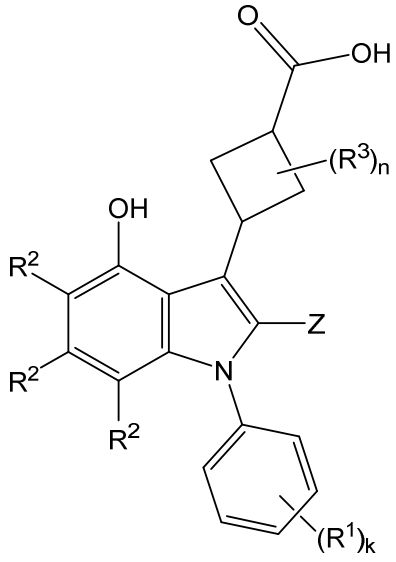


(IXa)

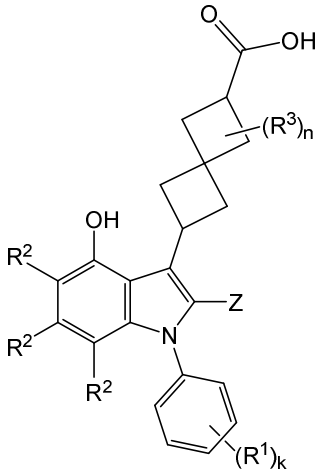


(IXb)





(IXc) (IXd)



(IXe);

wherein **n** is an integer selected from 0, 1, and 2.

29. The compound, tautomer, deuterated derivative, or pharmaceutically acceptable salt according to any one of claims 1 to 28, wherein $\mathbf{R^2}$, for each occurrence, is independently hydrogen, halogen, cyano, C_1-C_6 alkyl (optionally substituted with 1 to 3 groups selected from cyano, -OH, $-OCH_3$, and $-NH_2$), C_1-C_6 alkoxy, C_1-C_6 haloalkyl, $-N\mathbf{R^h}\mathbf{R^i}$, or C_3-C_6 cycloalkyl; wherein $\mathbf{R^h}$ and $\mathbf{R^i}$, for each occurrence, are each independently hydrogen or C_1-C_4 alkyl.

30. The compound, tautomer, deuterated derivative, or pharmaceutically acceptable salt according to any one of claims 1 to 29, wherein $\mathbf{R^2}$, for each occurrence, is independently hydrogen, halogen, cyano, C_1-C_4 alkyl (optionally substituted with 1 to 3 groups independently chosen from cyano, -OH, $-OCH_3$, and $-NH_2$), C_1-C_4 alkoxy, C_1-C_4 haloalkyl, $-N\mathbf{R^h}\mathbf{R^i}$, or C_3-C_5 cycloalkyl; wherein $\mathbf{R^h}$ and $\mathbf{R^i}$, for each occurrence, are each independently hydrogen or C_1-C_4 alkyl.

31. The compound, tautomer, deuterated derivative, or pharmaceutically acceptable salt according to any one of claims 1 to 30, wherein $\mathbf{R^2}$, for each occurrence, is independently hydrogen, halogen, cyano, C_1-C_2 alkyl (optionally substituted with 1 to 3 groups independently chosen from cyano, -OH, $-OCH_3$, and $-NH_2$), C_1-C_2 haloalkyl, $-N\mathbf{R^h}\mathbf{R^i}$, or C_3-C_4 cycloalkyl; wherein $\mathbf{R^h}$ and $\mathbf{R^i}$, for each occurrence, are each independently hydrogen or $-CH_3$.

32. The compound, tautomer, deuterated derivative, or pharmaceutically acceptable salt according to any one of claims 1 to 31, wherein $\mathbf{R^2}$, for each occurrence, is independently hydrogen, F, Cl, cyano, $-CH_3$, $-CHF_2$, $-CF_3$, $-NH_2$, or cyclopropyl.

33. The compound, tautomer, deuterated derivative, or pharmaceutically acceptable salt according to any one of claims 1 to 32, wherein $\mathbf{R^3}$, for each occurrence, is independently halogen, cyano, =O, C_1-C_6 alkyl, C_1-C_6 alkoxy, C_1-C_6 haloalkyl, $-C(=O)\mathbf{R^y}$, $-C(=O)O\mathbf{R^y}$, $-C(=O)N\mathbf{R^v}\mathbf{R^w}$, $-C(=O)N\mathbf{R^v}O\mathbf{R^y}$,$-C(=O)NR^vS(=O)_2\mathbf{R^y}$, $-N\mathbf{R^v}\mathbf{R^w}$, $-O\mathbf{R^y}$, $-S(=O)_2\mathbf{R^y}$, $-S(=O)_2N\mathbf{R^v}\mathbf{R^w}$, $-S(=O)_2N\mathbf{R^v}C(=O)\mathbf{R^y}$, or $-P(=O)\mathbf{R^z}\mathbf{R^z}$; wherein:

the C_1-C_4 alkyl of $\mathbf{R^3}$ is optionally substituted with 1 to 3 groups independently chosen from cyano, $-O\mathbf{R^y}$, $-C(=O)O\mathbf{R^y}$, and $-N\mathbf{R^v}\mathbf{R^w}$; wherein:

$\mathbf{R^v}$, $\mathbf{R^w}$, and $\mathbf{R^x}$, for each occurrence, are each independently hydrogen or C_1-C_2 alkyl; wherein the C_1-C_2 alkyl of any one of $\mathbf{R^v}$, $\mathbf{R^w}$, and $\mathbf{R^x}$ is optionally substituted with 1 to 3 groups independently chosen from halogen, cyano, -OH, and $-NH_2$; and

$\mathbf{R^y}$, for each occurrence, is independently hydrogen, C_1-C_4 alkyl, or 5 or 6-membered heterocyclyl; wherein:

the C_1-C_4 alkyl of $\mathbf{R^y}$ is optionally substituted with 1 to 3 groups independently chosen from halogen, cyano, -OH, $-NH_2$, and $-C(=O)OH$; and

the 5 or 6-membered heterocyclyl of $\mathbf{R^y}$ is optionally substituted with 1 to 3 groups independently chosen from halogen, cyano, -OH, $-NH_2$, and $-C(=O)OH$.

34. The compound, tautomer, deuterated derivative, or pharmaceutically acceptable salt according to any one of claims 1 to 33, wherein $\mathbf{R^3}$, for each occurrence, is independently halogen, cyano, =O, C_1-C_4 alkyl, C_1-C_4 alkoxy, C_1-C_4 haloalkyl, $-C(=O)\mathbf{R^y}$, $-C(=O)O\mathbf{R^y}$, $-C(=O)N\mathbf{R^v}\mathbf{R^w}$,$-C(=O)N\mathbf{R^v}O\mathbf{R^y}$, $-C(=O)N\mathbf{R^v}S(=O)_2\mathbf{R^y}$, $-N\mathbf{R^v}\mathbf{R^w}$, $-O\mathbf{R^y}$, $-S(=O)_2\mathbf{R^y}$, $-S(=O)_2N\mathbf{R^v}\mathbf{R^w}$, $-S(=O)_2N\mathbf{R^v}C(=O)\mathbf{R^y}$, or $-P(=O)\mathbf{R^z}\mathbf{R^z}$; wherein:

the C_1-C_4 alkyl of $\mathbf{R^3}$ is optionally substituted with 1 to 3 groups independently chosen from cyano, $-O\mathbf{R^y}$ and $-C(=O)O\mathbf{R^y}$; wherein:

$\mathbf{R^v}$, $\mathbf{R^w}$, and $\mathbf{R^x}$, for each occurrence, are each independently hydrogen or C_1-C_4 alkyl; wherein the C_1-C_4 alkyl of any one of $\mathbf{R^v}$, $\mathbf{R^w}$, and $\mathbf{R^x}$ is optionally substituted with -OH; and

$\mathbf{R^y}$, for each occurrence, is independently hydrogen, C_1-C_2 alkyl, or 6-membered heterocyclyl; wherein:

the C_1-C_2 alkyl of $\mathbf{R^y}$ is optionally substituted with 1 to 3 groups independently chosen from -OH and -C(=O)OH; and

the 6-membered heterocyclyl of $\mathbf{R^y}$ is optionally substituted with 1 to 3 groups independently chosen from -OH and -C(=O)OH;

$\mathbf{R^z}$, for each occurrence, is independently $-CH_3$, -OH, or $-OCH_3$.

35. The compound, tautomer, deuterated derivative, or pharmaceutically acceptable salt according to any one of claims 1 to 34, wherein $\mathbf{R^3}$, for each occurrence, is independently halogen, cyano, =O, C_1-C_2 alkyl, C_1-C_2 alkoxy, C_1-C_4 haloalkyl, -C(=O)$\mathbf{R^y}$, -C(=O)O$\mathbf{R^y}$, -C(=O)N$\mathbf{R^v}\mathbf{R^w}$,-C(=O)N$\mathbf{R^v}$O$\mathbf{R^y}$, -C(=O)N$\mathbf{R^v}$S(=O)$_2\mathbf{R^y}$, -N$\mathbf{R^v}\mathbf{R^w}$, -O$\mathbf{R^y}$, -S(=O)$_2\mathbf{R^y}$, -S(=O)$_2$N$\mathbf{R^v}\mathbf{R^w}$, -S(=O)$_2$N$\mathbf{R^v}$C(=O)$\mathbf{R^y}$, or -P(=O)$\mathbf{R^z}\mathbf{R^z}$; wherein:

the C_1-C_2 alkyl of $\mathbf{R^3}$ is optionally substituted with 1 to 3 groups independently chosen from -OH and -C(=O)O$\mathbf{R^y}$; wherein:

$\mathbf{R^v}$, $\mathbf{R^w}$, and $\mathbf{R^x}$, for each occurrence, are each independently hydrogen or C_1-C_2 alkyl; wherein the C_1-C_2 alkyl of any one of $\mathbf{R^v}$, $\mathbf{R^w}$, and $\mathbf{R^x}$ is optionally substituted with -OH; and

$\mathbf{R^y}$, for each occurrence, is independently hydrogen, C_1-C_2 alkyl, or tetrahydro-2H-pyranyl; wherein:

the C_1-C_2 alkyl of $\mathbf{R^y}$ is optionally substituted with -C(=O)OH; and

the tetrahydro-2H-pyranyl of $\mathbf{R^y}$ is optionally substituted with 1 to 3 groups independently chosen from -OH and -C(=O)OH;

$\mathbf{R^z}$, for each occurrence, is independently $-CH_3$ or -OH.

36. The compound, tautomer, deuterated derivative, or pharmaceutically acceptable salt according to any one of claims 1 to 35, wherein $\mathbf{R^3}$, for each occurrence, is independently F, Cl, cyano, -OH, =O, $-CH_3$, $-OCH_3$, $-CF_3$, $-CH_3CN$, $-C(CH_3)_2CH_2OH$, $-CH_2COOH$, $-CH_2OCH_3$, $-C(=O)CHCH_3OH$, -COOH, -C(=O)O(2-tetrahydro-2H-pyranyl), $-C(=O)NH_2$,

-C(=O)NH(CH$_2$)$_2$OH, -C(=O)NHOH, -C(=O)NHS(=O)$_2$CH$_3$, -NH$_2$, -NHCH$_3$, -OCH$_2$COOH, NHS(=O)$_2$CH$_3$,-S(=O)$_2$CH$_3$, -S(=O)$_2$NH$_2$, -S(=O)$_2$NHC(=O)CH$_3$, or -P(=O)(CH$_3$)$_2$; wherein the 2-tetrahydro-2H-pyranyl in -C(=O)O(2-tetrahydro-2H-pyranyl) is substituted with 1 to 3 groups independently chosen from -OH and -C(=O)OH.

37. The compound, tautomer, deuterated derivative, or pharmaceutically acceptable salt according to any one of claims 1 to 36, wherein **R^4**, for each occurrence, is independently halogen, cyano, C$_1$-C$_6$ alkyl, C$_1$-C$_6$ alkoxy, C$_1$-C$_6$ haloalkyl, -C(=O)**R^y**, -C(=O)O**R^y**, -O**R^y**, or -S(=O)$_2$**R^y**; wherein:

the C$_1$-C$_6$ alkyl of **R^4** is optionally substituted with 1 to 3 groups independently chosen from cyano, -O**R^y**, -C(=O)O**R^y**, and -N**R^{v}R^w**; wherein:

R^v and **R^w**, for each occurrence, are each independently hydrogen or C$_1$-C$_4$ alkyl; and

R^y, for each occurrence, is independently hydrogen and C$_1$-C$_4$ alkyl; wherein:

the C$_1$-C$_4$ alkyl of **R^y** is optionally substituted with 1 to 3 groups independently chosen from halogen, cyano, -OH, -OCH$_3$, and -NH$_2$.

38. The compound, tautomer, deuterated derivative, or pharmaceutically acceptable salt according to any one of claims 1 to 37, wherein **R^4**, for each occurrence, is independently halogen, cyano, C$_1$-C$_4$ alkyl, C$_1$-C$_4$ alkoxy, C$_1$-C$_4$ haloalkyl, -C(=O)**R^y**, -C(=O)O**R^y**, -O**R^y**, or -S(=O)$_2$**R^y**; wherein:

the C$_1$-C$_4$ alkyl of **R^4** is optionally substituted with 1 to 3 groups independently chosen from cyano, -O**R^y**, -C(=O)O**R^y**, and -N**R^{v}R^w**; wherein:

R^v and **R^w**, for each occurrence, are each independently hydrogen or C$_1$-C$_4$ alkyl;

R^y, for each occurrence, is independently hydrogen or C$_1$-C$_2$ alkyl; wherein:

the C$_1$-C$_2$ alkyl of any one of **R^y** is optionally substituted with 1 to 3 groups independently chosen from halogen, cyano, -OH, -OCH$_3$, and -NH$_2$; and

wherein **o** is an integer selected from 0, 1, and 2.

39. The compound, tautomer, deuterated derivative, or pharmaceutically acceptable salt according to any one of claims 1 to 38, wherein $\mathbf{R^4}$, for each occurrence, is independently cyano, C_1-C_2 alkyl, C_1-C_2 alkoxy, C_1-C_2 haloalkyl, -C(=O)R^y, -C(=O)O$\mathbf{R^y}$, -O$\mathbf{R^y}$, or -S(=O)$_2$$\mathbf{R^y}$; wherein:

the C_1-C_2 alkyl of $\mathbf{R^4}$ is optionally substituted with cyano, -OH, or -OCH_3;

$\mathbf{R^y}$, for each occurrence, is independently hydrogen or C_1-C_2 alkyl;

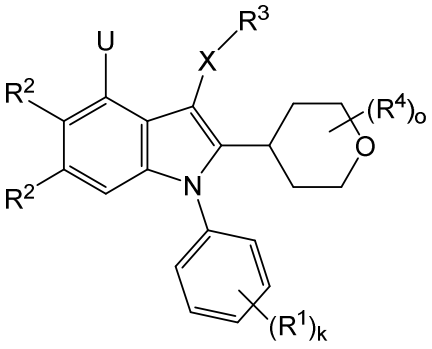
wherein:

the C_1-C_2 alkyl of $\mathbf{R^y}$ is optionally substituted with -OCH_3;

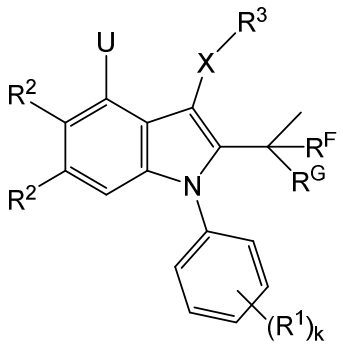
wherein **o** is an integer selected from 0 and 1.

40. The compound, tautomer, deuterated derivative, or pharmaceutically acceptable salt according to any one of claims 1 to 39, wherein $\mathbf{R^4}$, for each occurrence, is independently cyano, -OH, -OCH_3, -CH_3, -C_2H_5, -CF_3, -CH_2CN, -CH_2OH, -CH_2OCH_3, -COOH, -C(=O)CH_3, -C(=O)OCH_3, -C(=O)CH_2OCH_3, -S(=O)$_2$$CH_3$, S(=O)$_2$$C_2H_5$, or S(=O)$_2$$CF_3$.

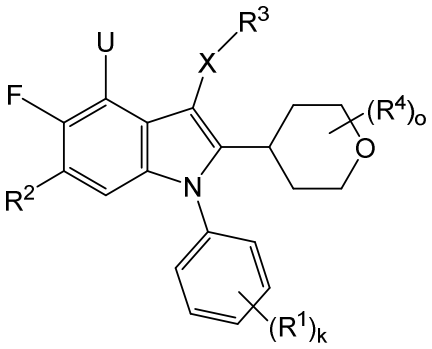
41. The compound, tautomer, deuterated derivative, or pharmaceutically acceptable salt according to any one of claims 1 to 11 represented by one of the following structural formulae:



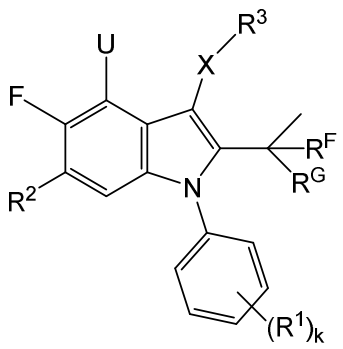
(XIa)



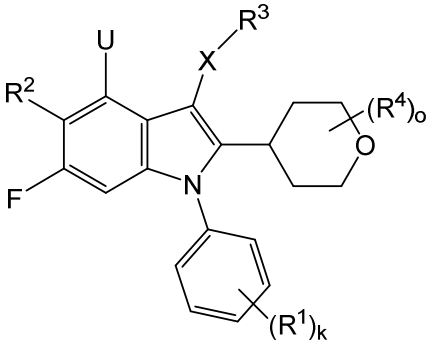
(XIb);



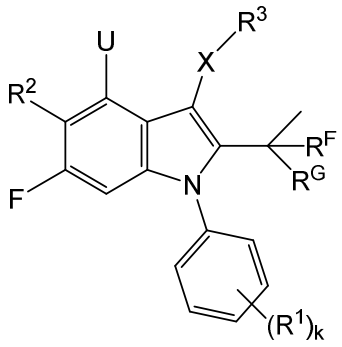
(XIc)



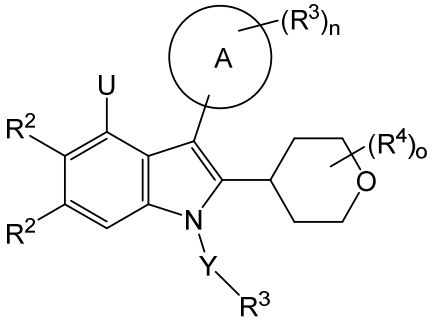
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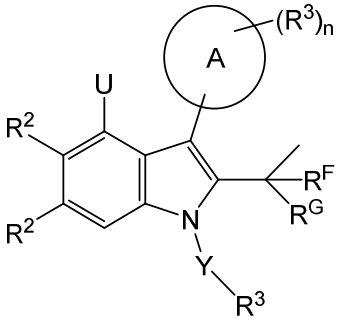
(XIe)



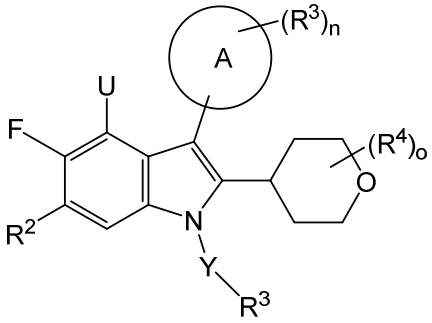
(XIf);



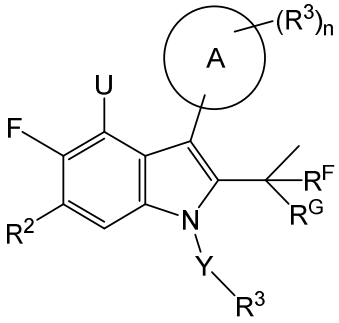
(XIIa)



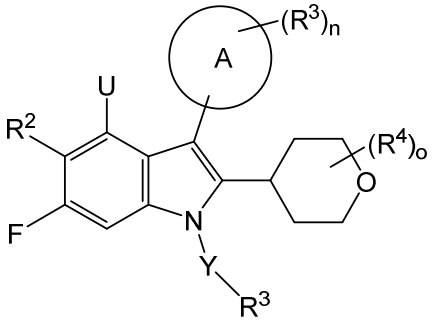
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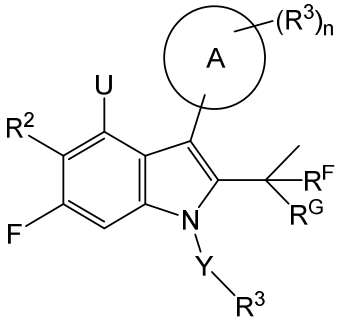
(XIIc)



(XIId)



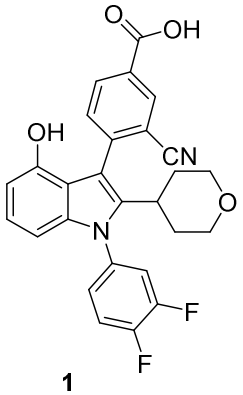
(XIIe)



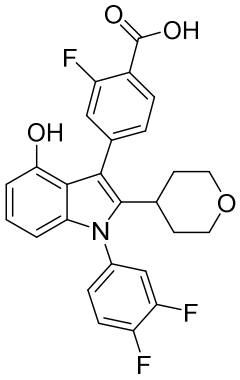
(XIIf),

wherein **o** is an integer selected from 1, and 2.

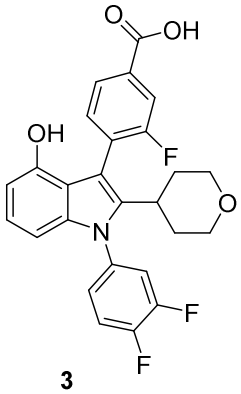
42. A compound selected from:



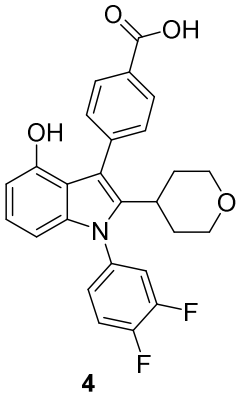
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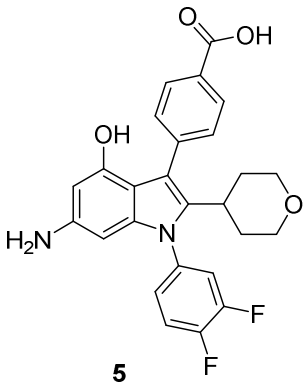
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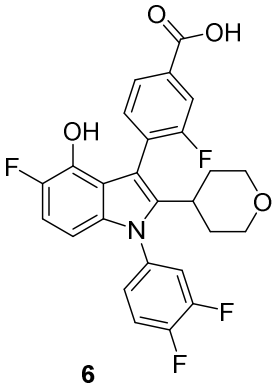
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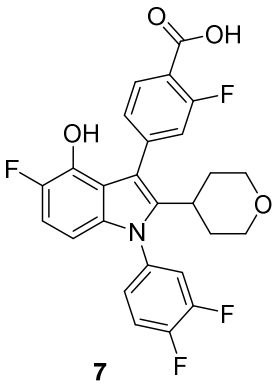
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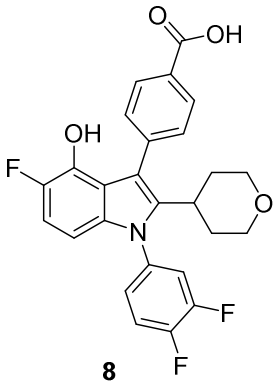
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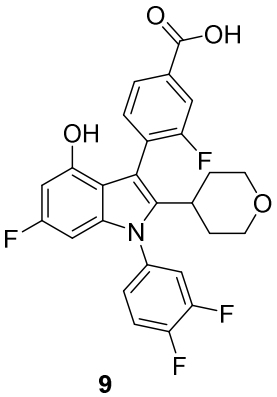
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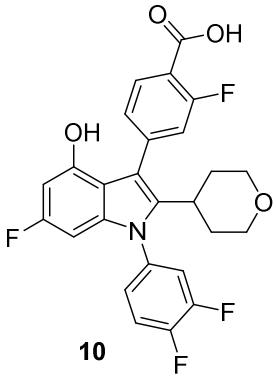
7



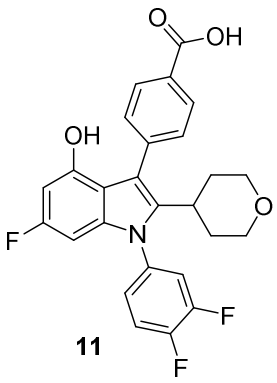
8



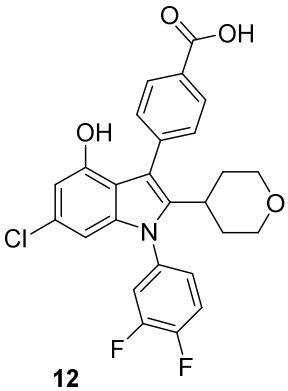
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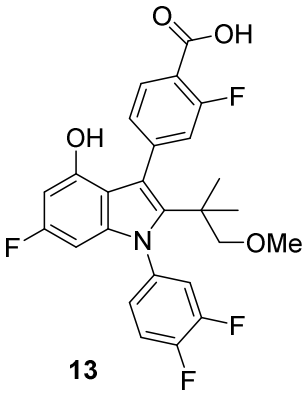
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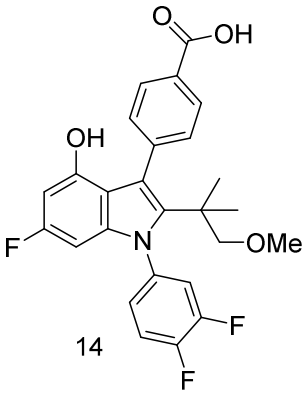
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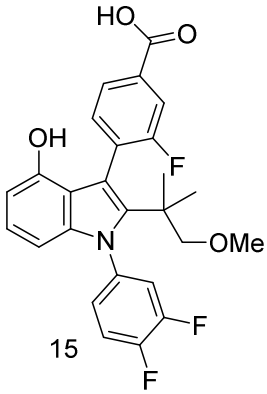
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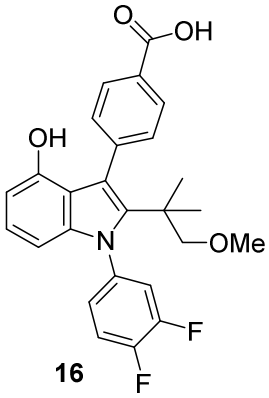
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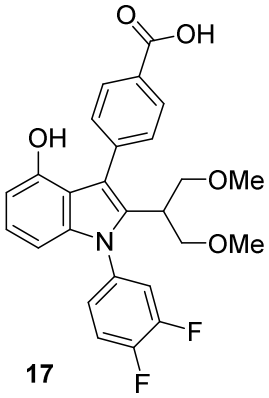
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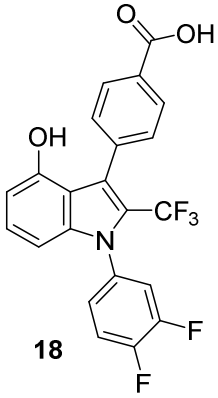
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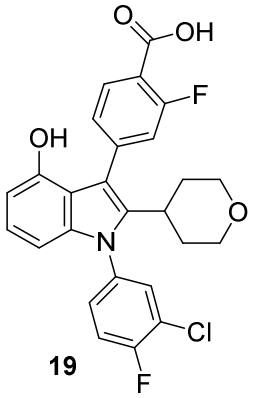
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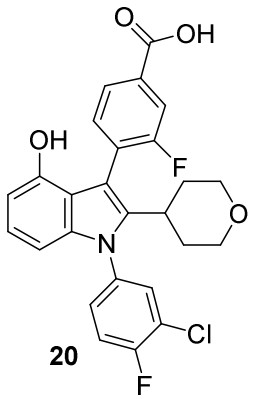
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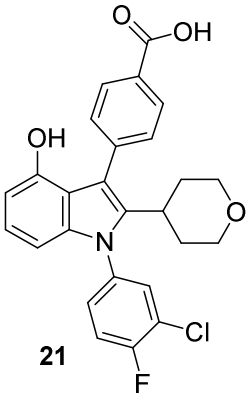
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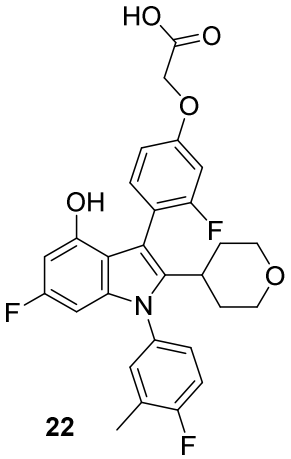
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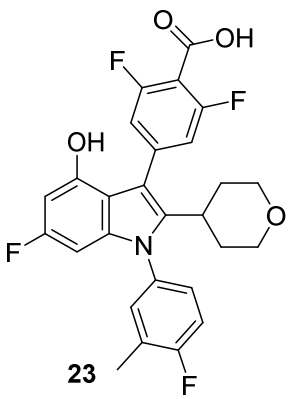
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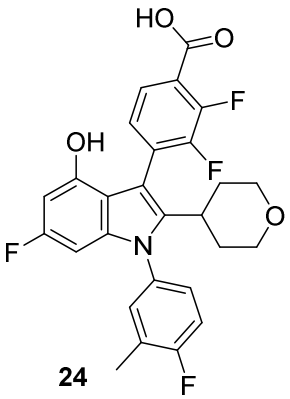
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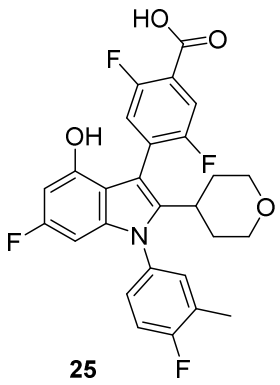
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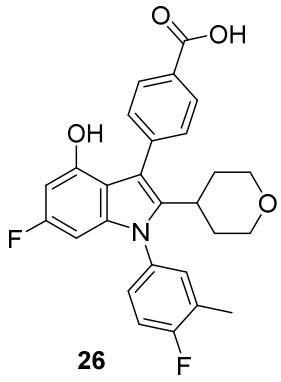
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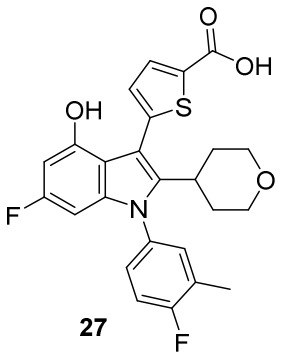
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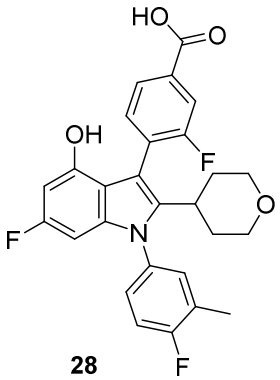
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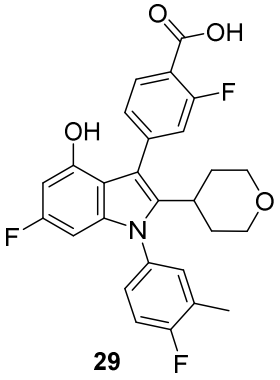
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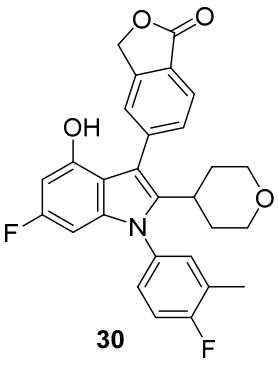
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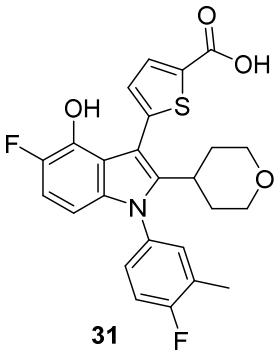
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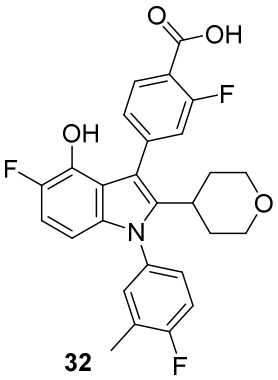
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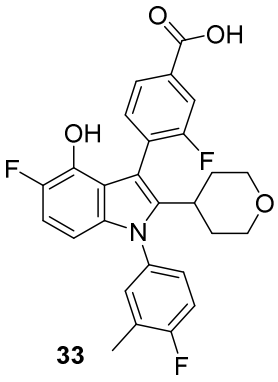
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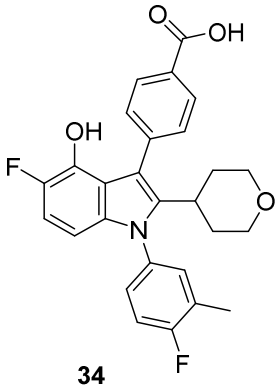
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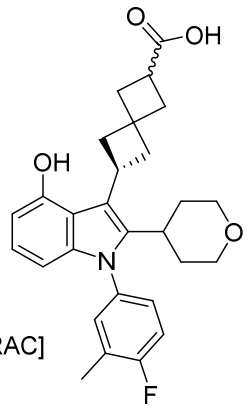
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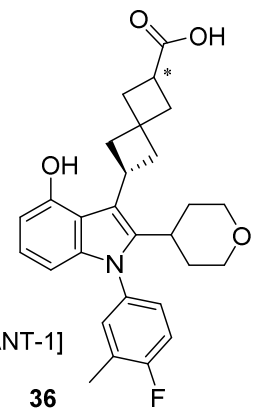


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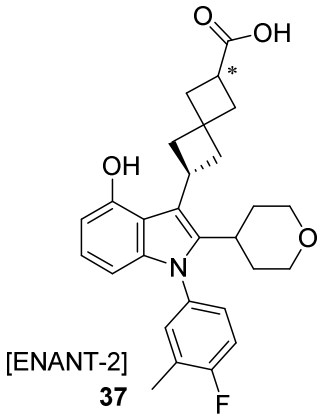
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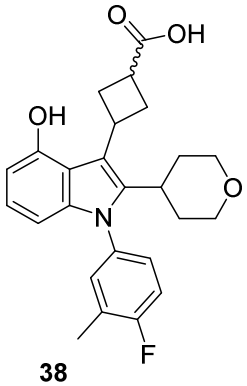


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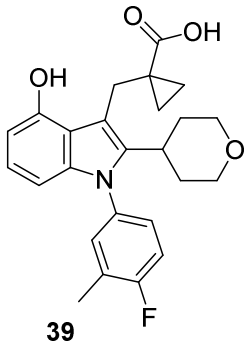
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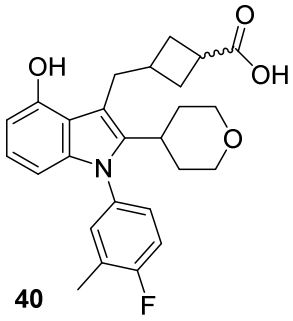
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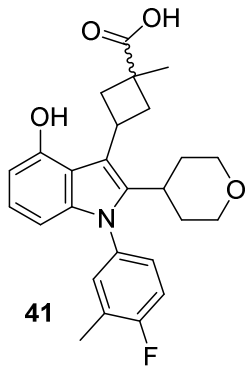
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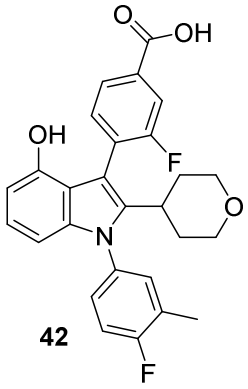
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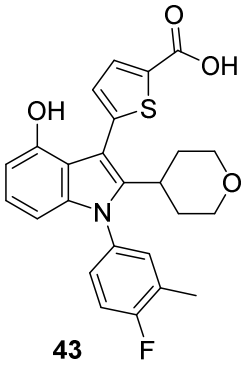
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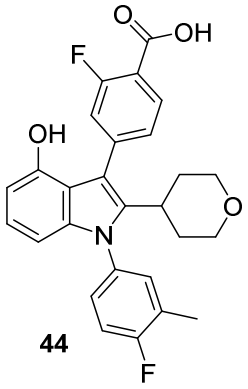
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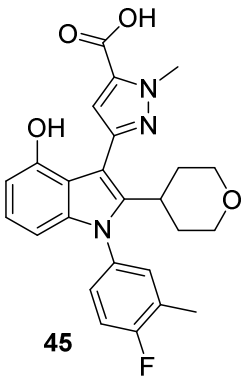
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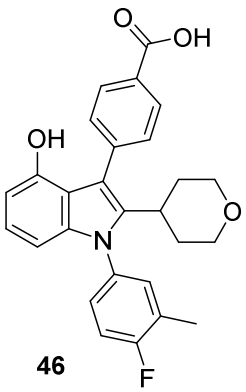
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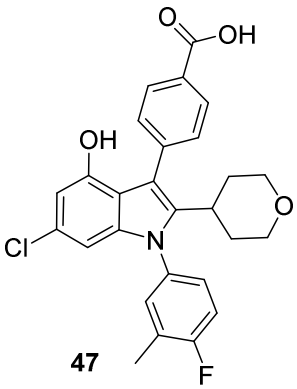
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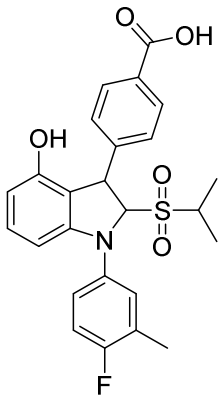
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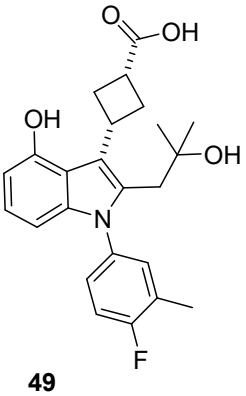
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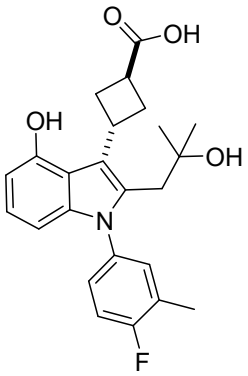
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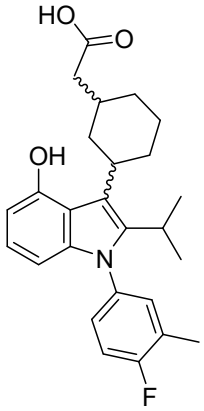
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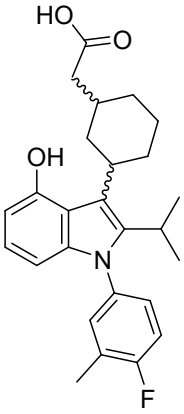
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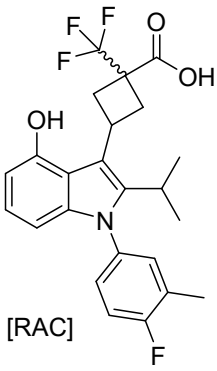
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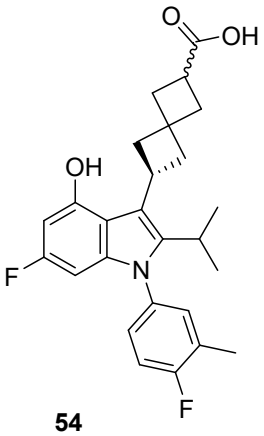


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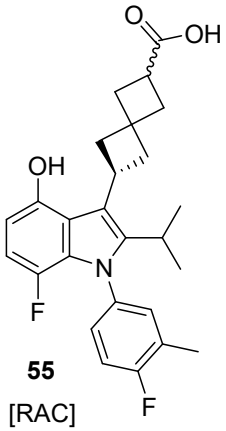


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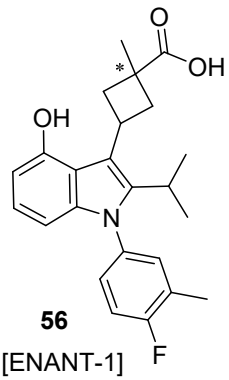


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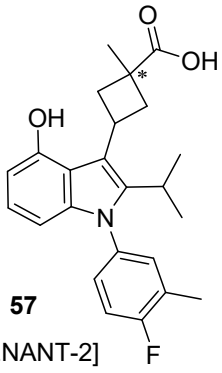
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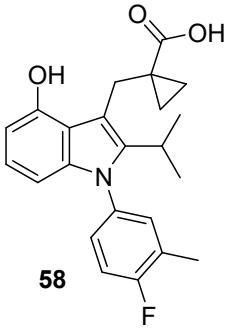
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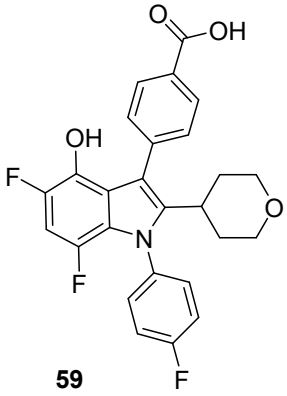


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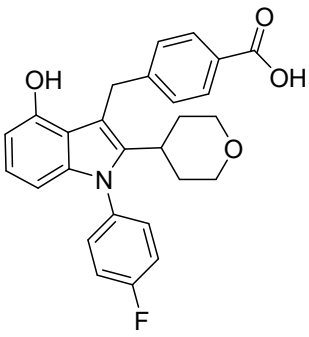
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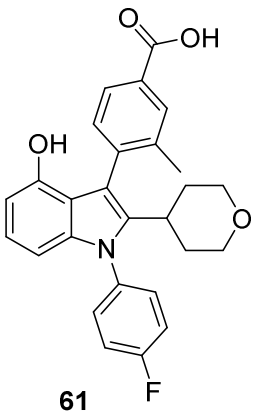
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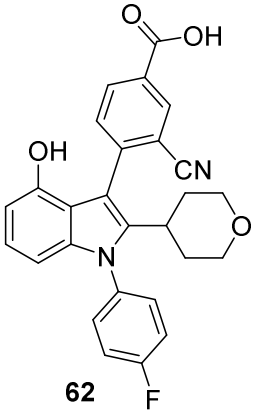
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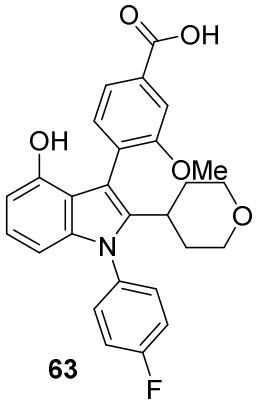
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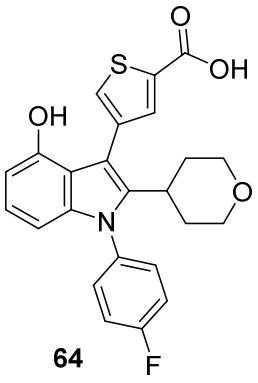
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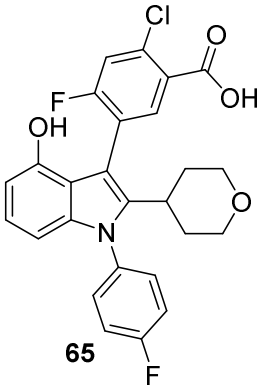
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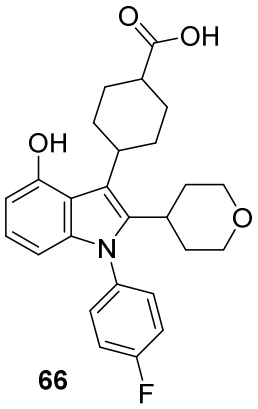
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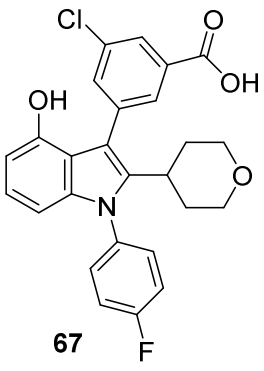
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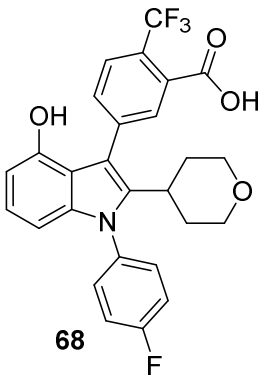
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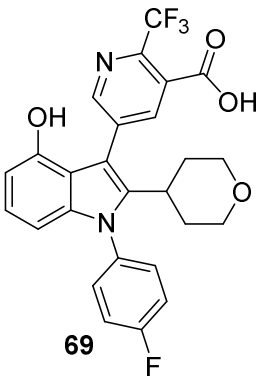
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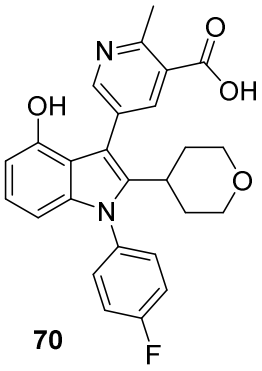
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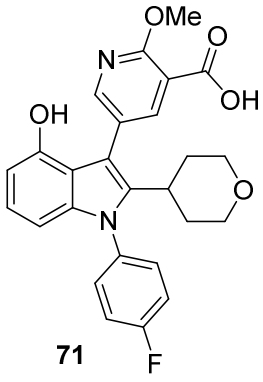
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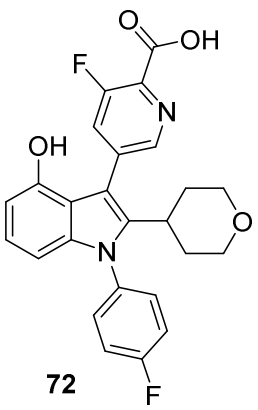
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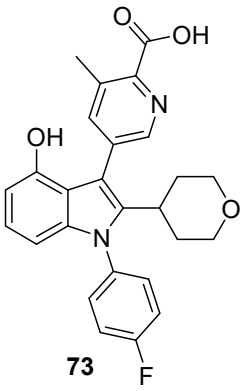
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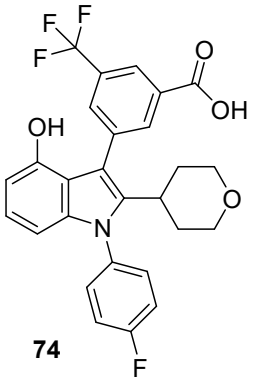
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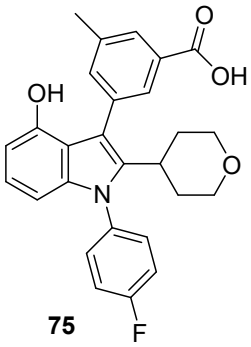
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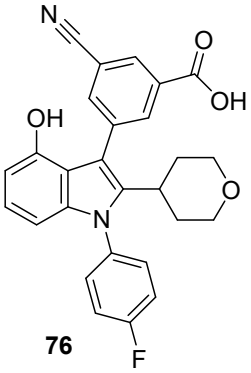
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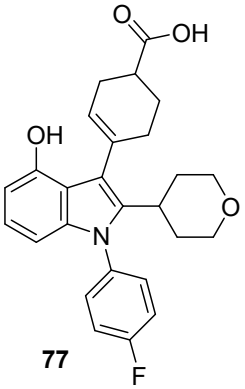
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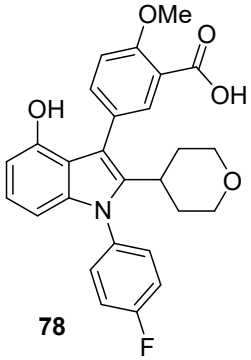
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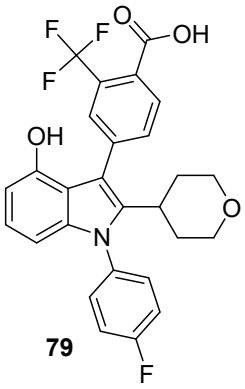
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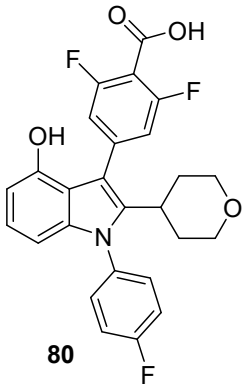
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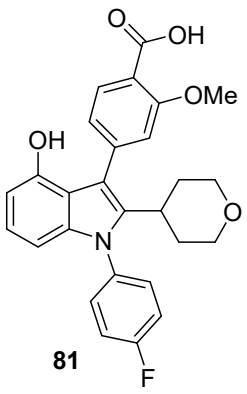
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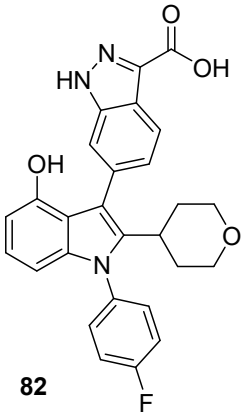
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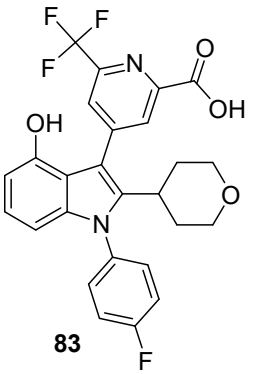
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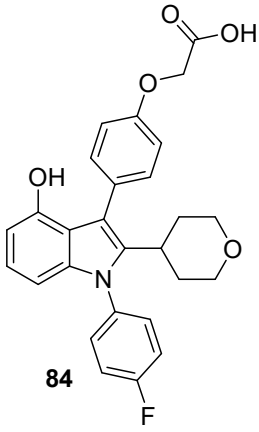
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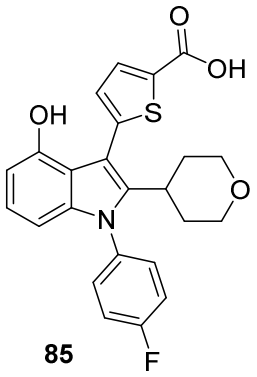
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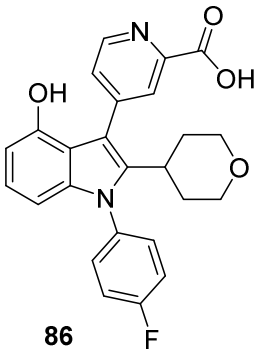
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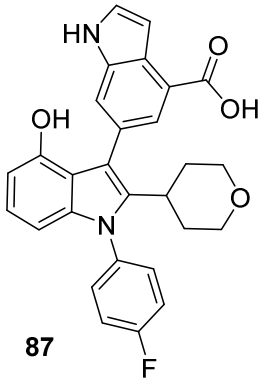
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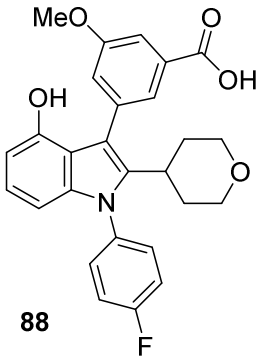
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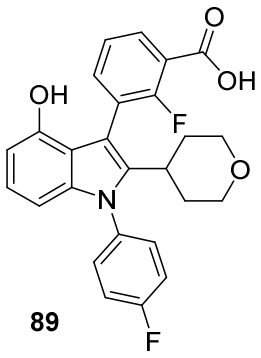
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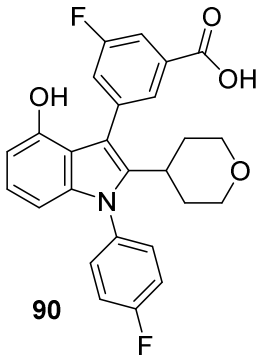
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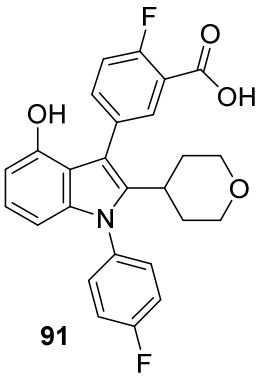
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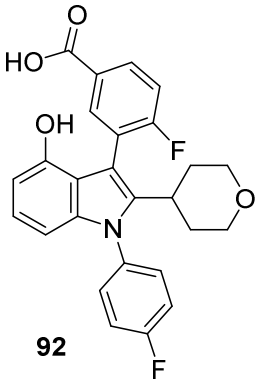
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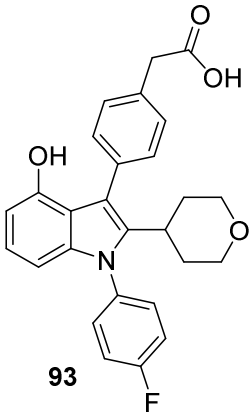
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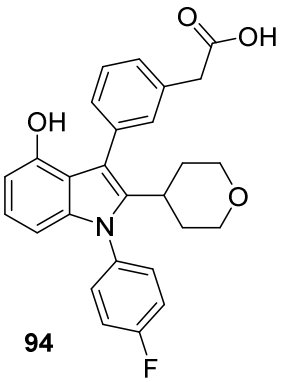
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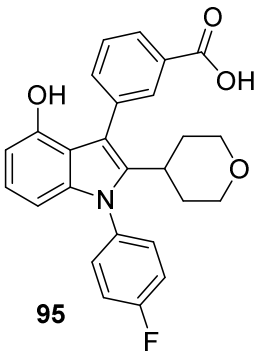
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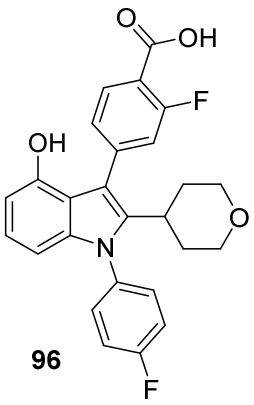
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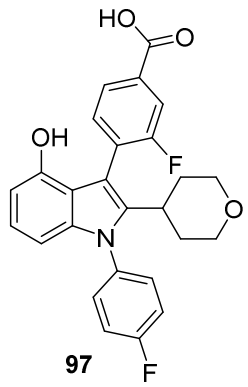
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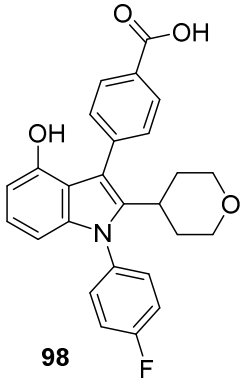
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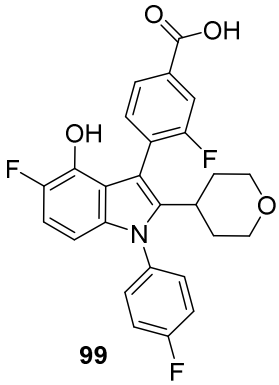
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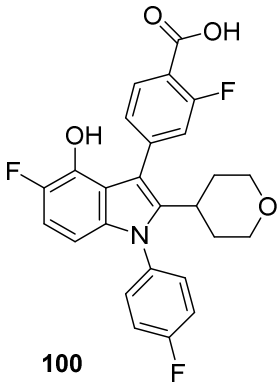
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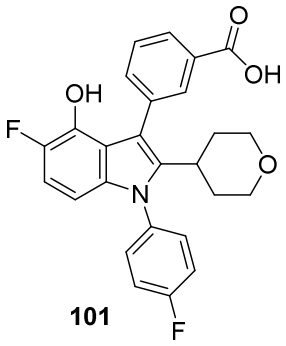
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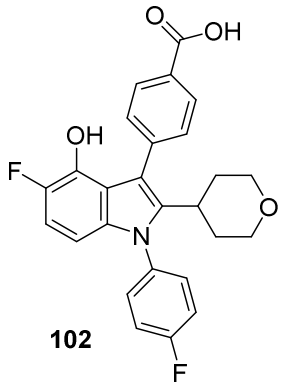
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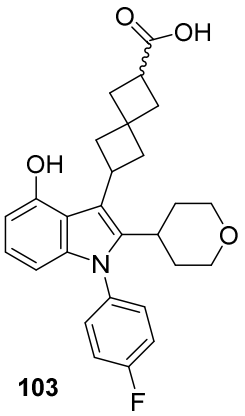
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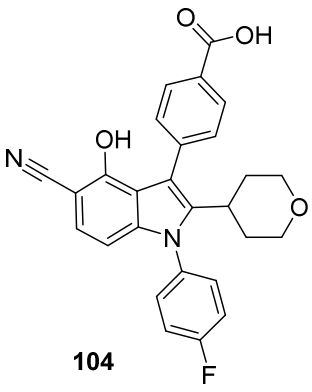
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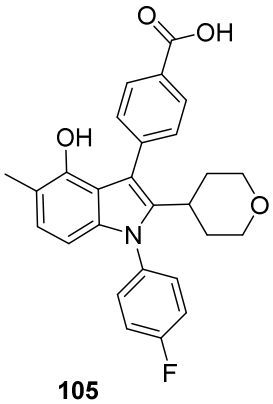
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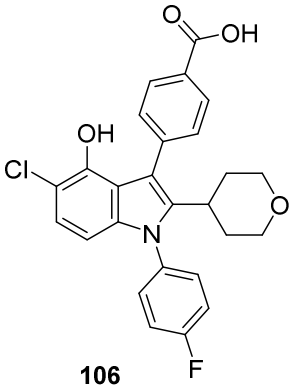
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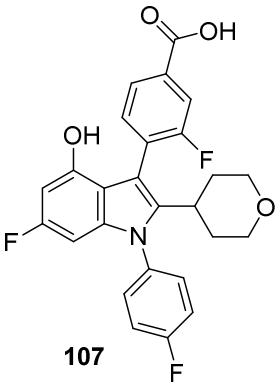
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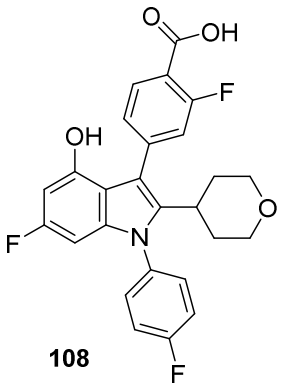
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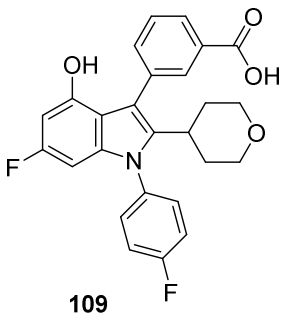
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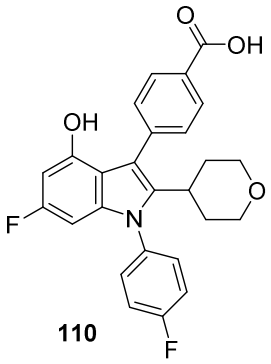
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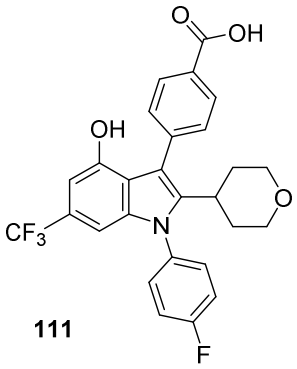
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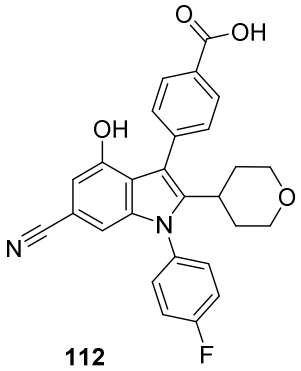
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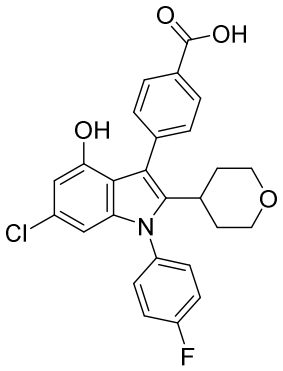
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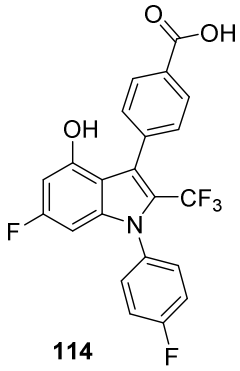
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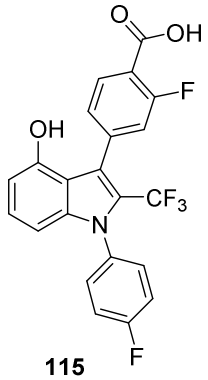
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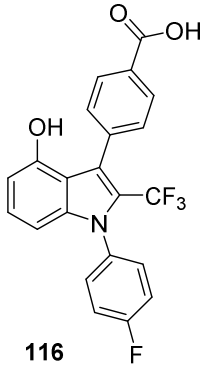
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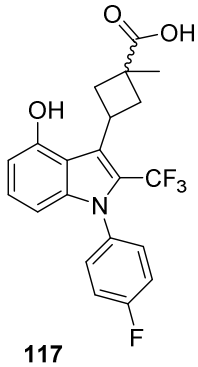
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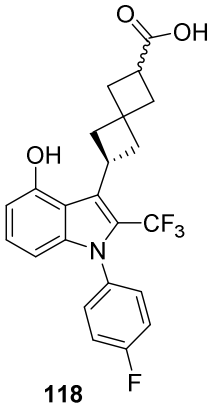
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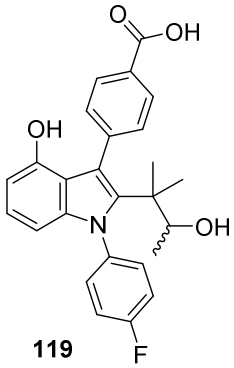
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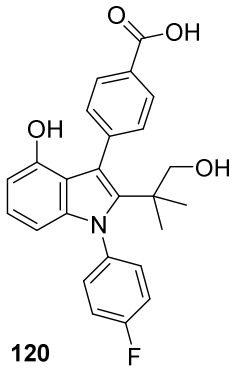
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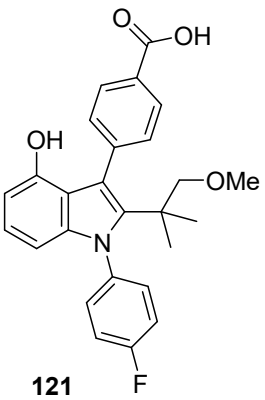
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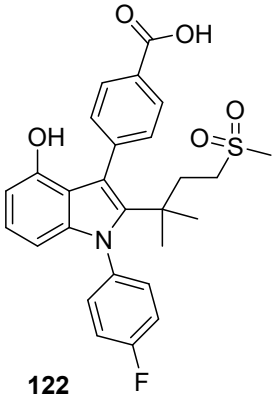
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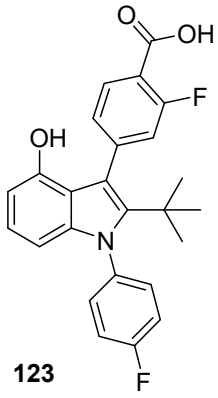
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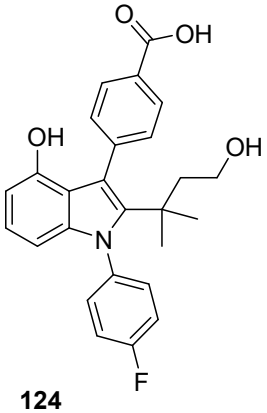
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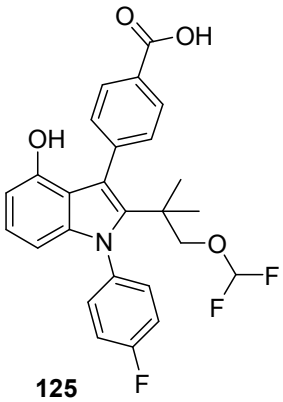
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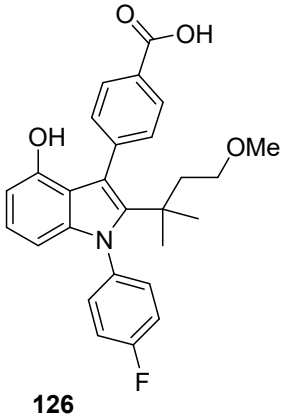
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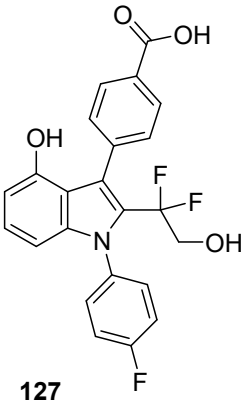
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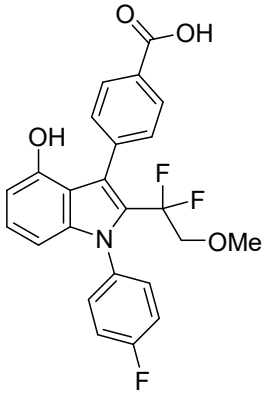
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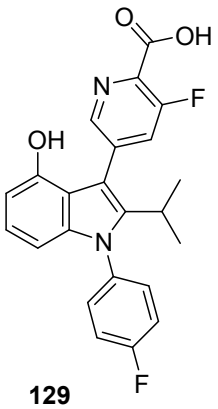
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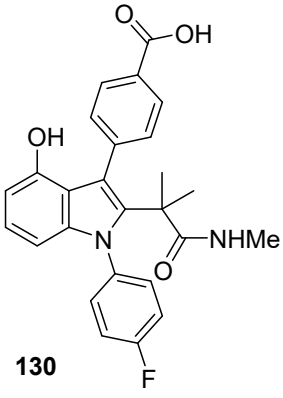
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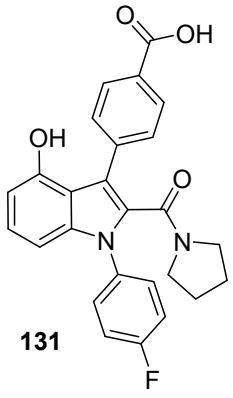
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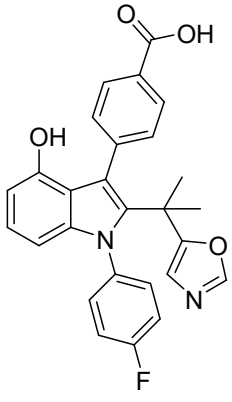
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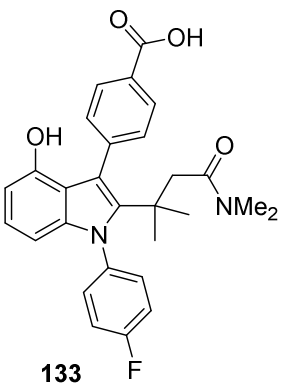
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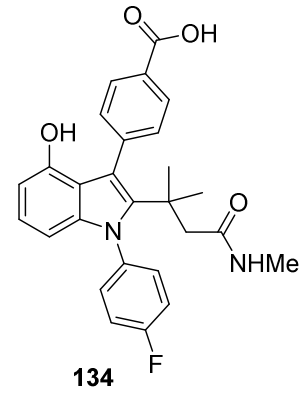
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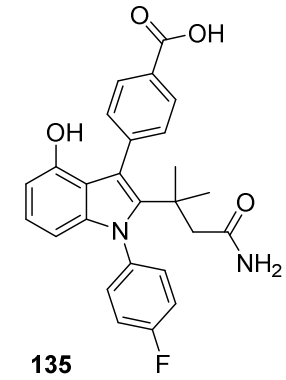
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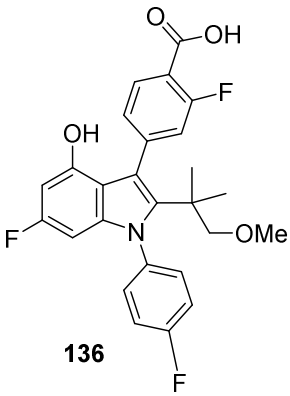
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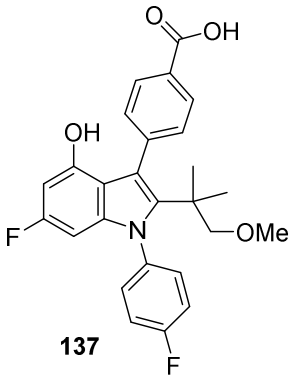
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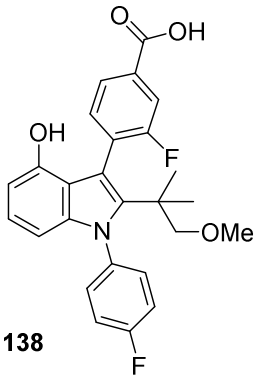
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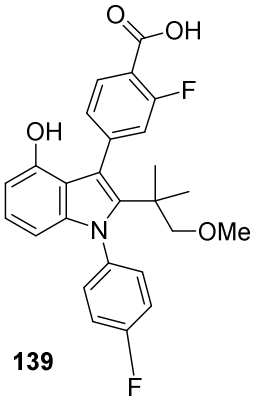
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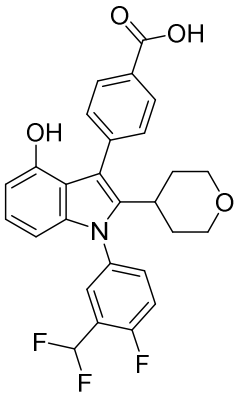
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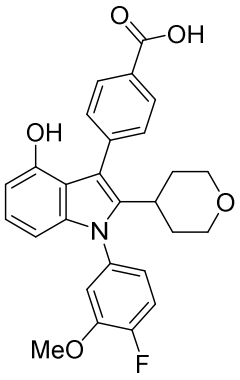
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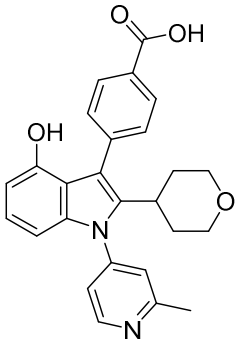
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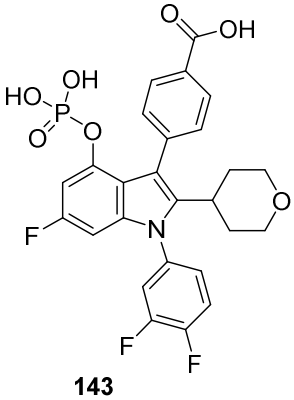
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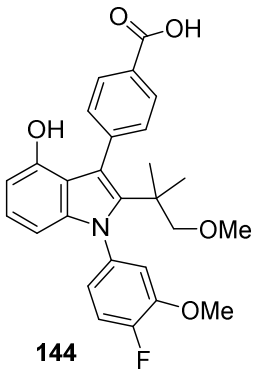
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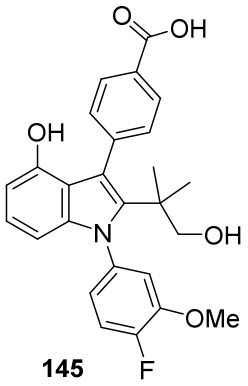
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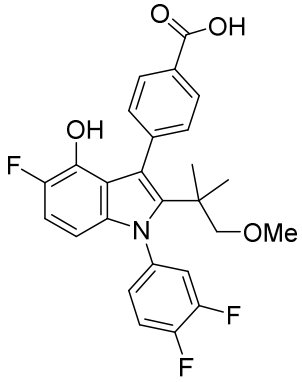
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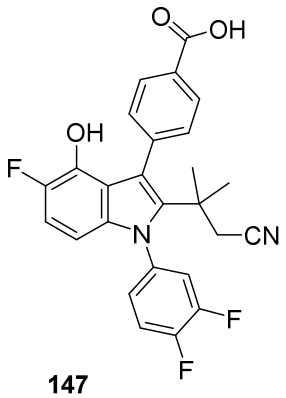
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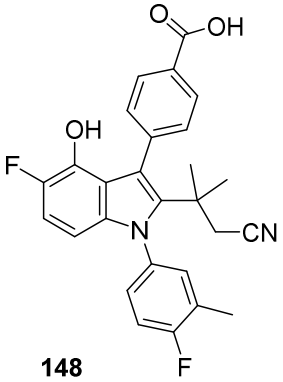
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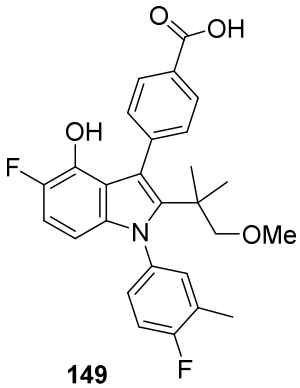
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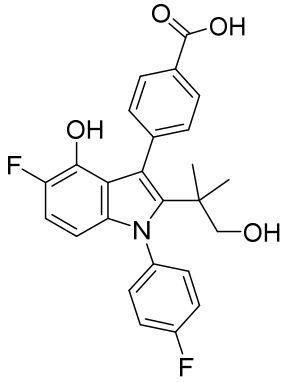
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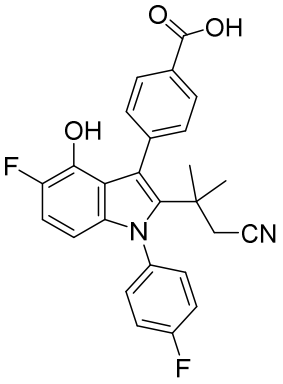
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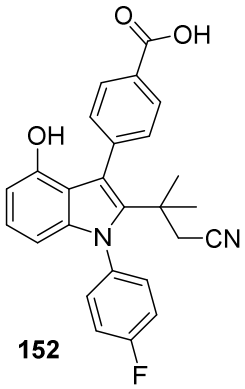
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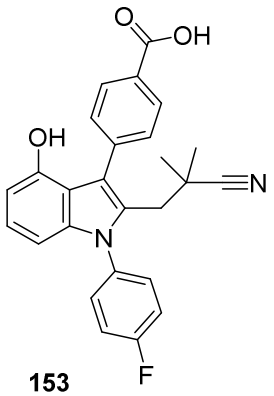
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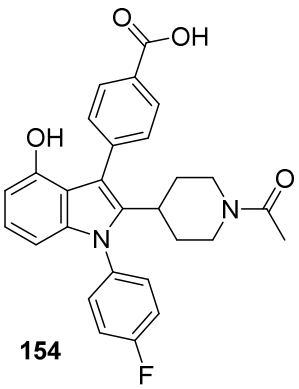
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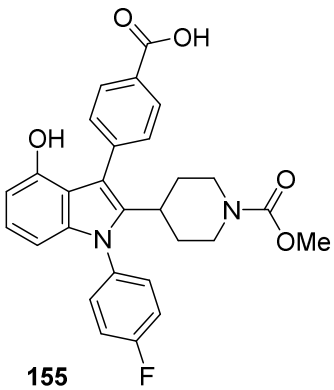
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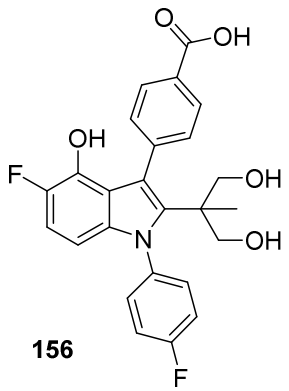
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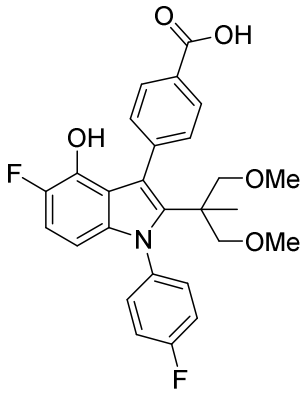
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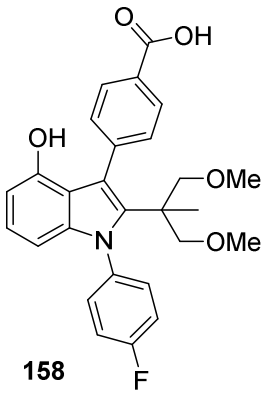
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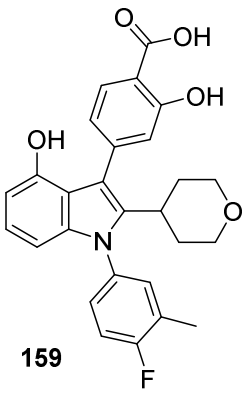
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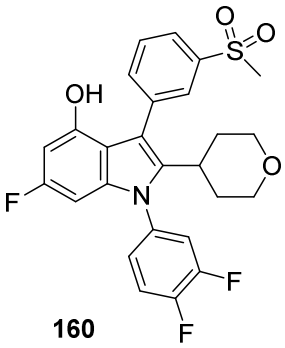
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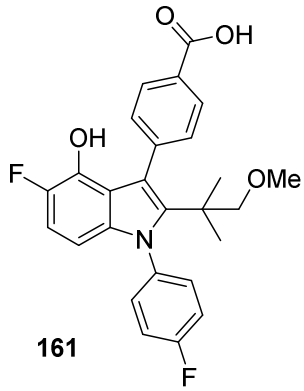
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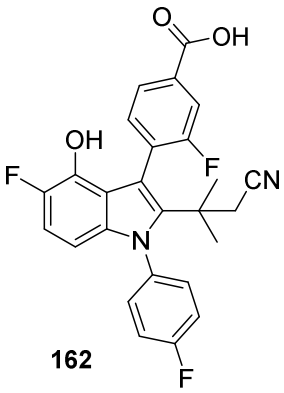
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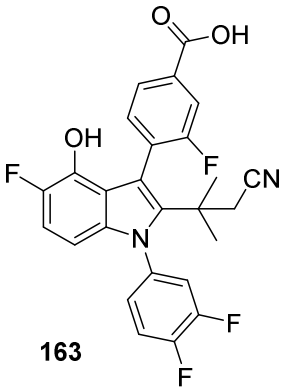
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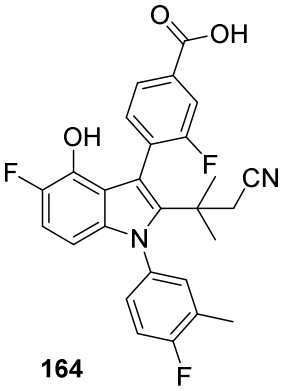
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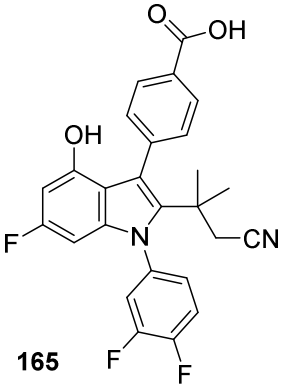
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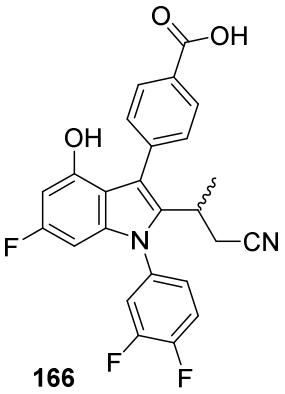
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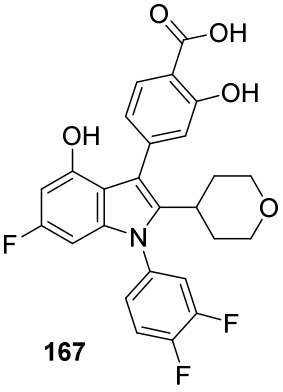
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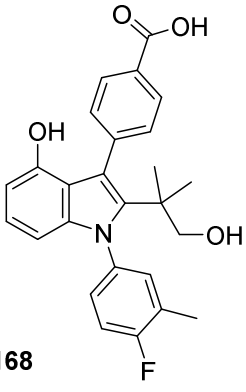
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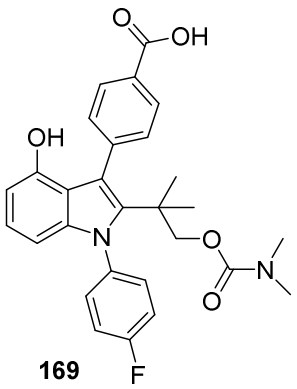
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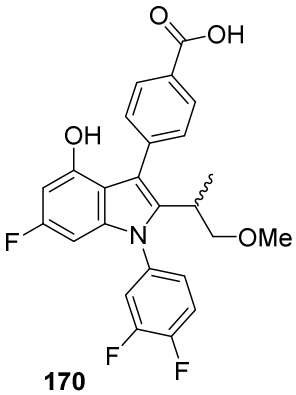
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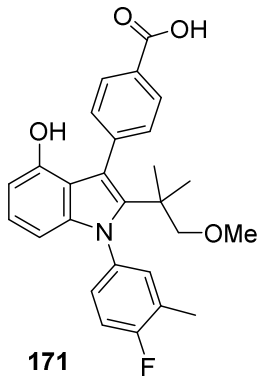
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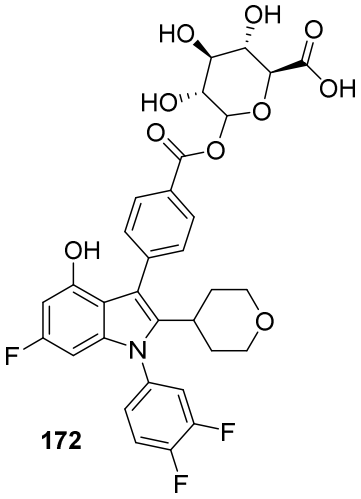
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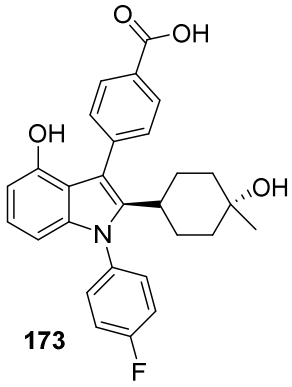
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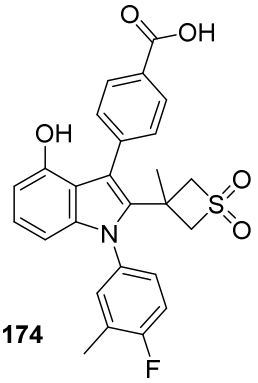
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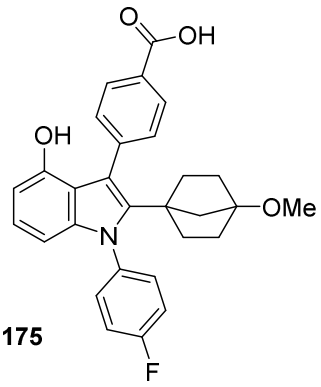
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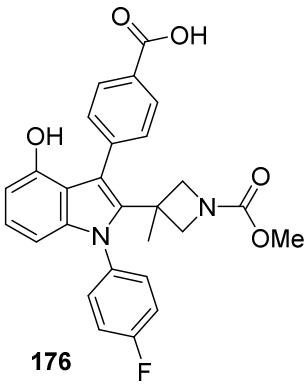
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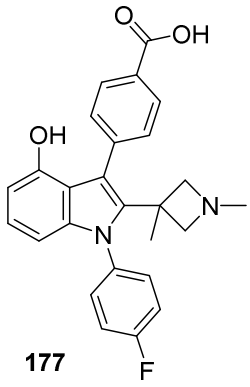
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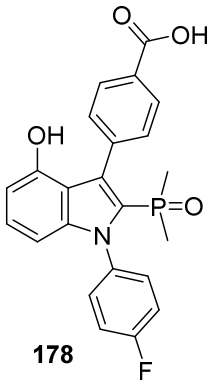
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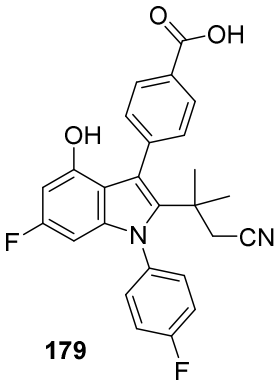
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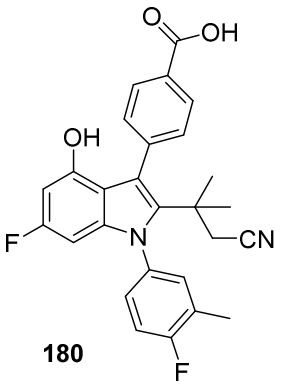
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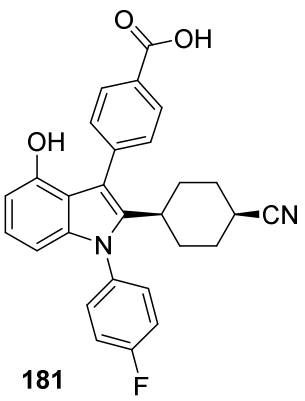
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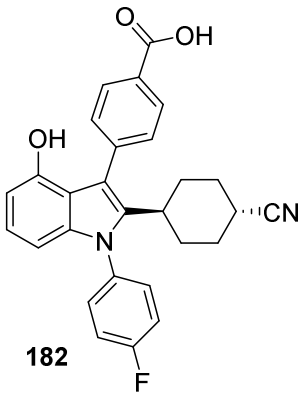
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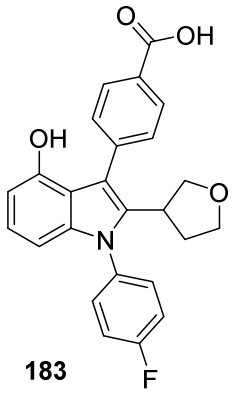
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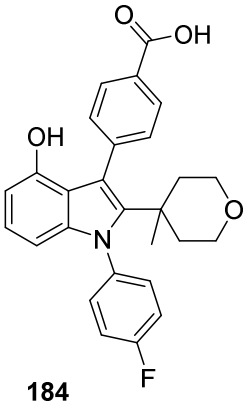
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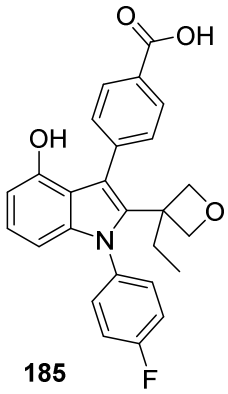
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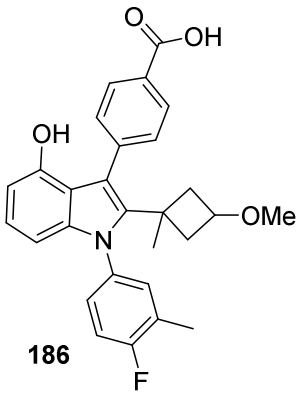
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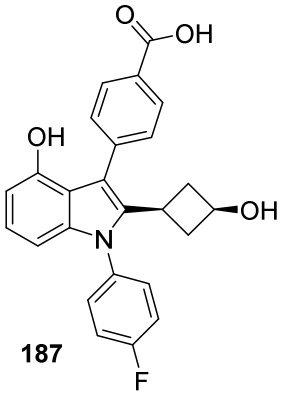
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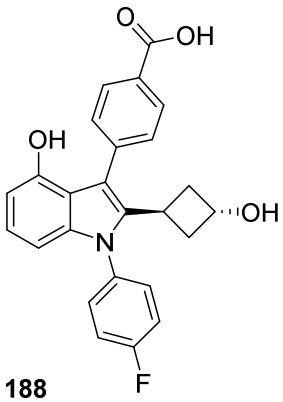
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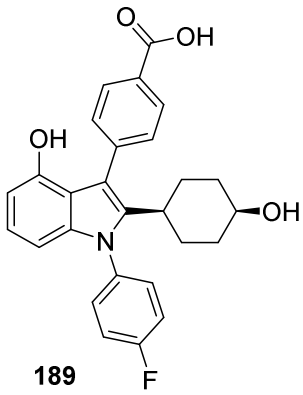
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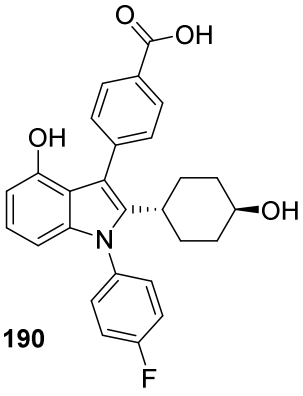
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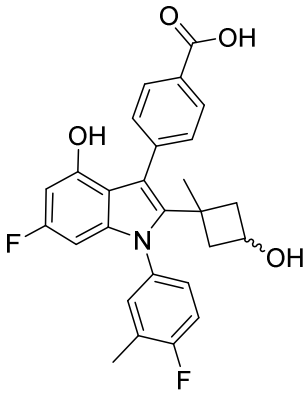
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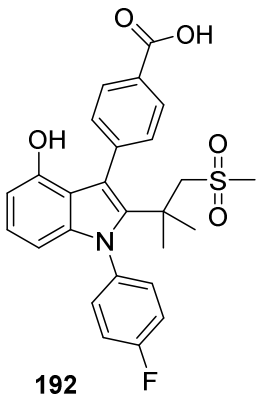
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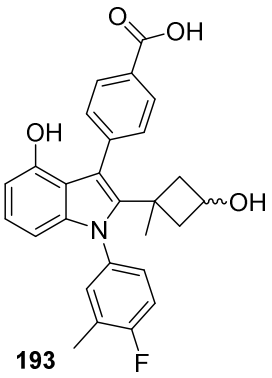
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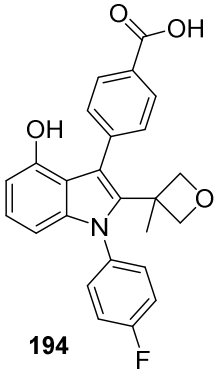
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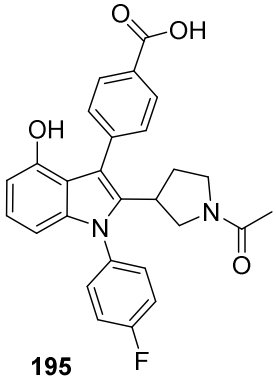
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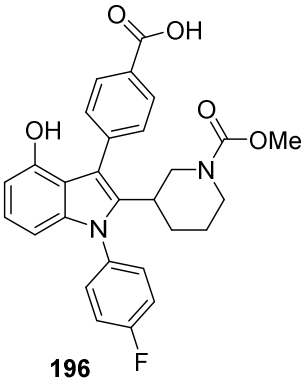
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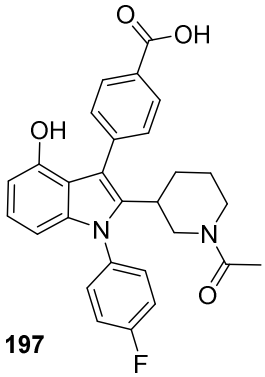
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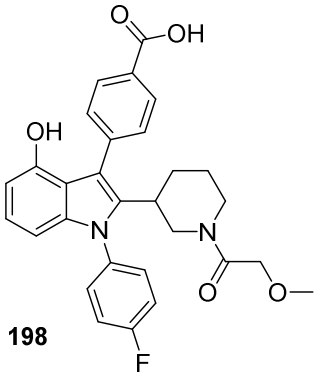
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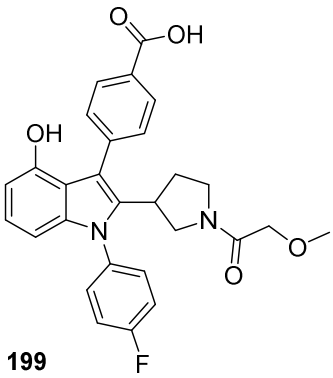
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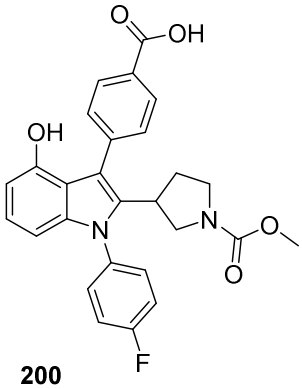
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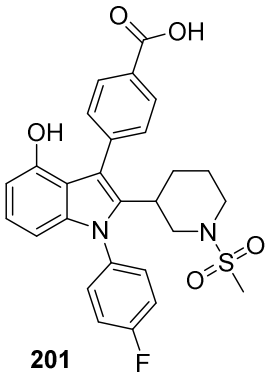
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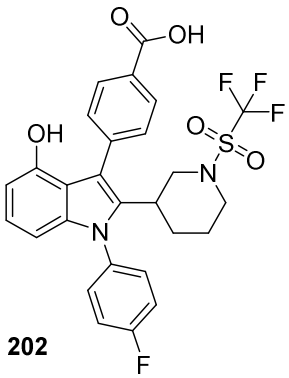
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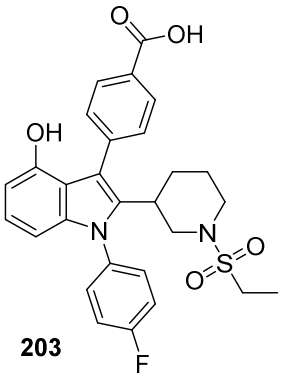
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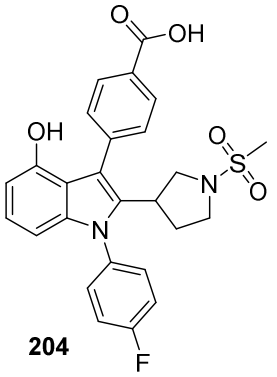
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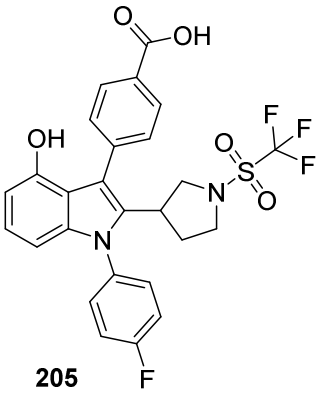
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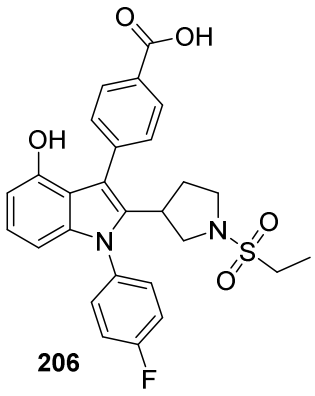
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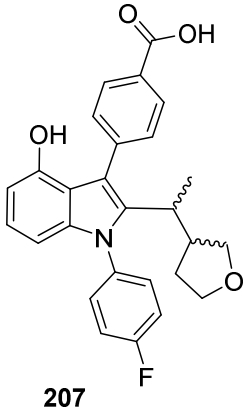
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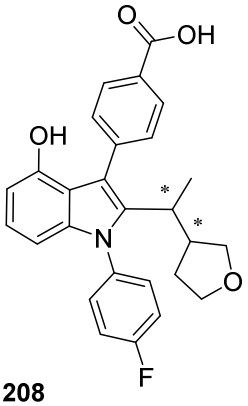
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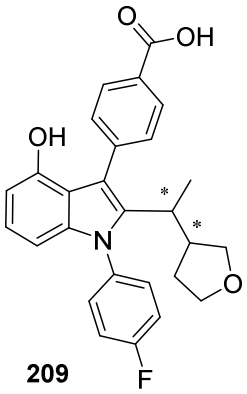
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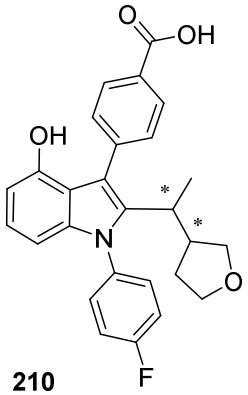
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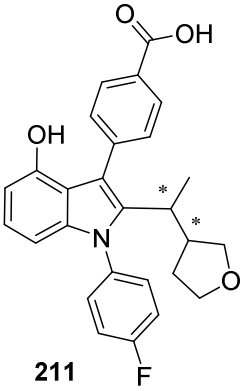
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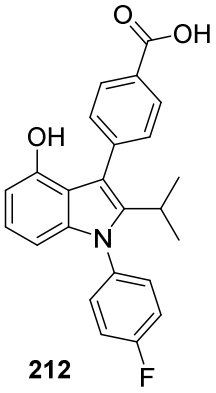
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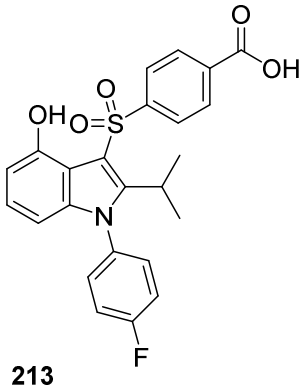
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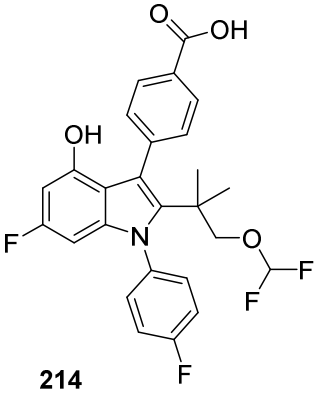
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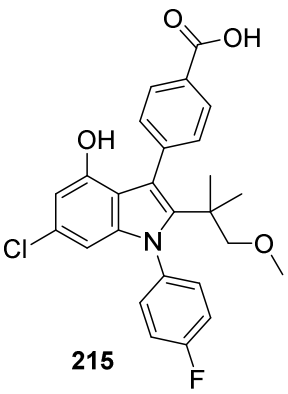
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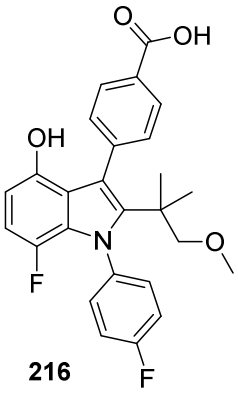
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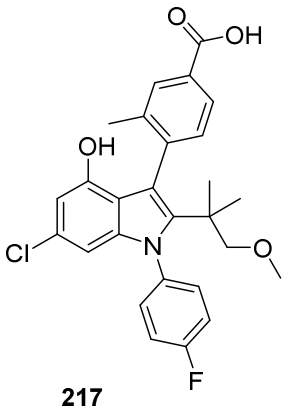
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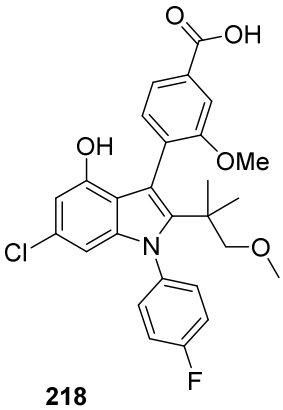
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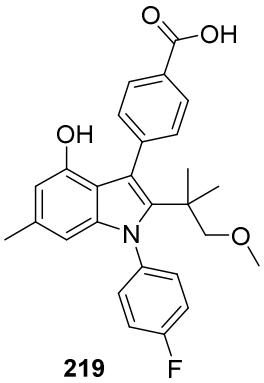
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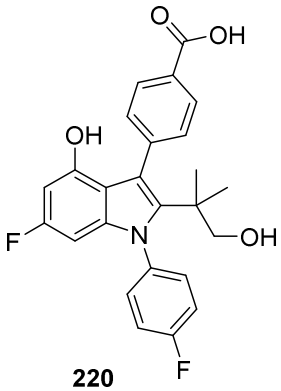
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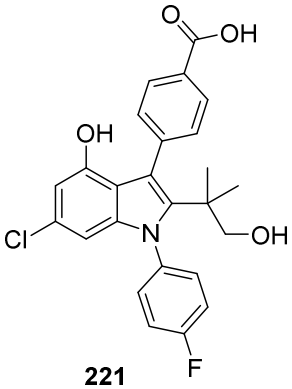
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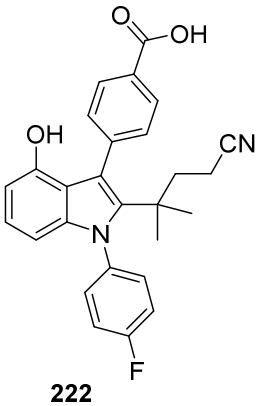
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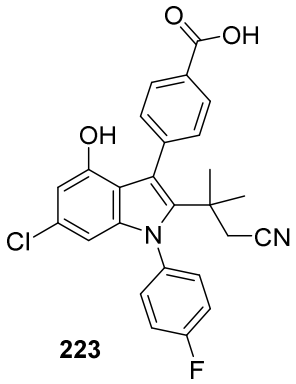
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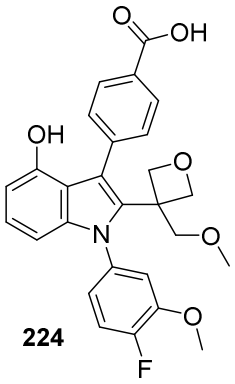
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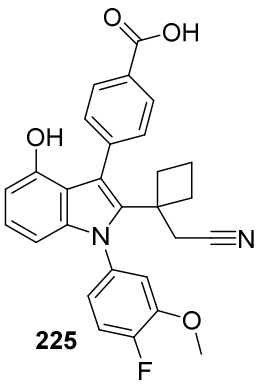
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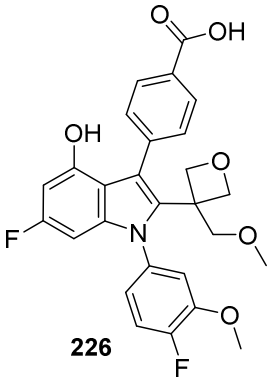
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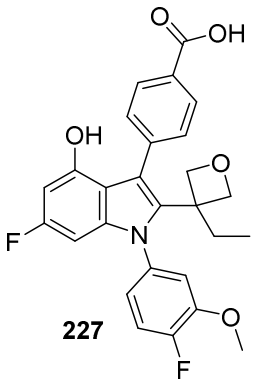
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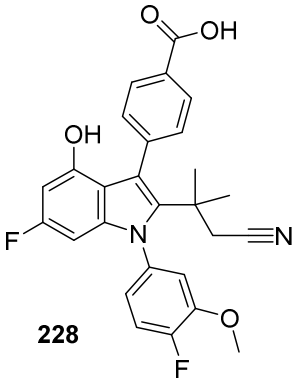
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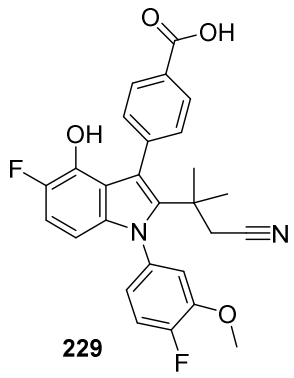
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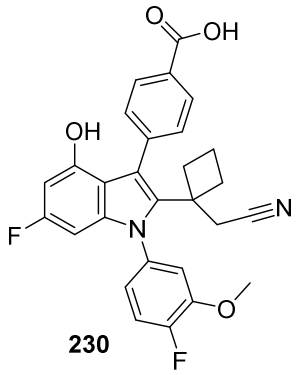
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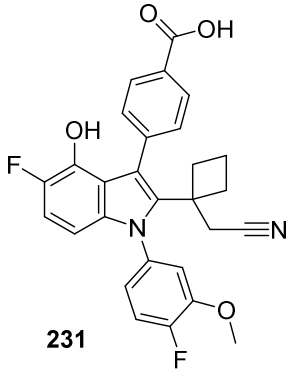
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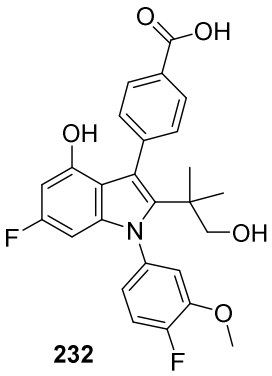
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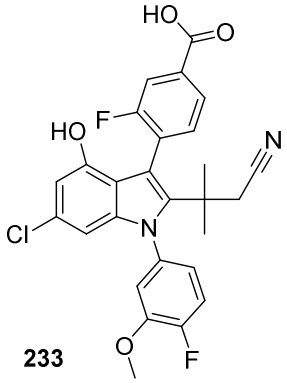
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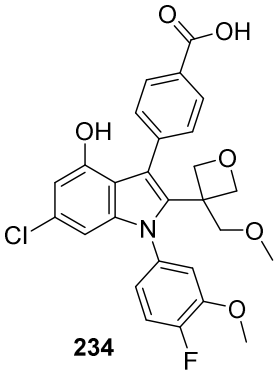
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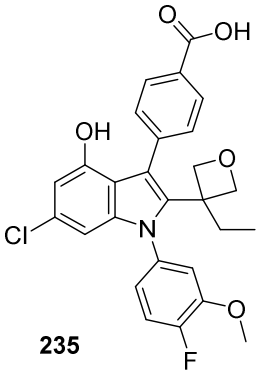
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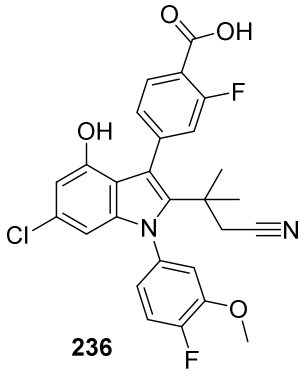
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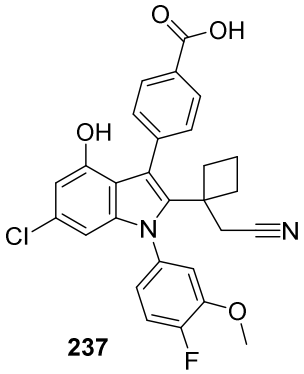
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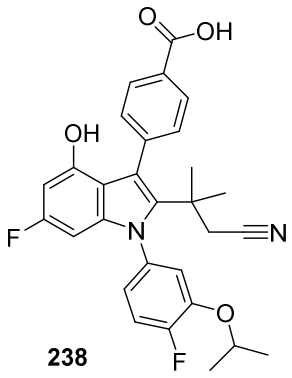
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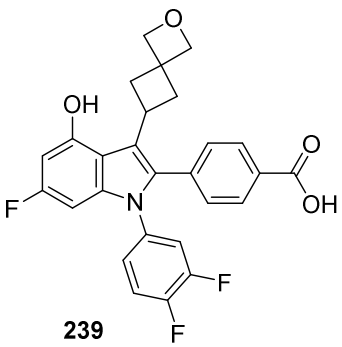
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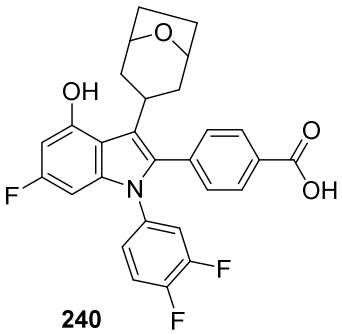
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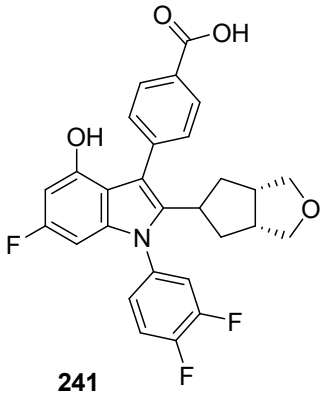
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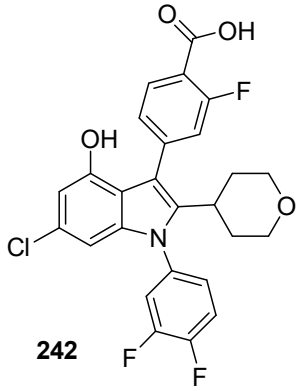
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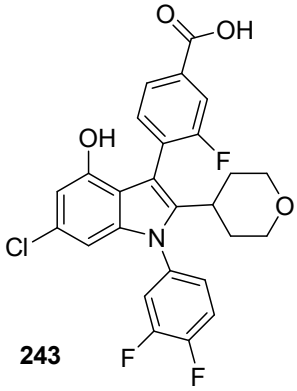
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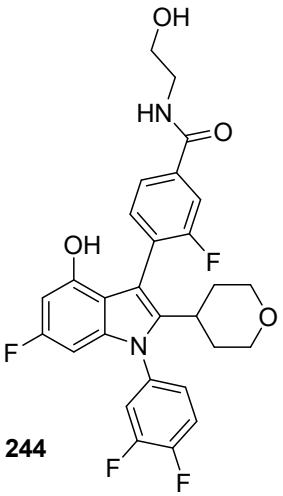
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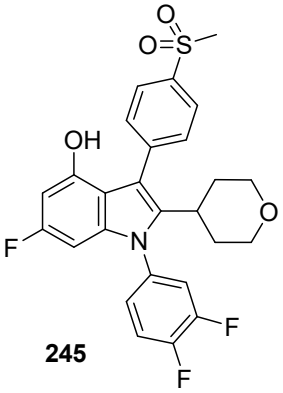
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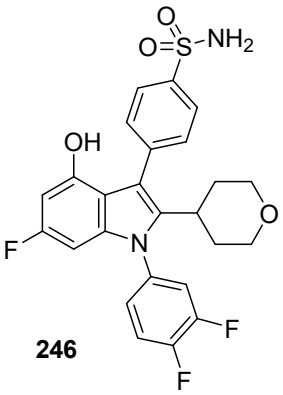
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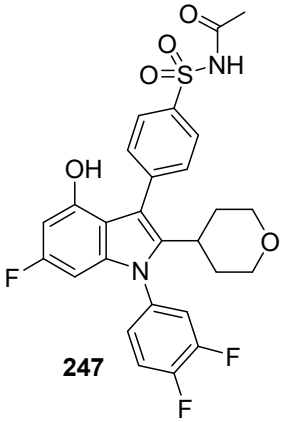
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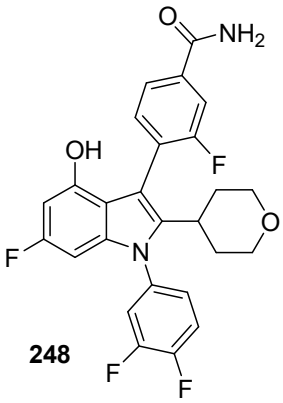
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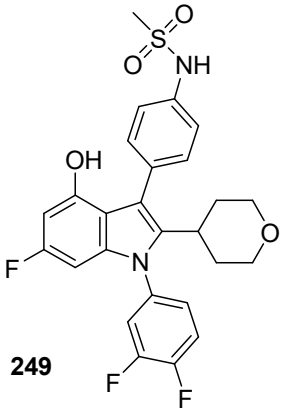
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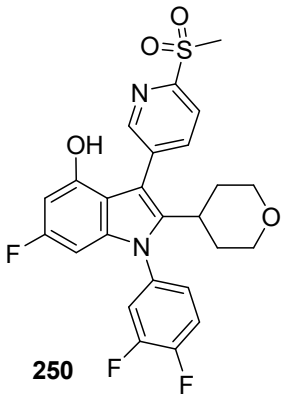
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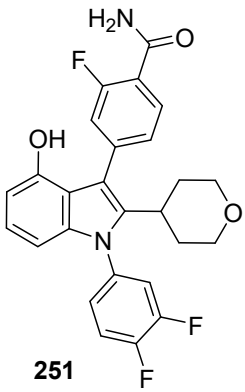
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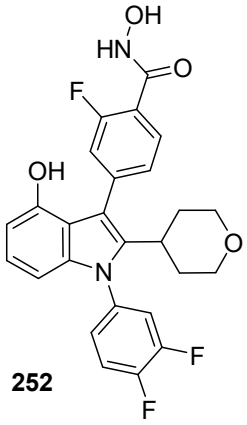
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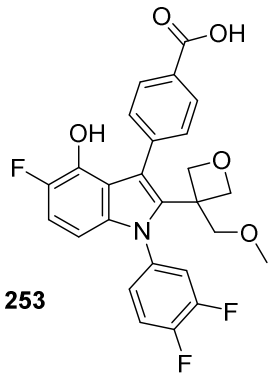
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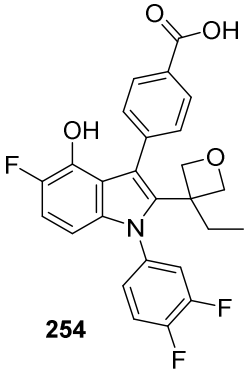
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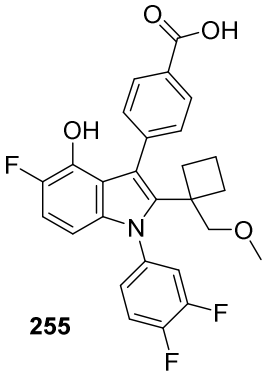
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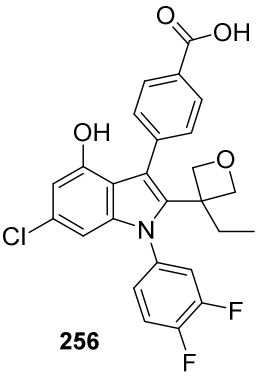
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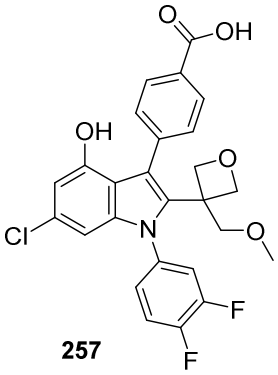
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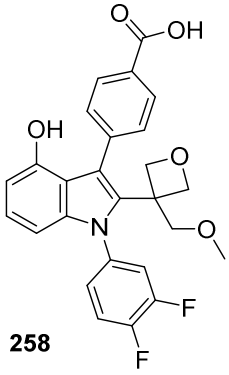
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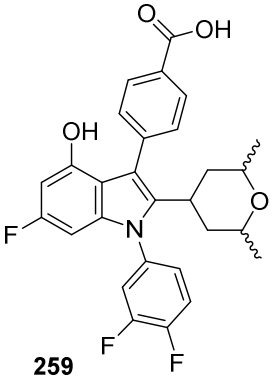
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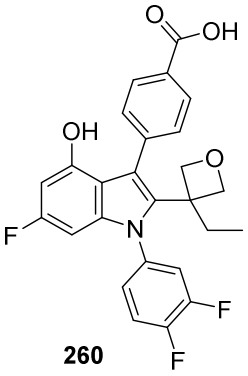
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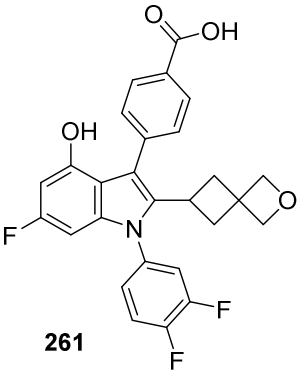
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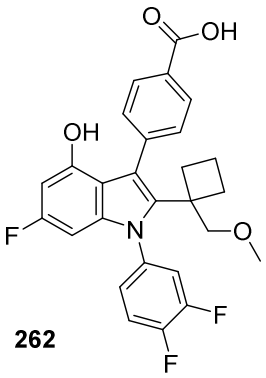
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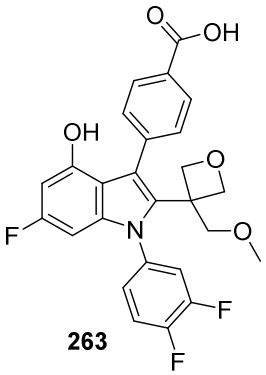
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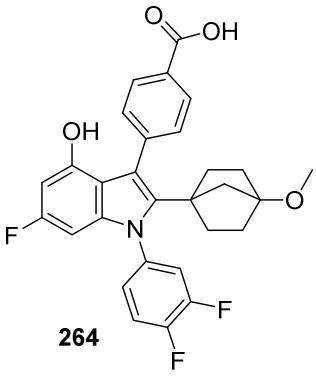
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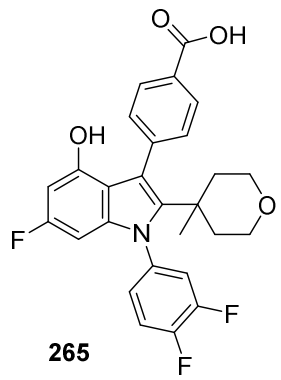
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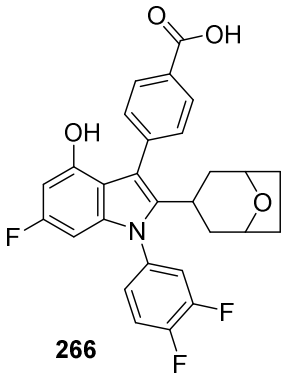
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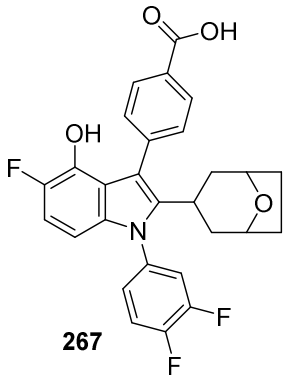
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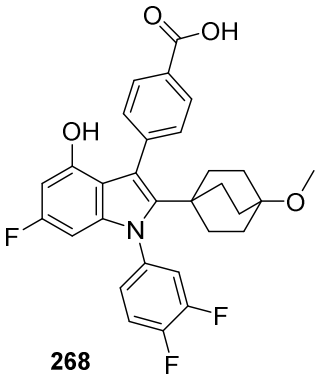
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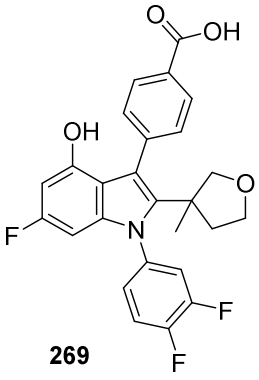
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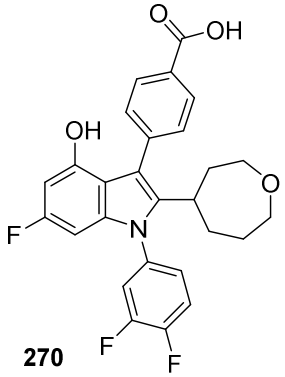
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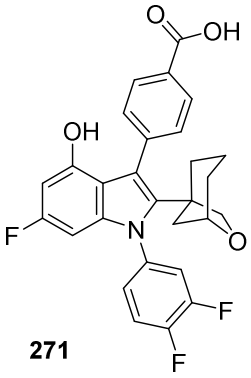
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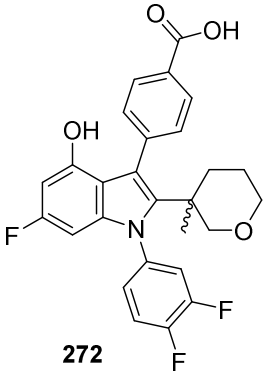
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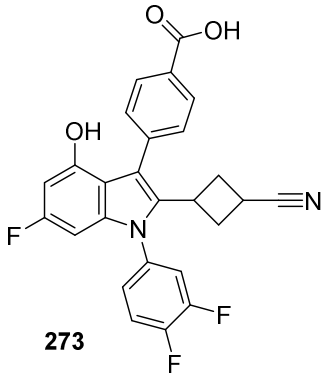
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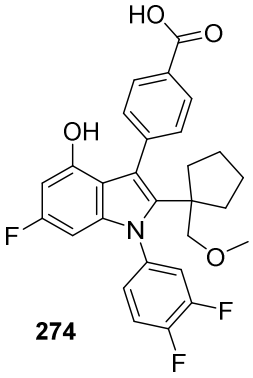
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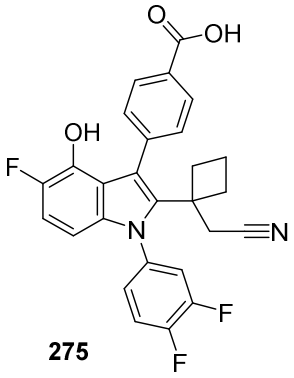
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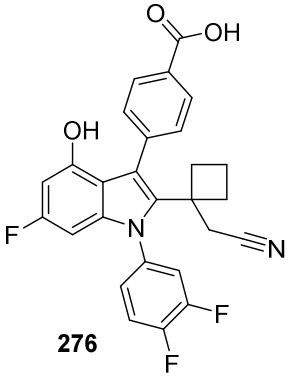
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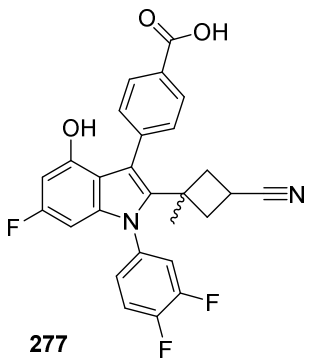
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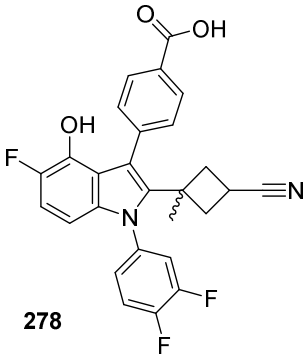
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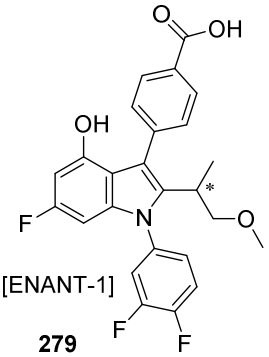
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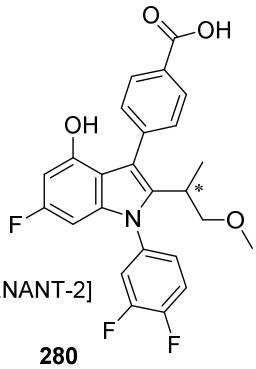


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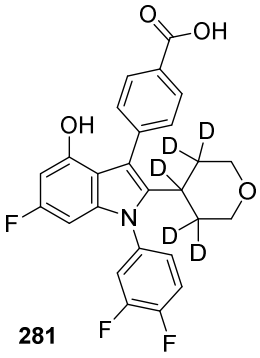
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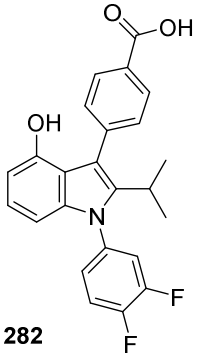


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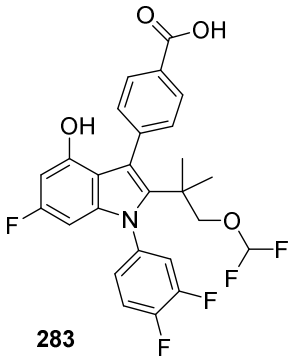
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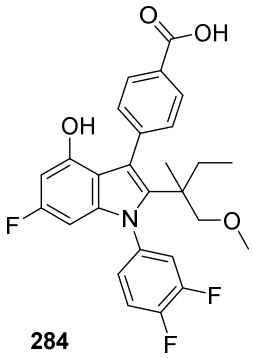
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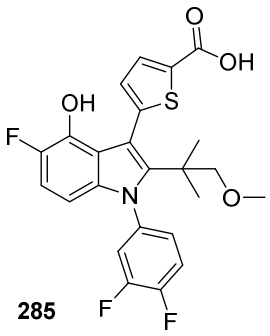
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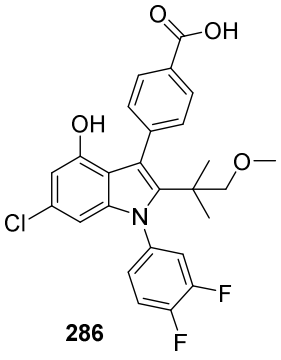
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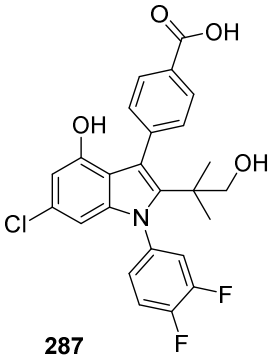
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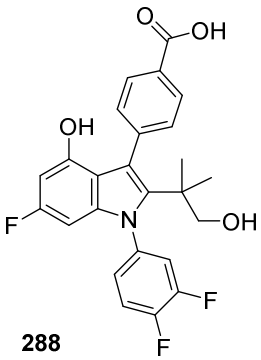
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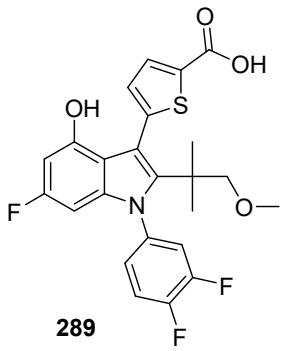
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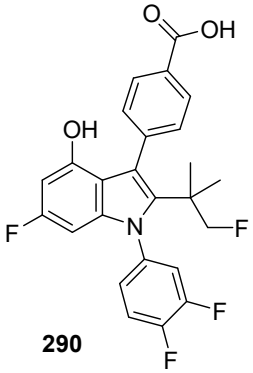
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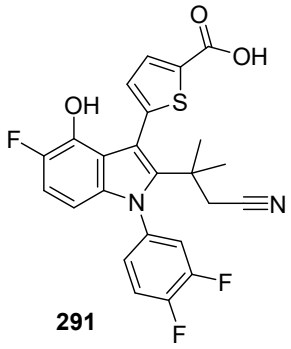
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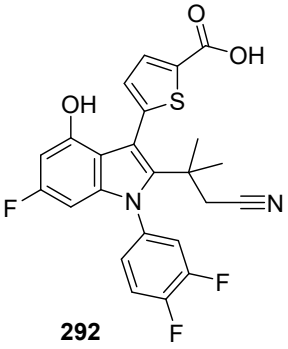
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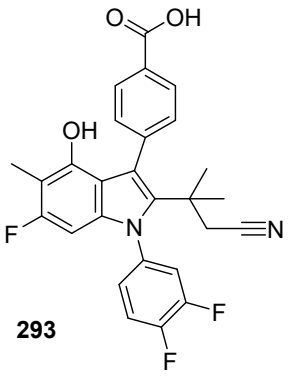
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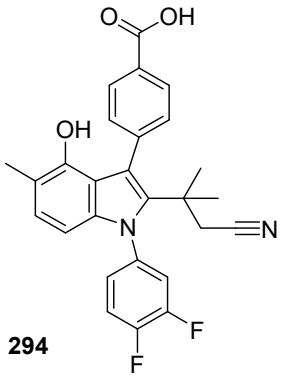
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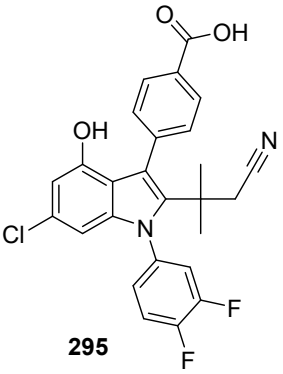
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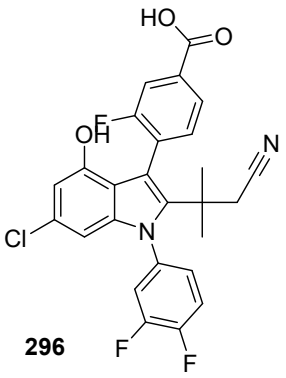
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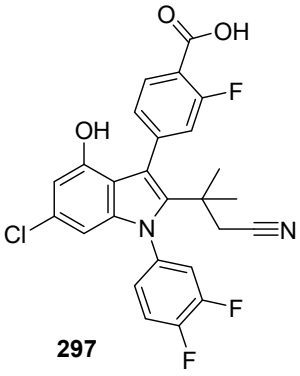
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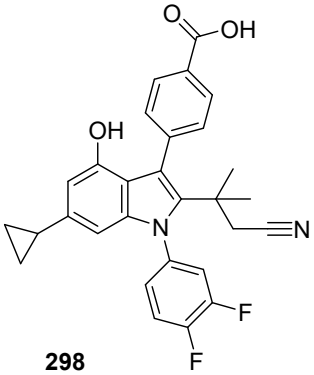
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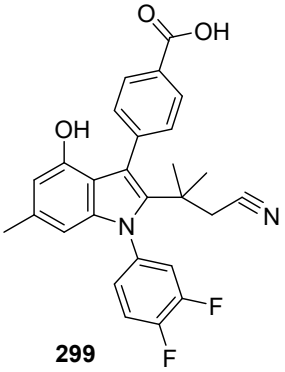
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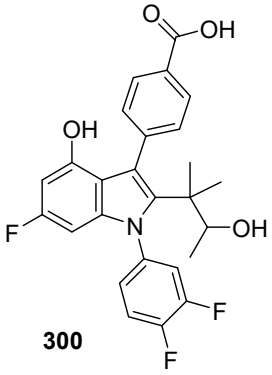
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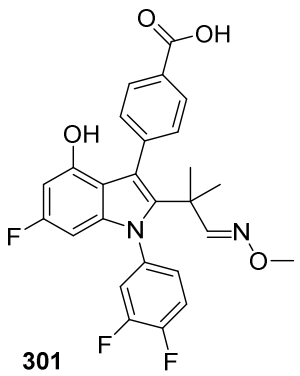
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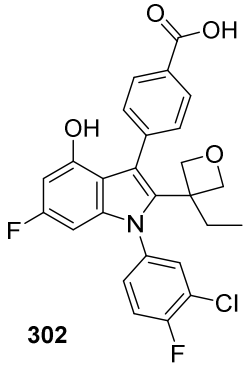
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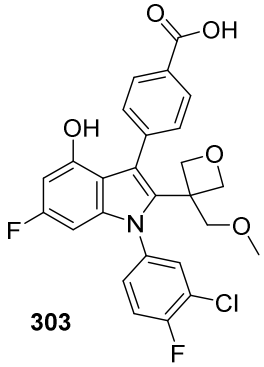
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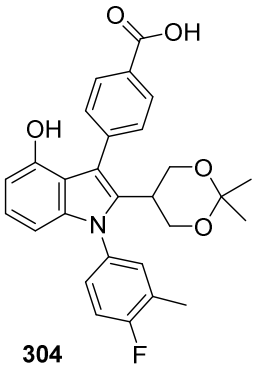
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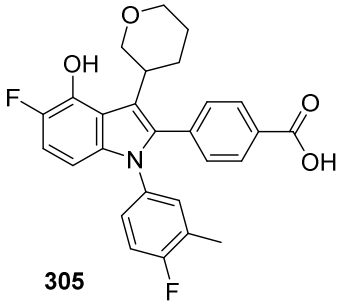
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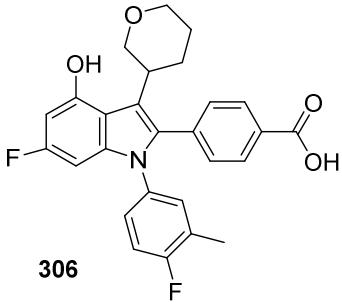
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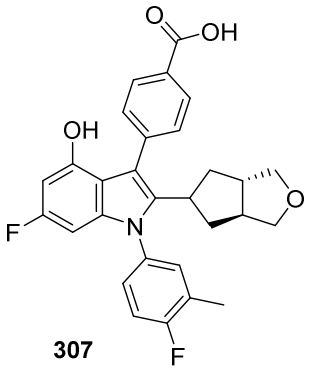
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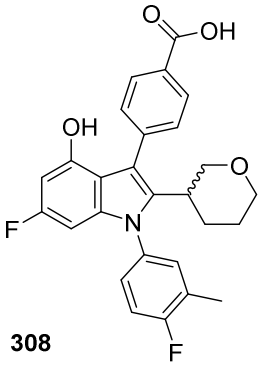
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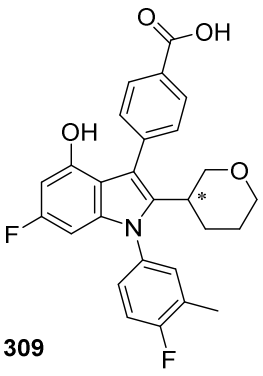
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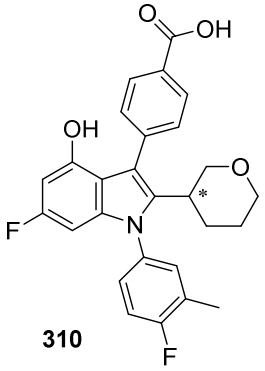
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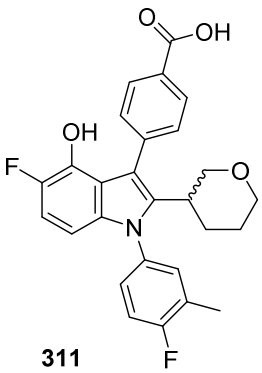
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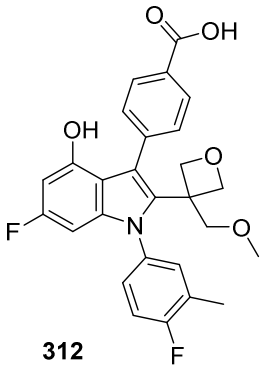
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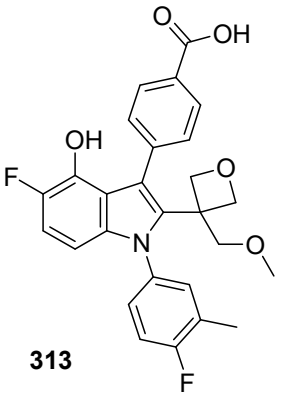
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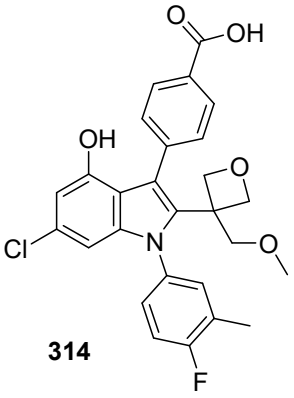
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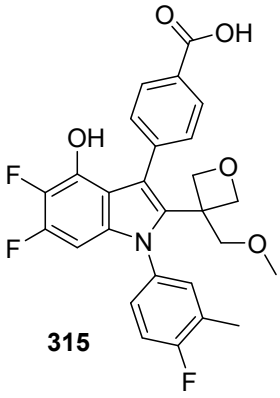
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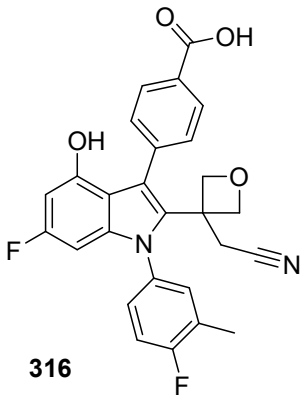
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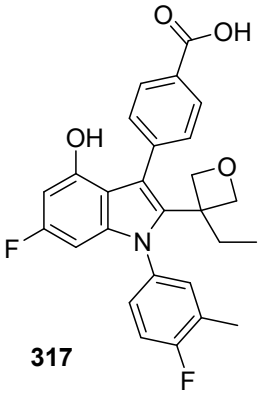
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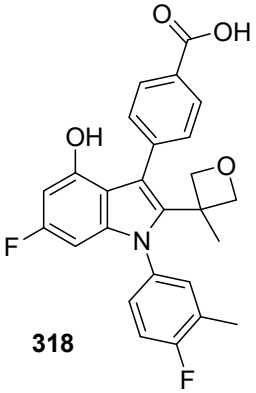
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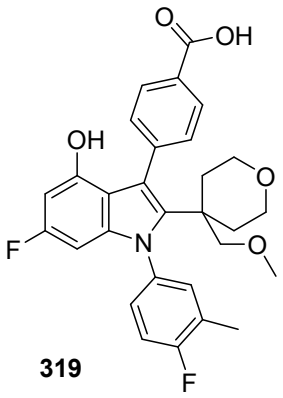
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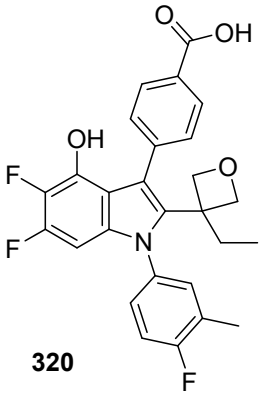
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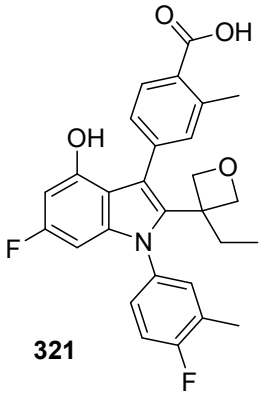
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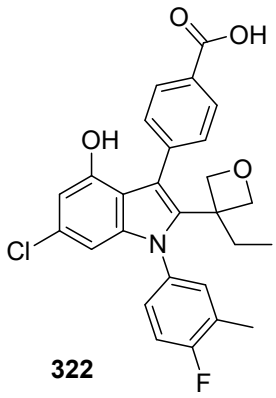
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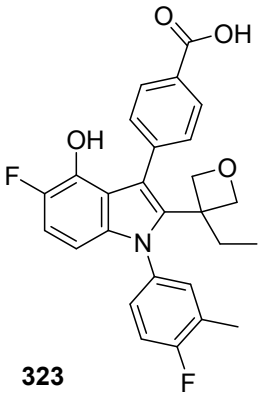
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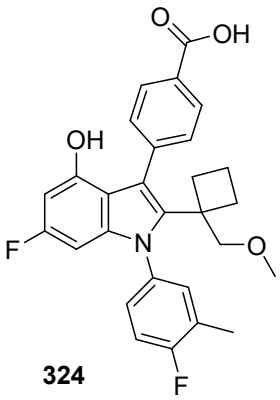
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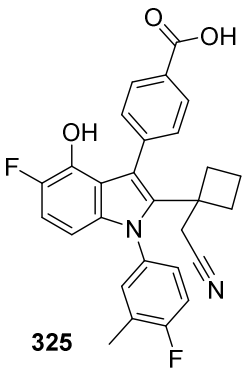
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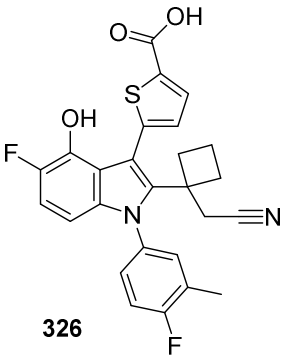
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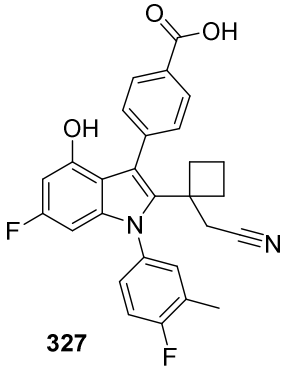
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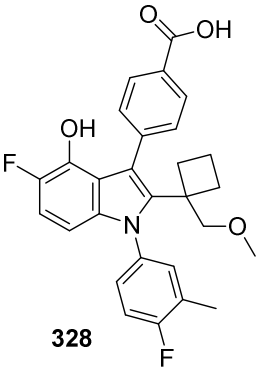
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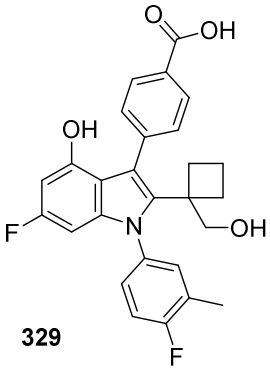
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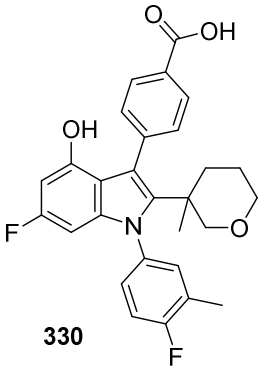
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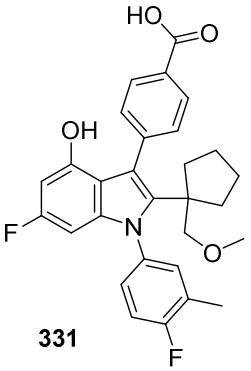
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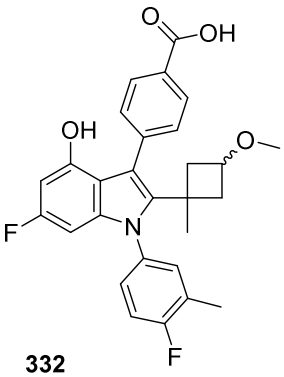
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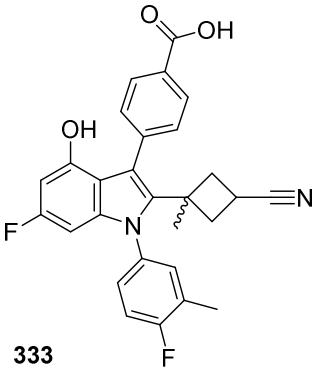
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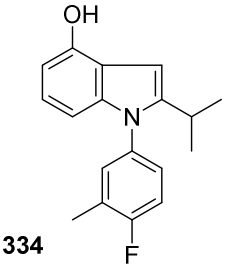
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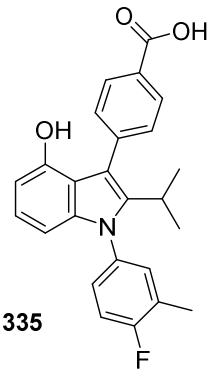
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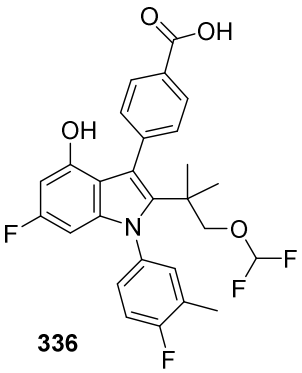
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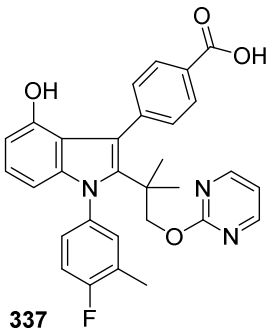
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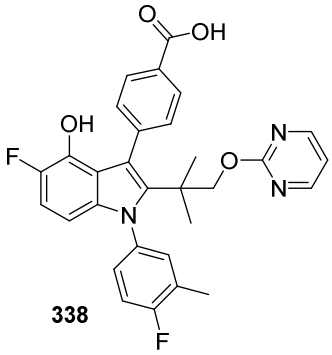
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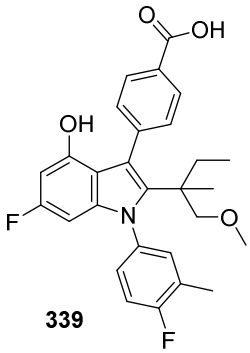
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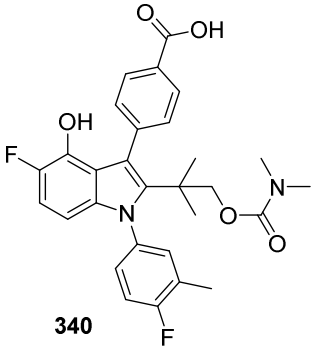
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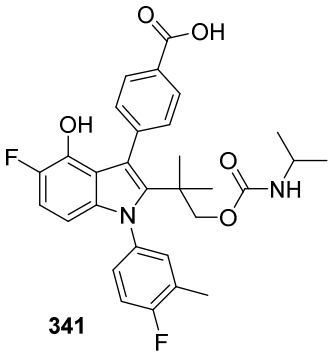
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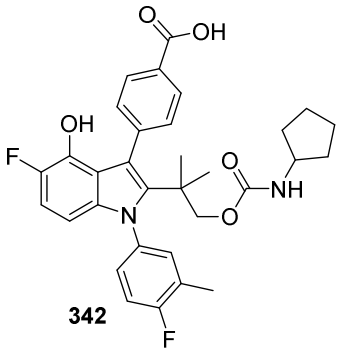
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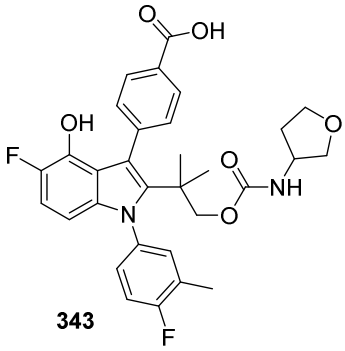
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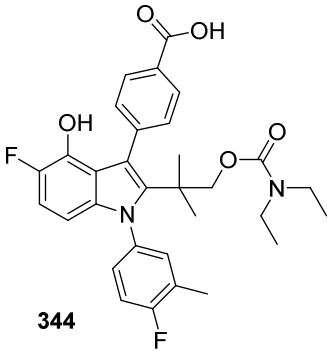
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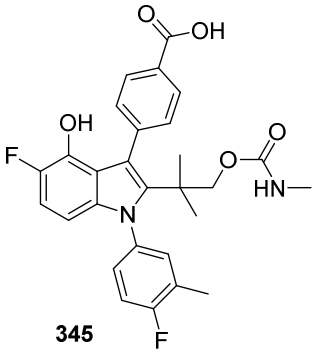
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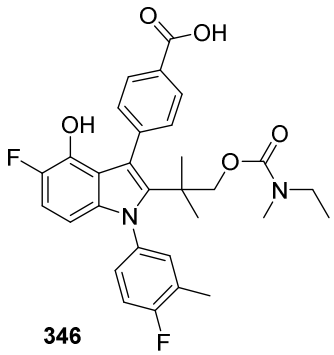
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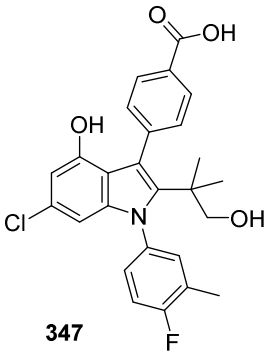
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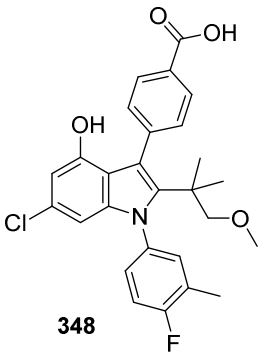
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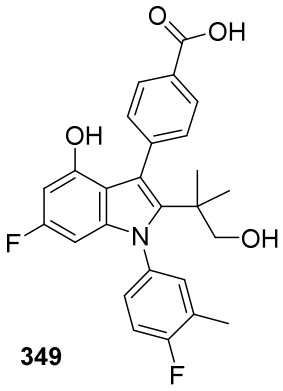
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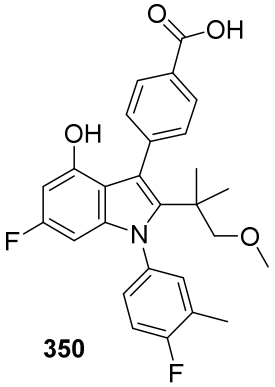
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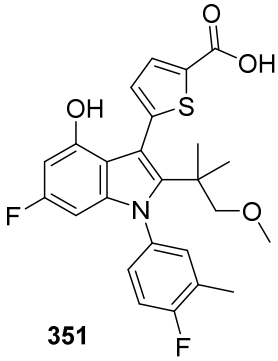
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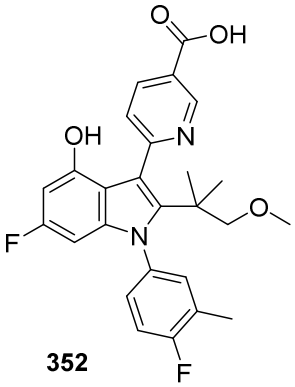
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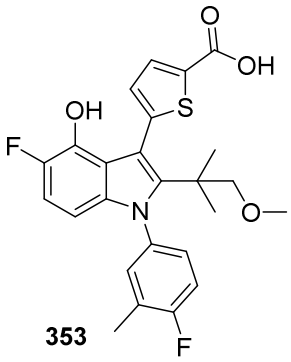
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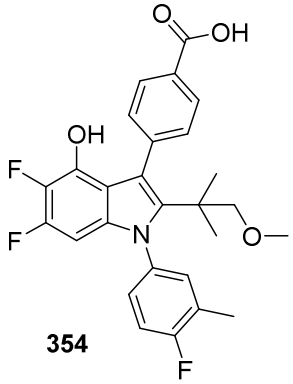
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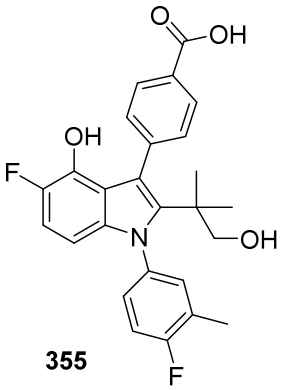
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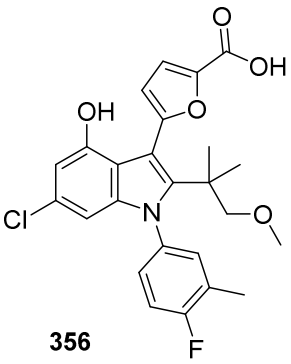
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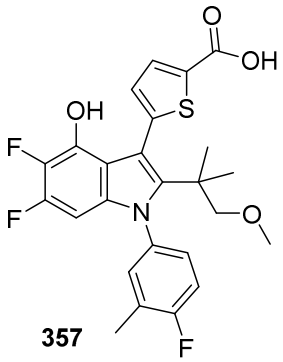
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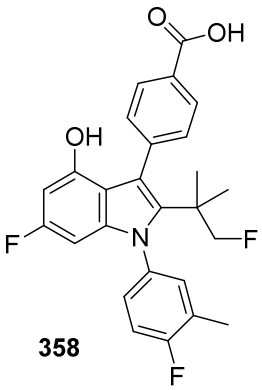
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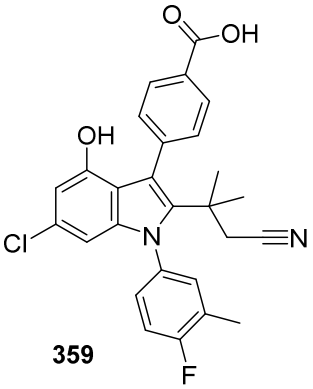
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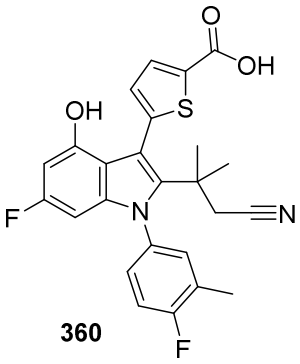
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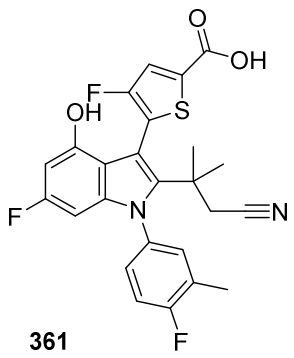
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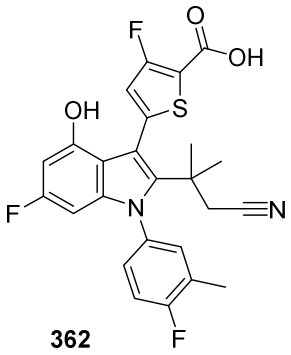
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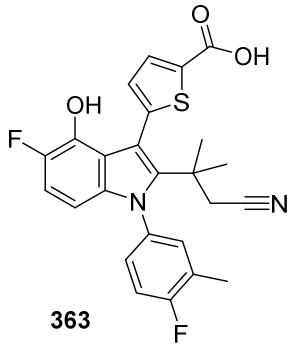
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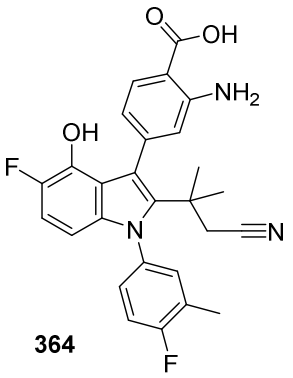
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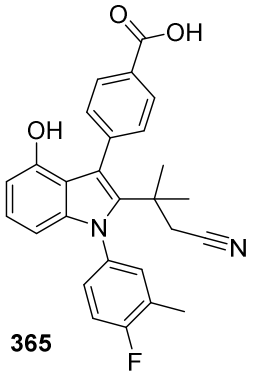
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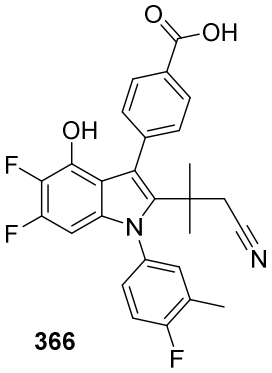
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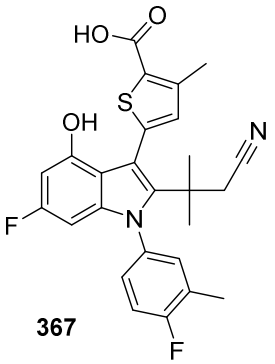
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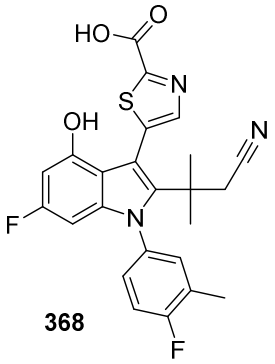
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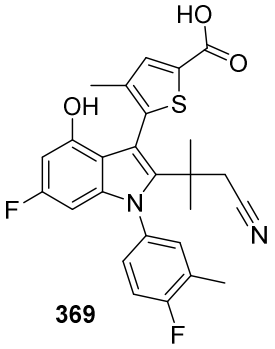
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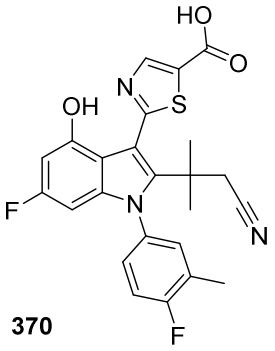
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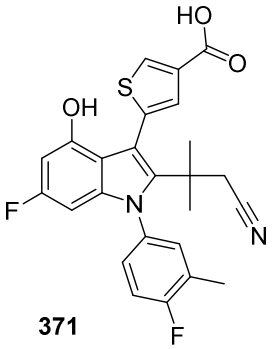
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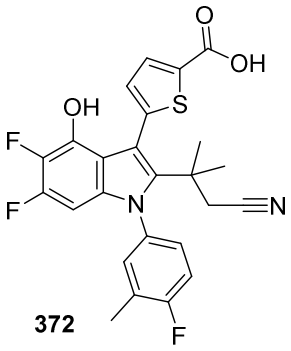
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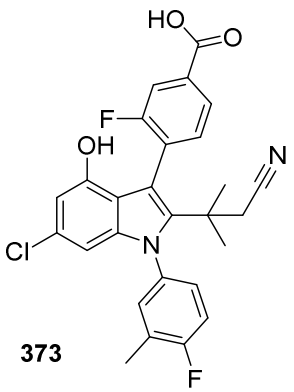
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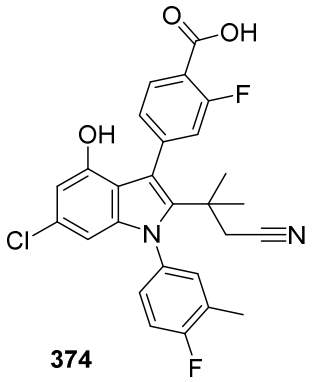
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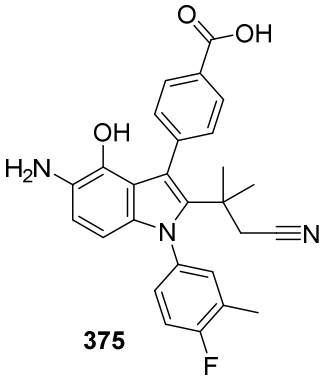
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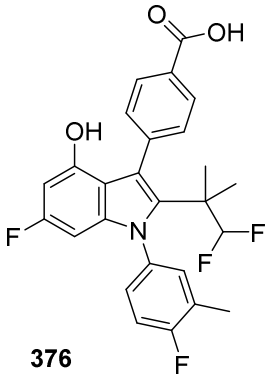
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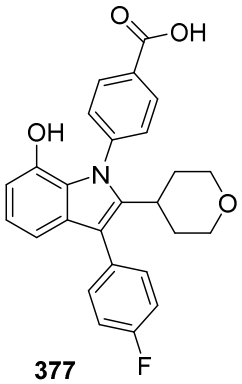
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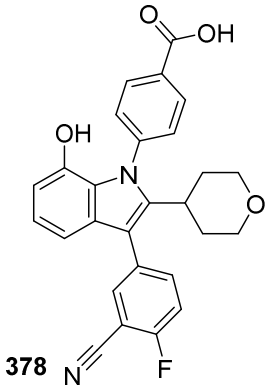
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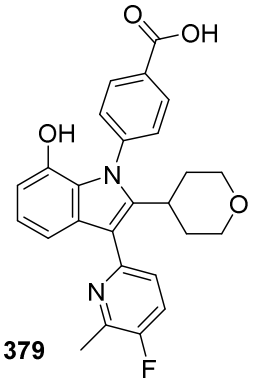
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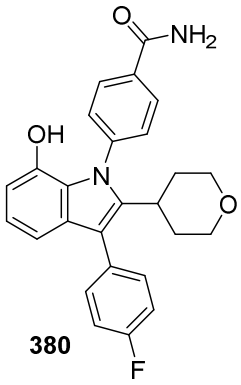
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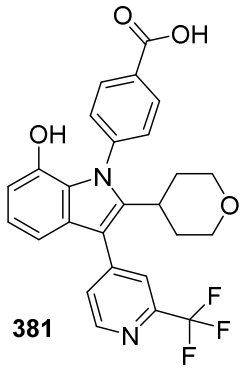
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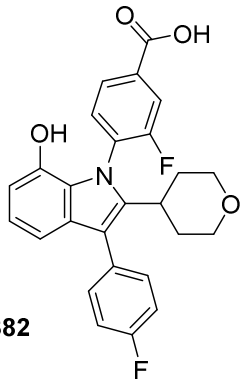
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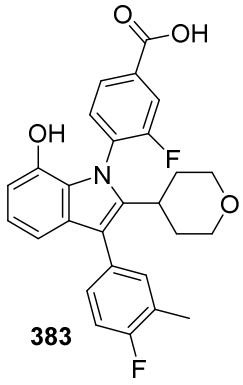
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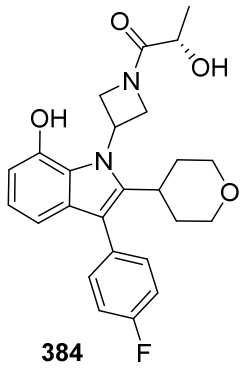
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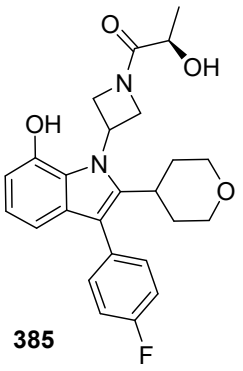
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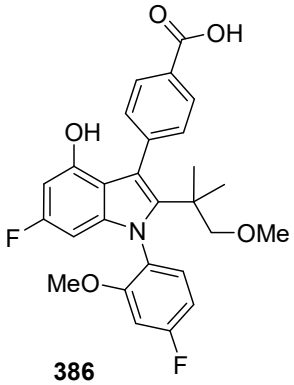
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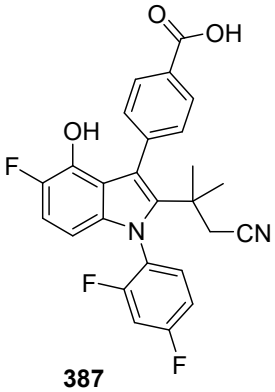
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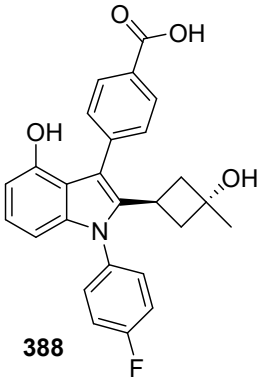
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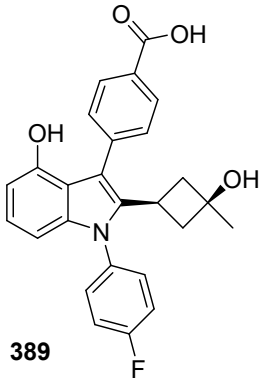
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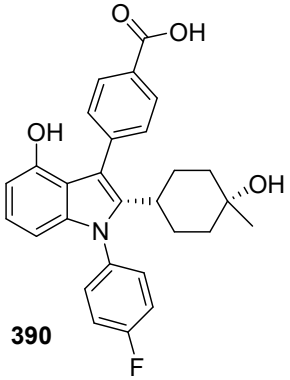
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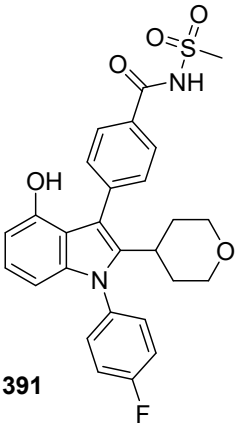
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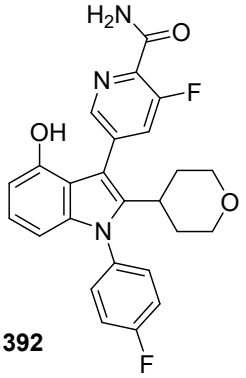
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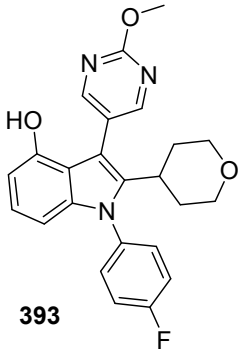
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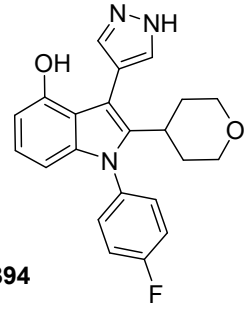
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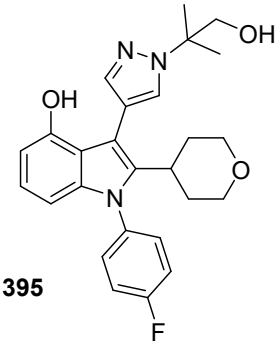
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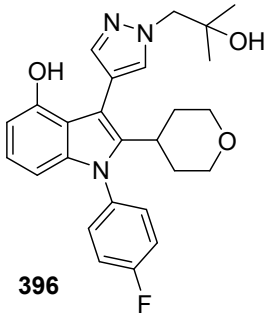
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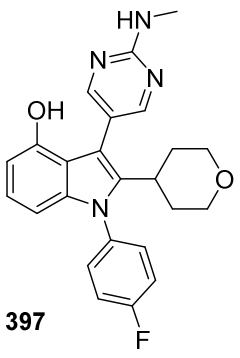
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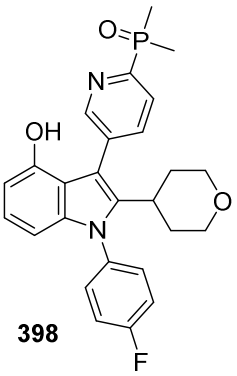
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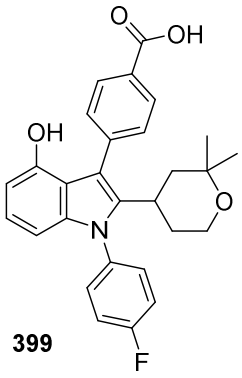
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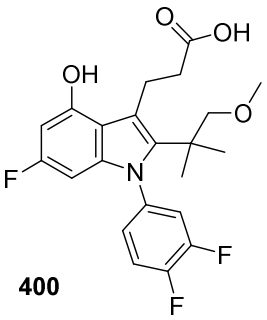
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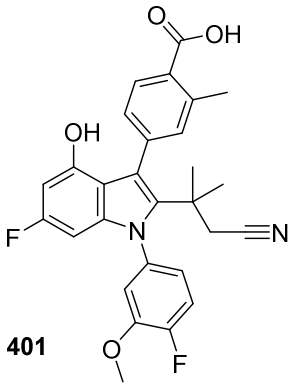
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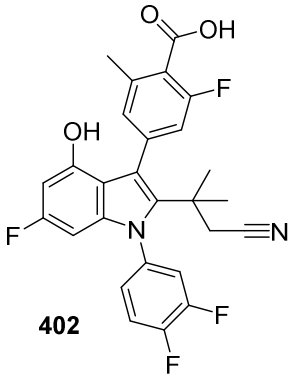
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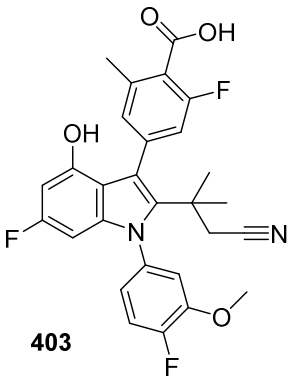
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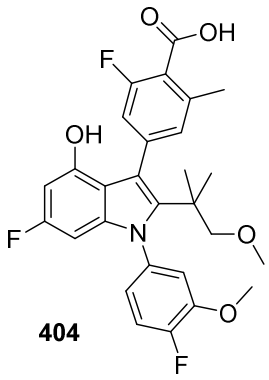
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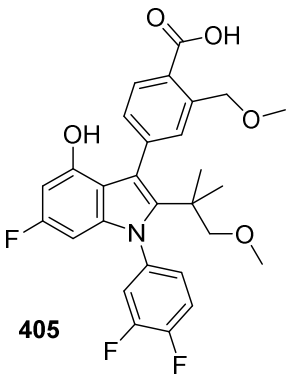
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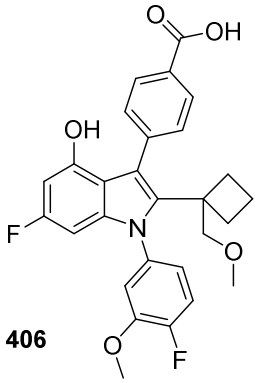
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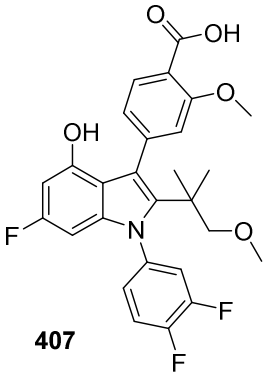
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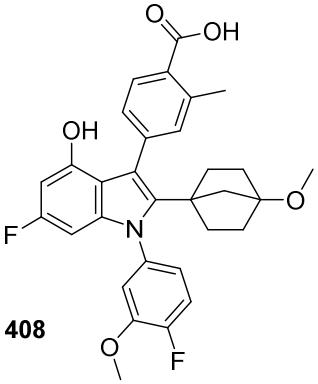
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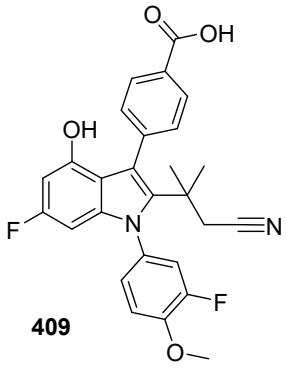
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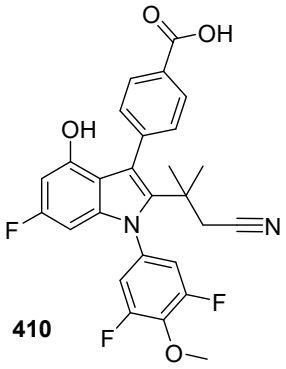
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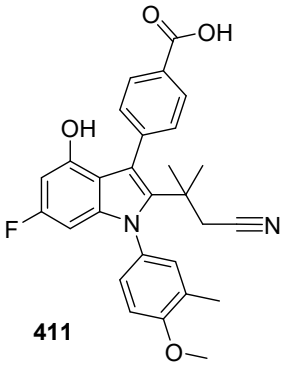
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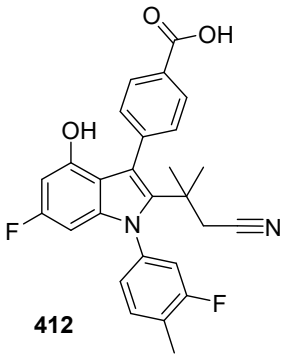
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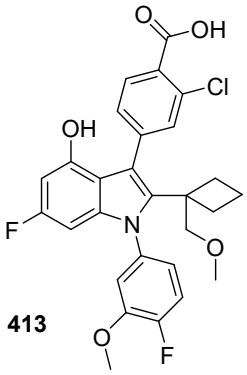
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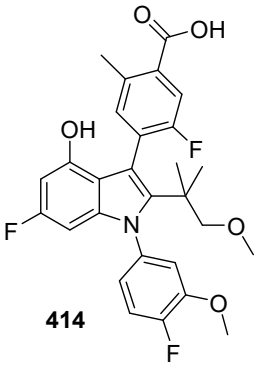
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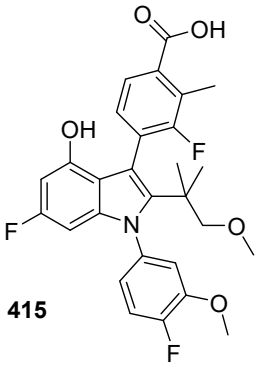
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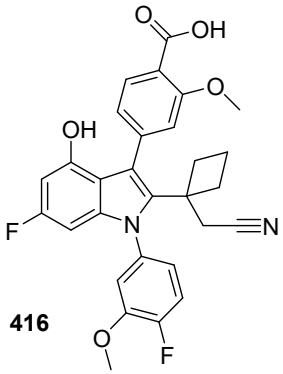
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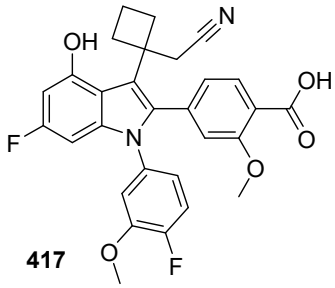
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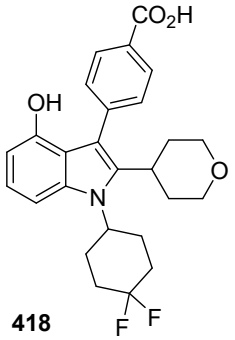
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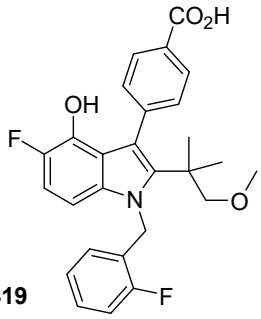
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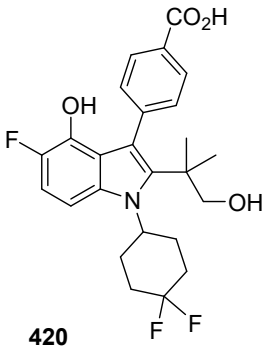
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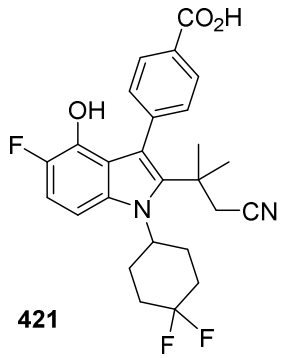
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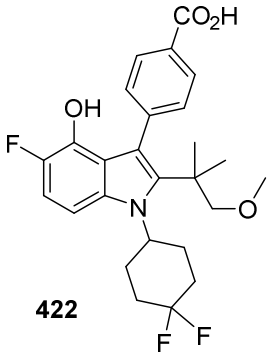
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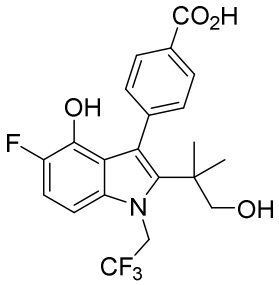
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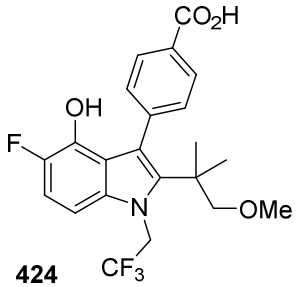
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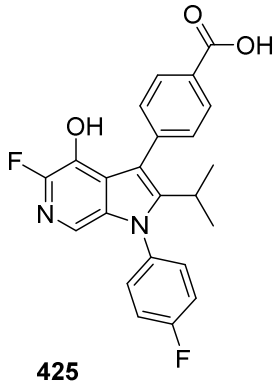
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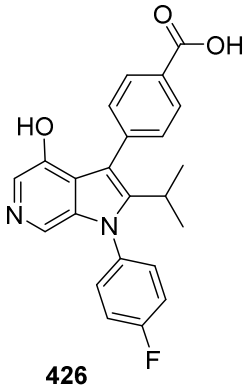
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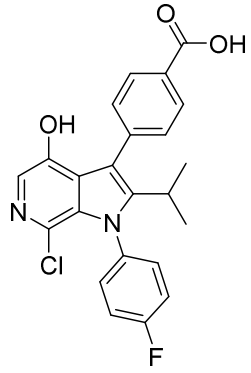
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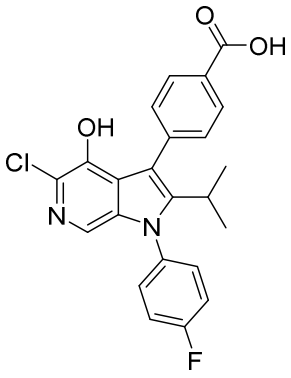
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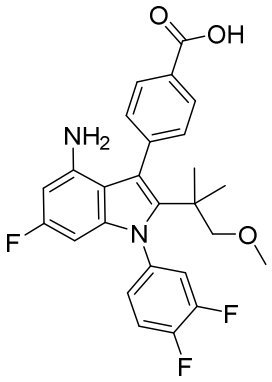
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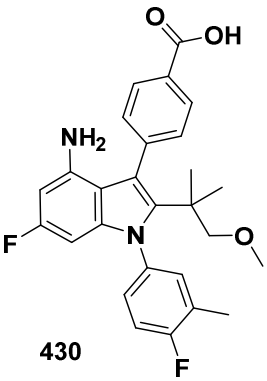
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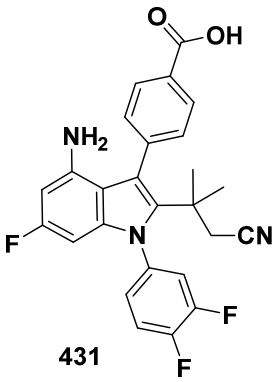
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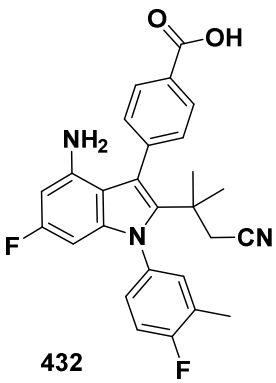
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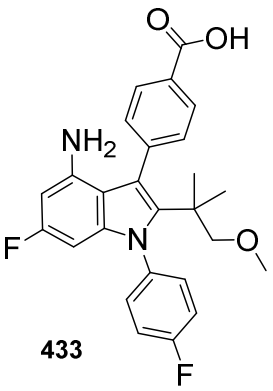
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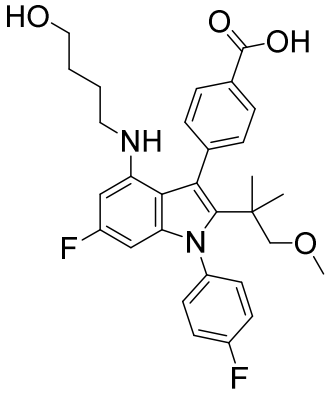
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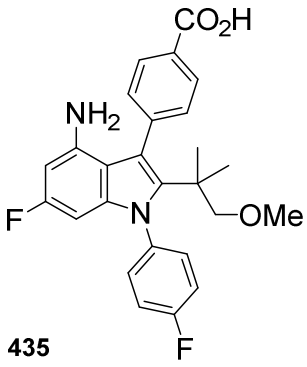
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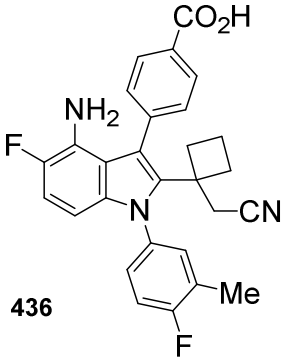
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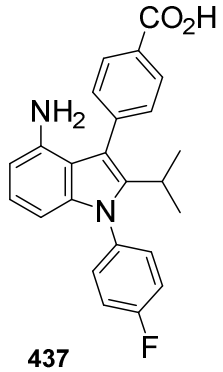
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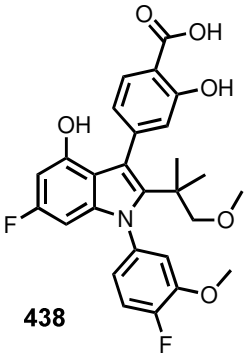
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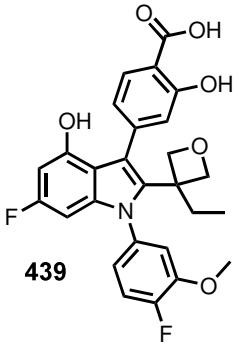
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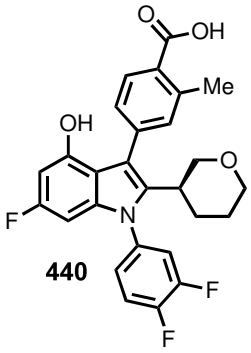
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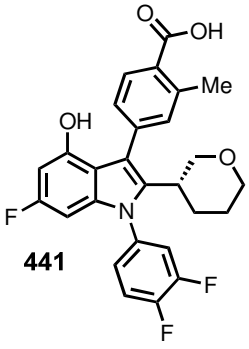
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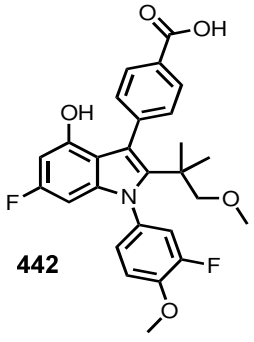
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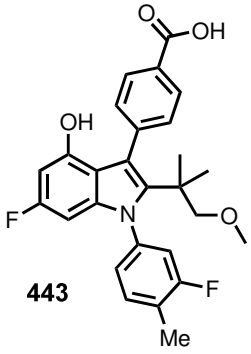
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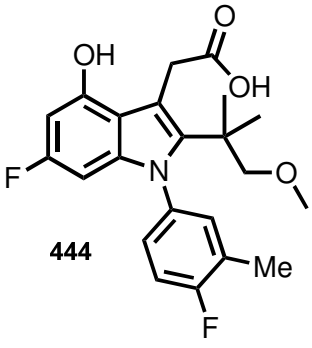
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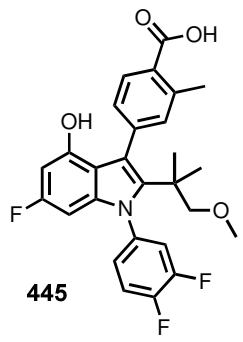
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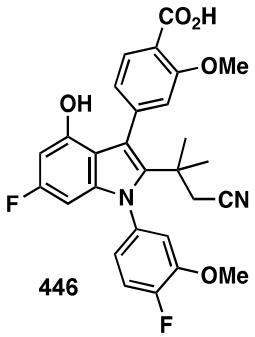
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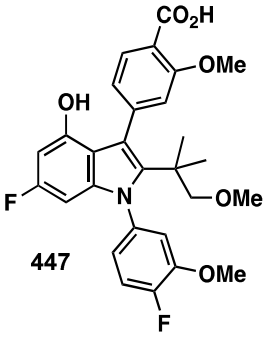
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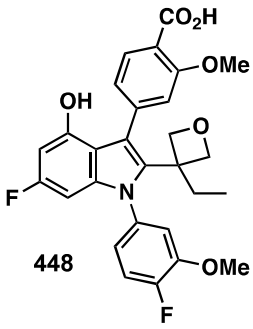
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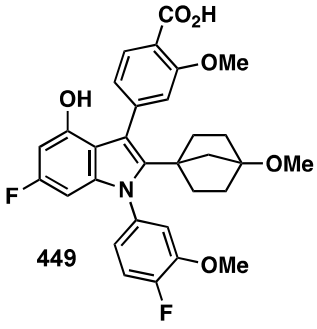
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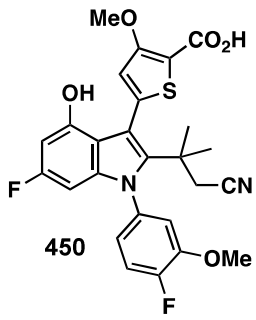
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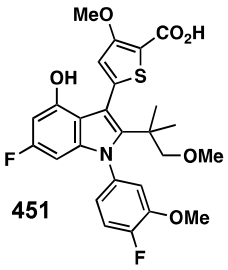
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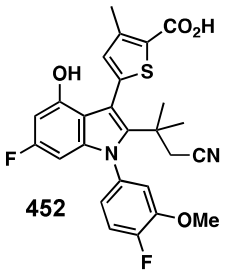
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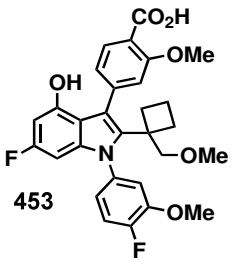
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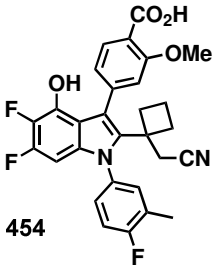
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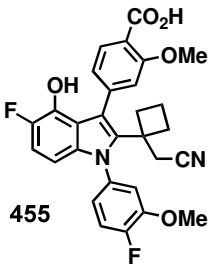
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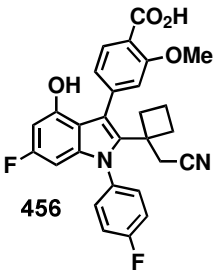
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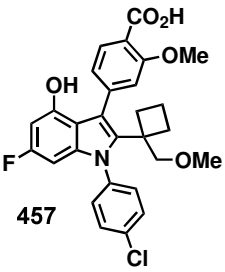
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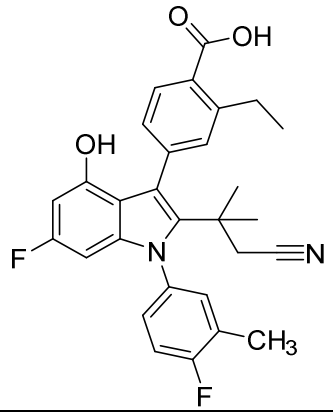
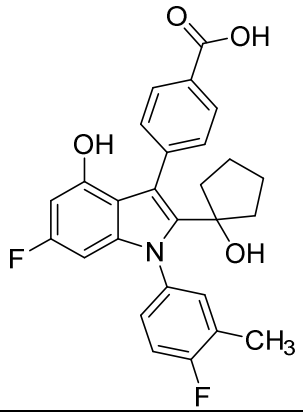
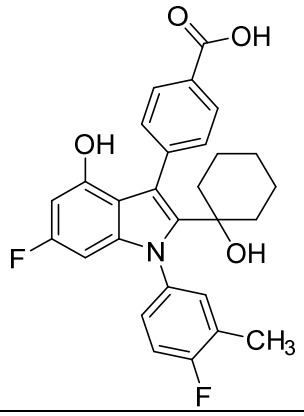
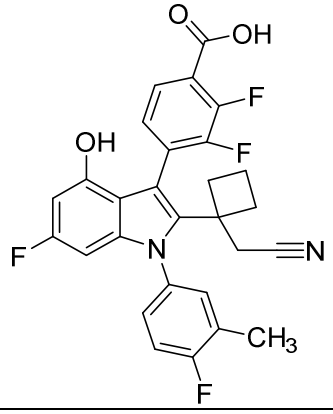
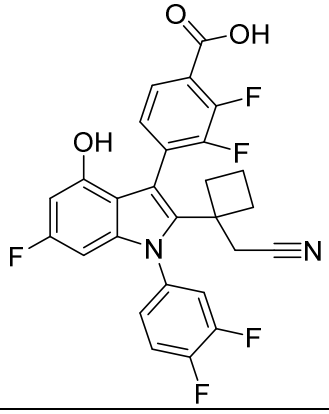
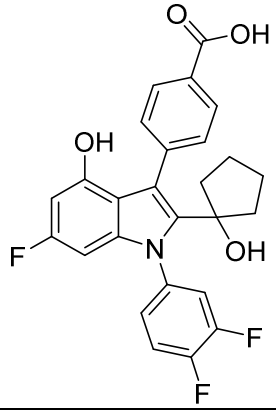
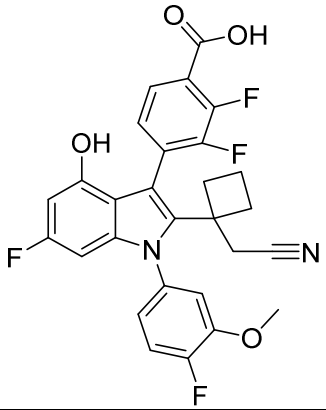
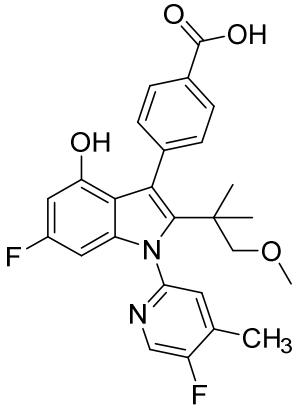
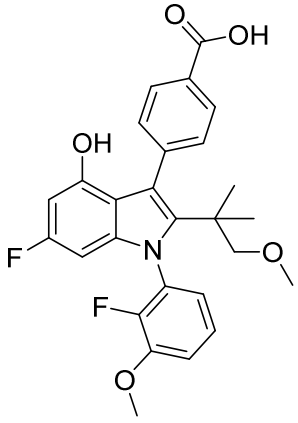
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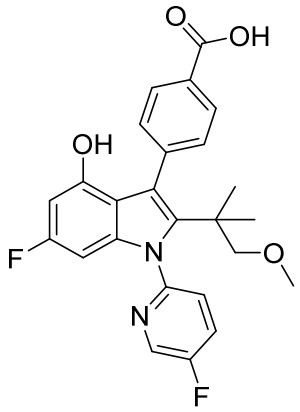
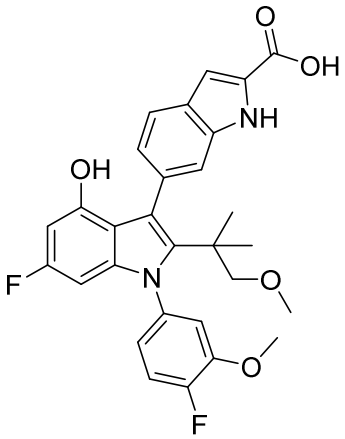
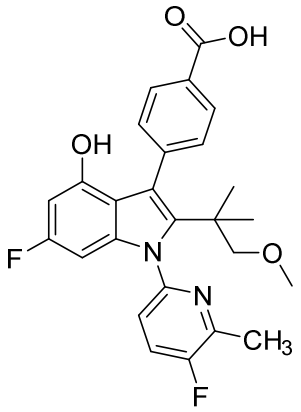
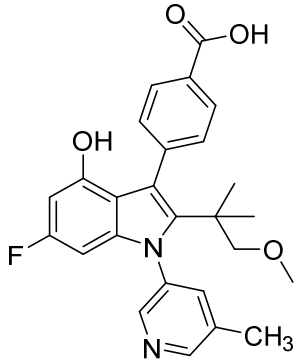
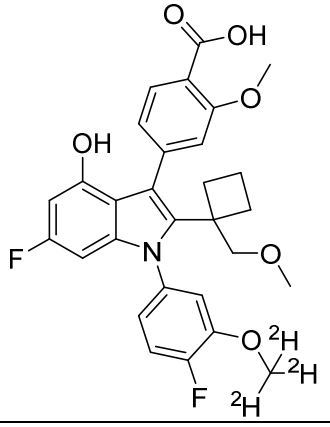
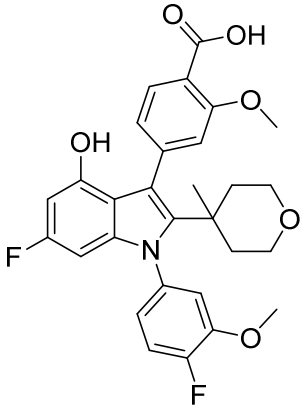
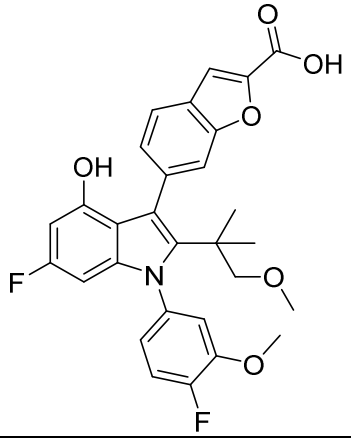
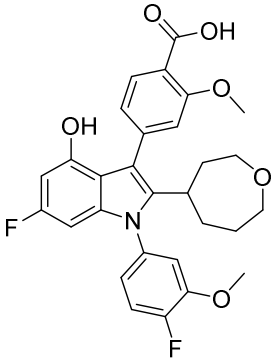
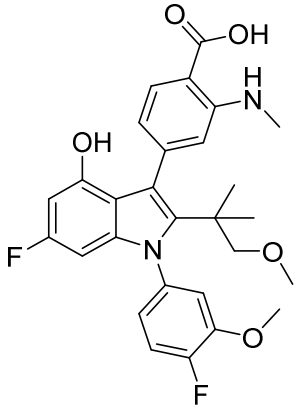


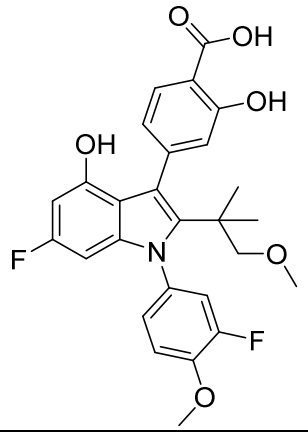
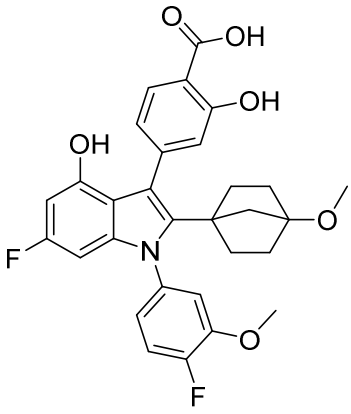
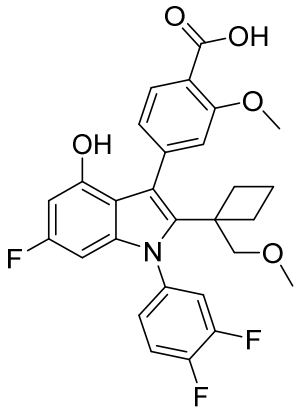
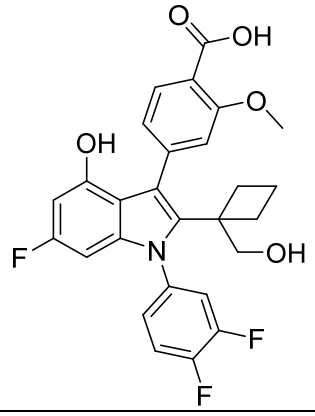
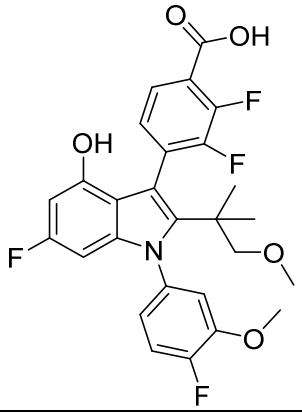
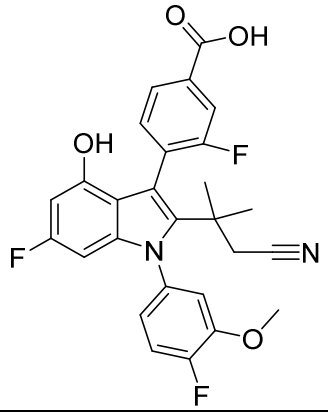
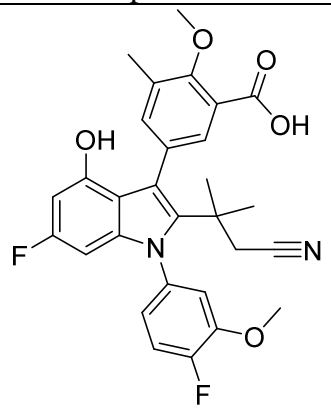
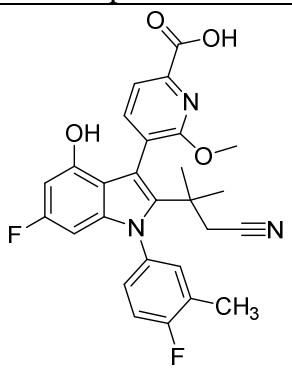
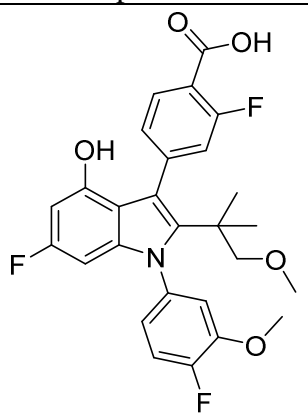
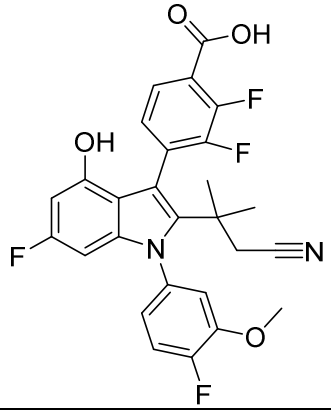
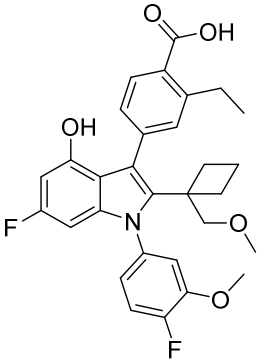
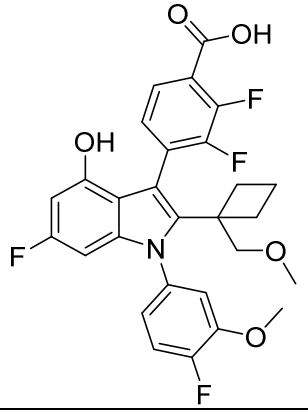
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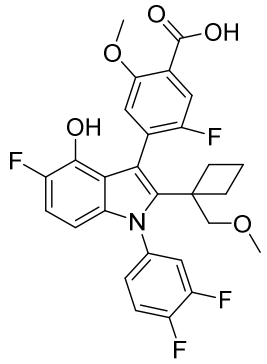
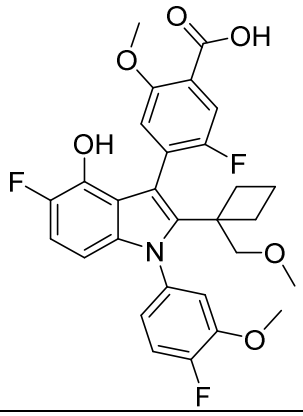
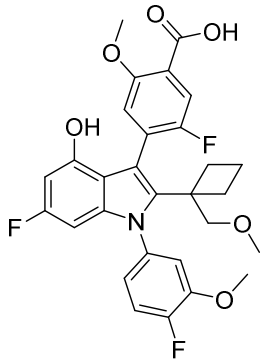
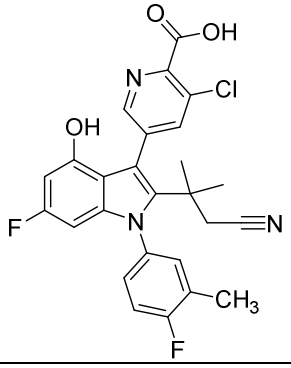
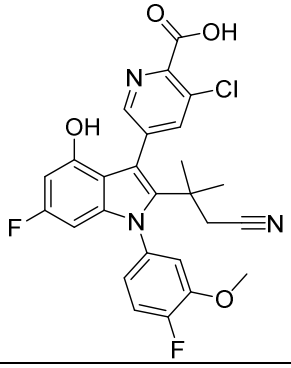
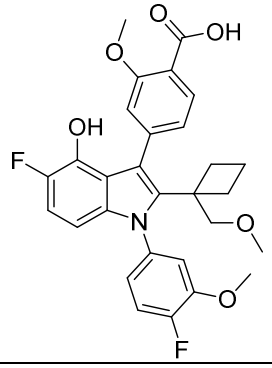
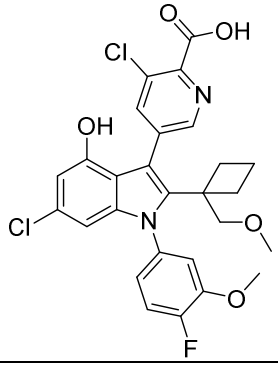
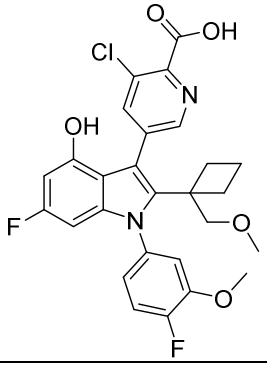
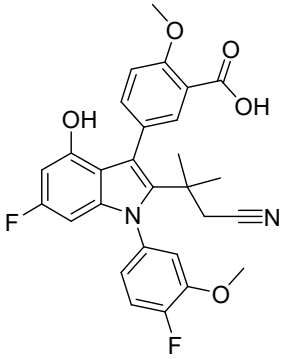
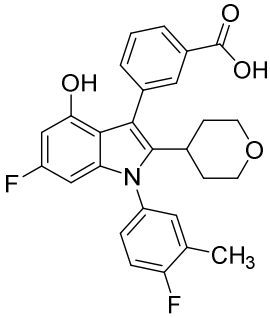
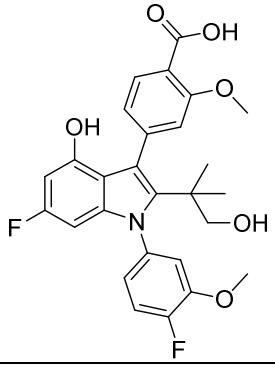
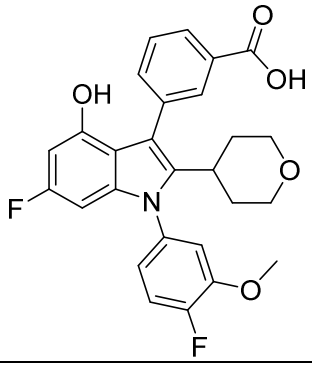


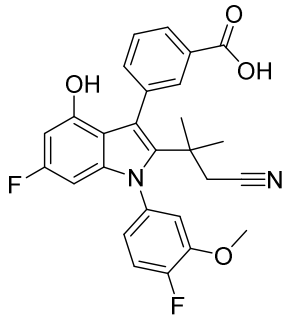
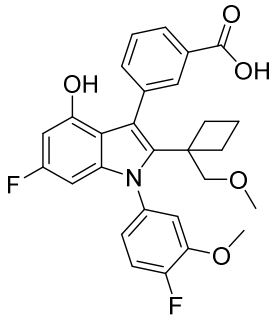
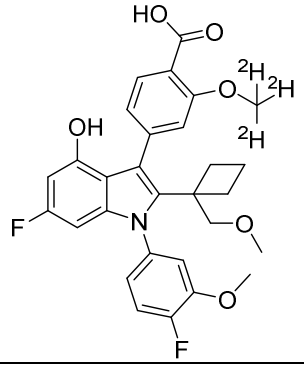
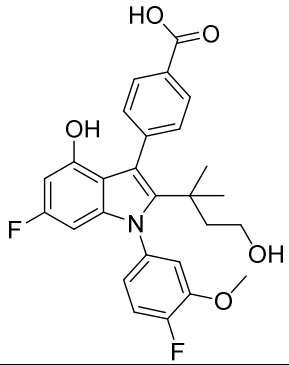
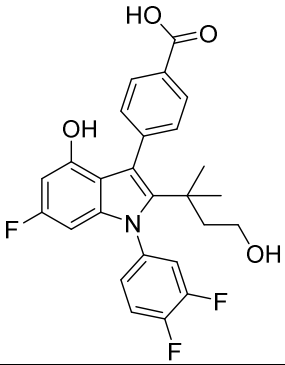
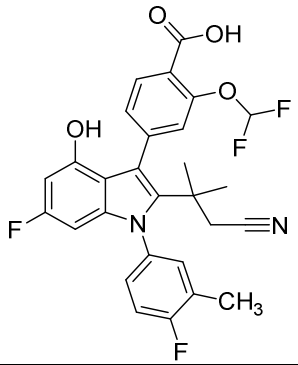
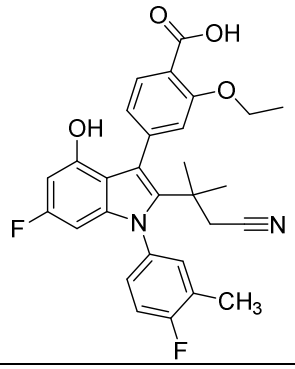
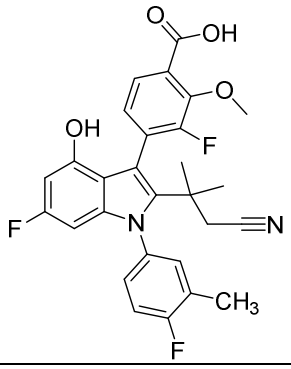
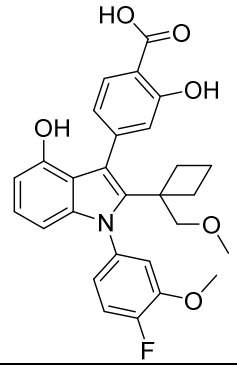
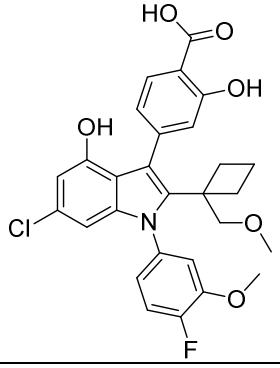
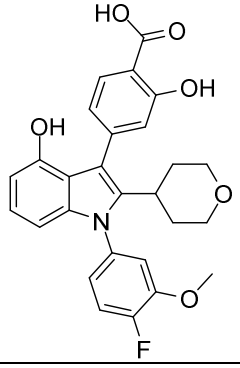
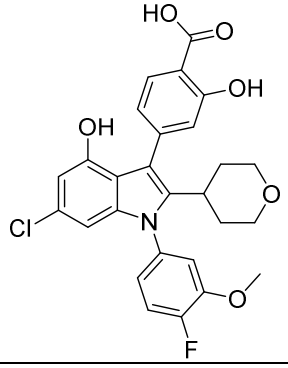
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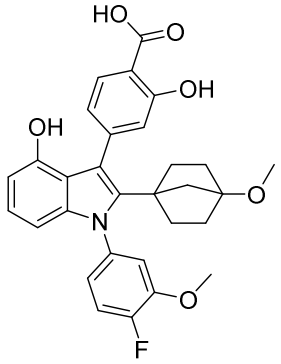
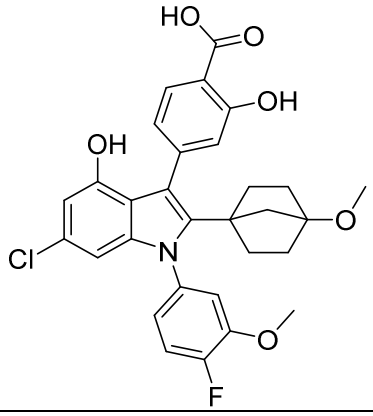
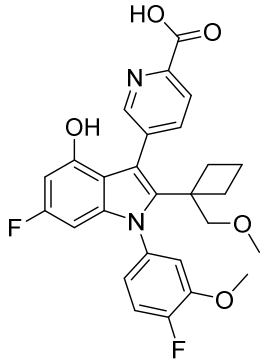
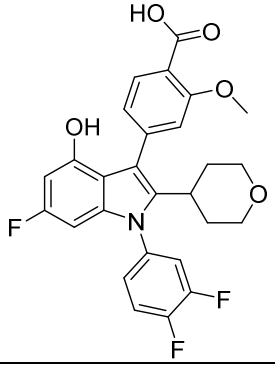
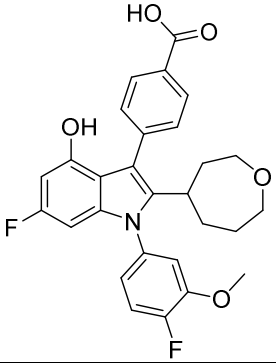
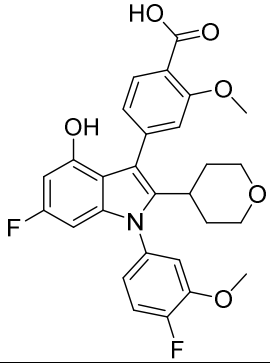
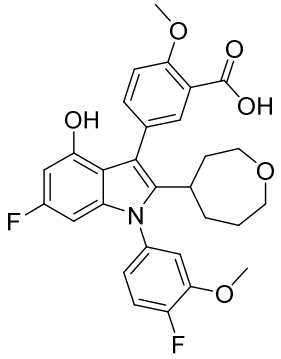
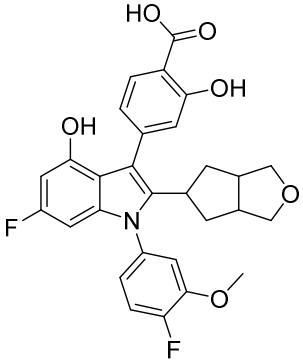
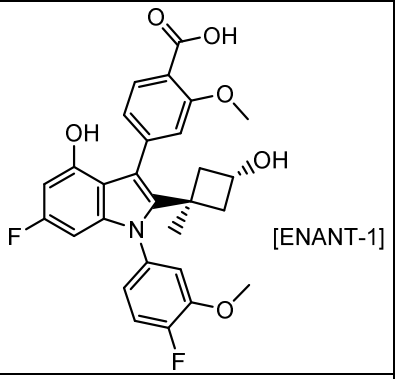
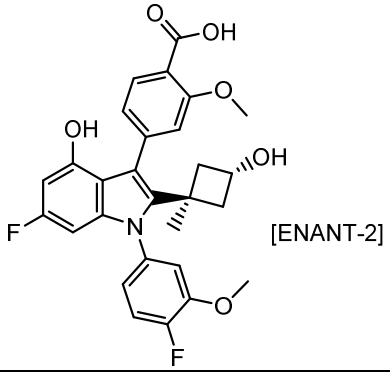
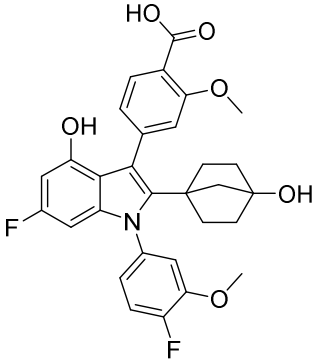
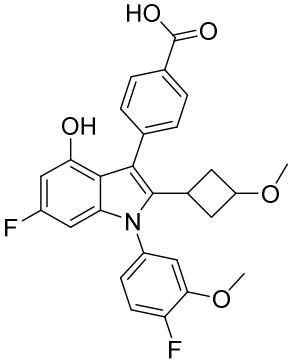
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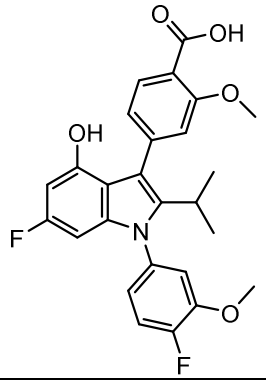
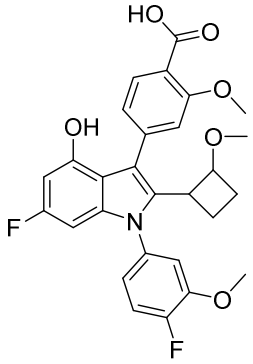
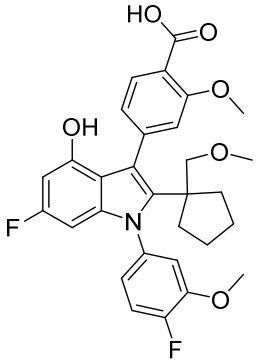
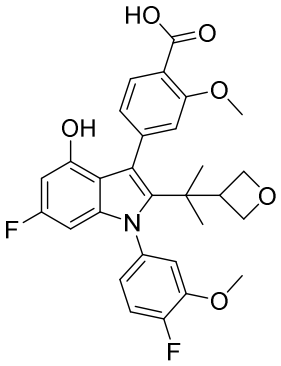
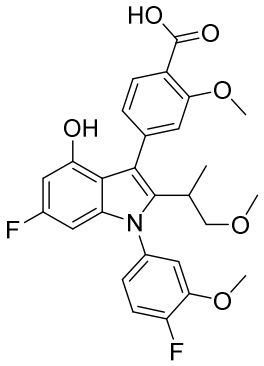
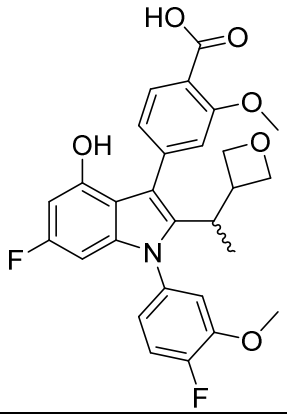
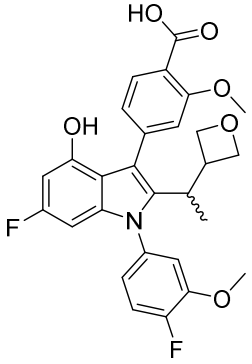
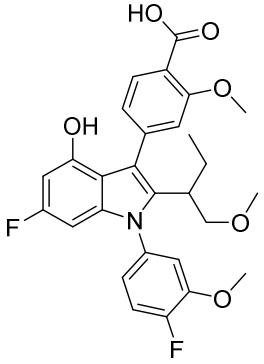
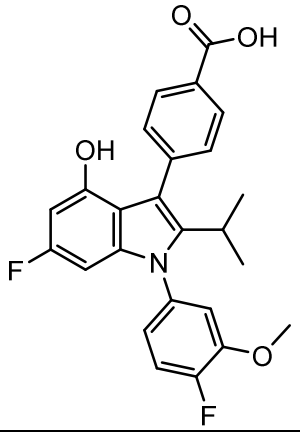
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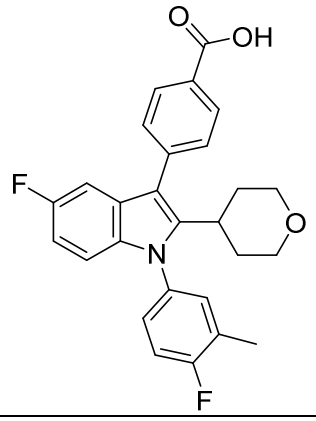
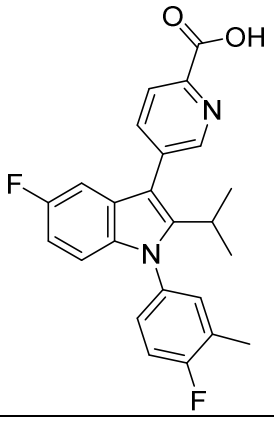
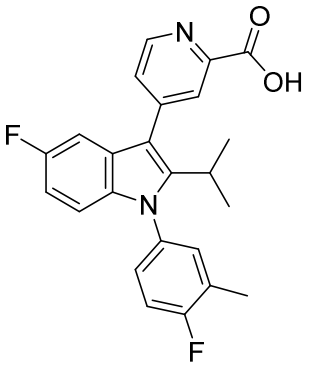
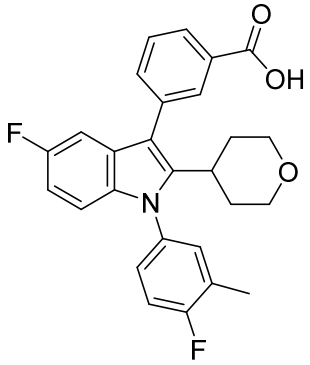
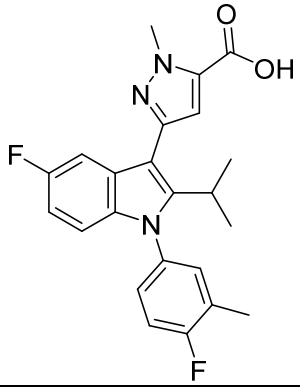
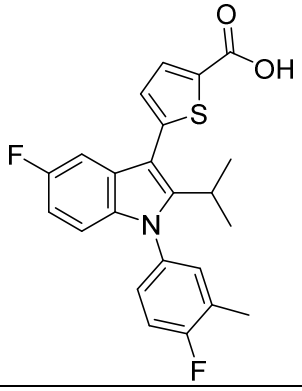
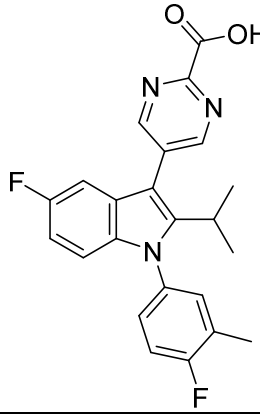
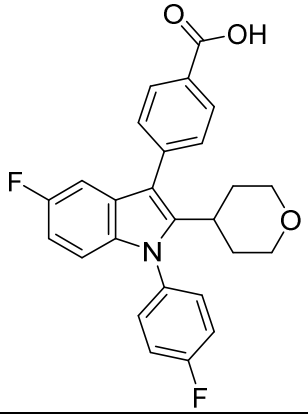
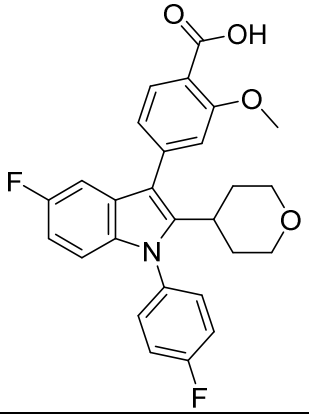
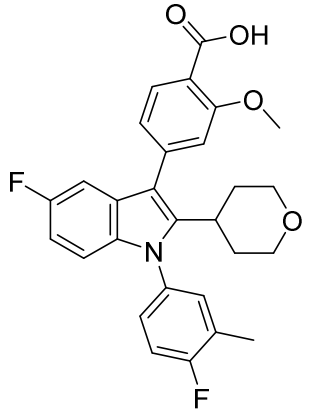
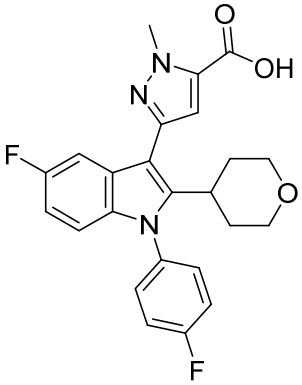
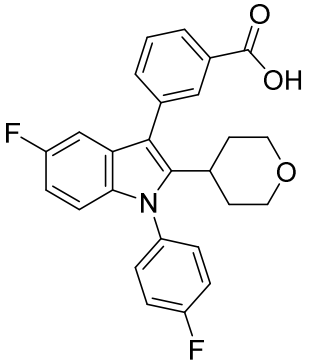
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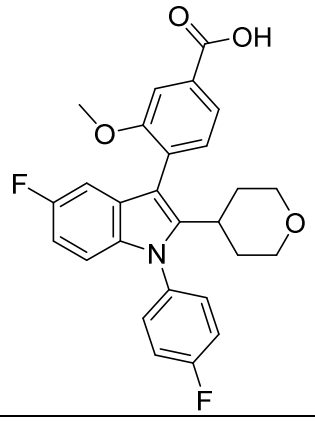
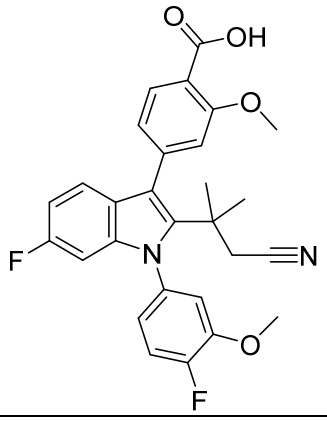
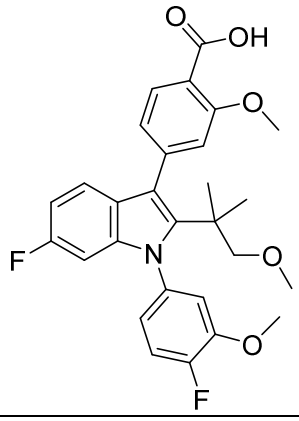
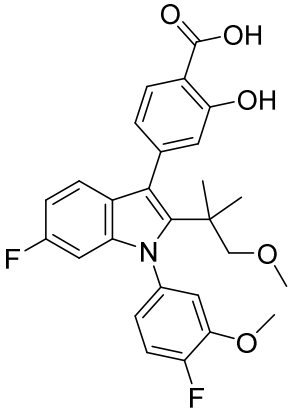
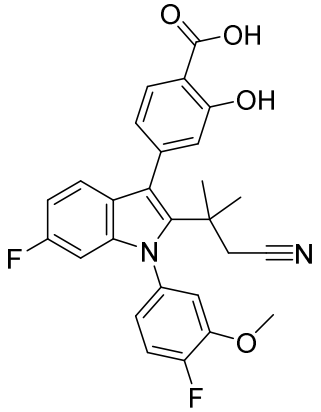
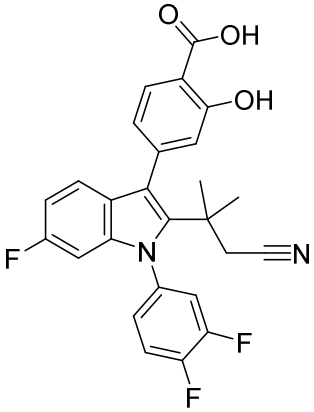
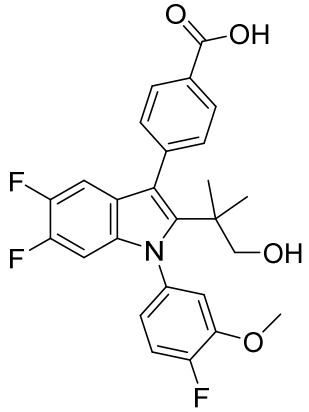
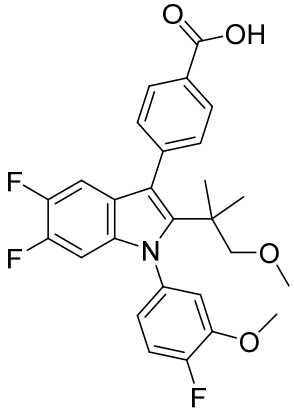
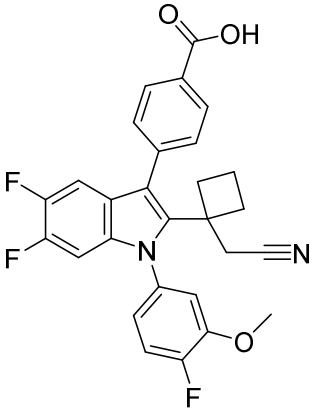
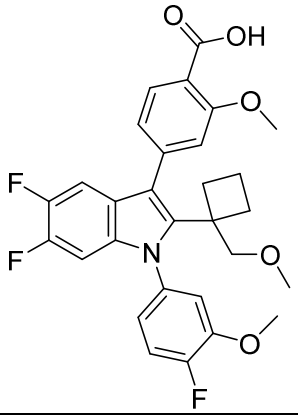
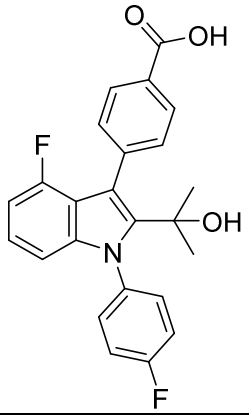
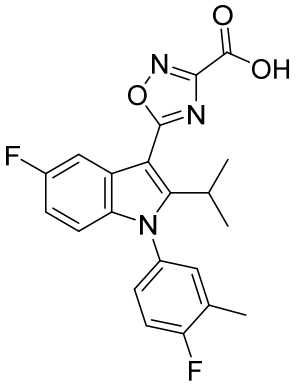
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Compound 491	Compound 492	Compound 493
		
Compound 494	Compound 495	Compound 496
		
Compound 497	Compound 498	Compound 499
		

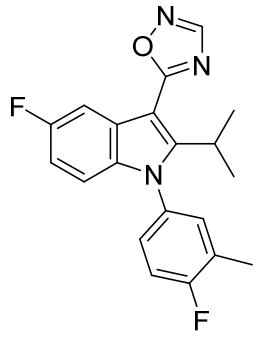
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Compound 506	Compound 507	Compound 508
		
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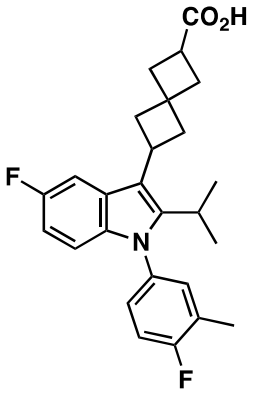
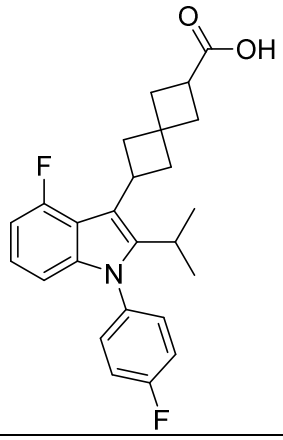
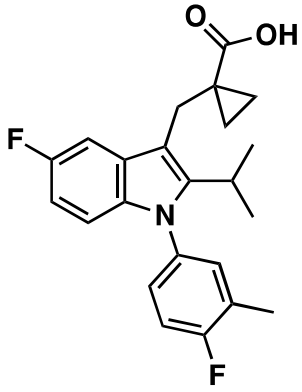
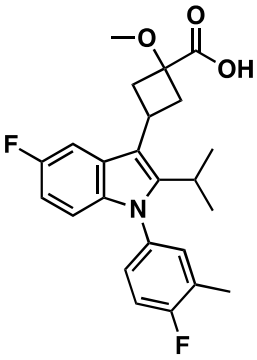
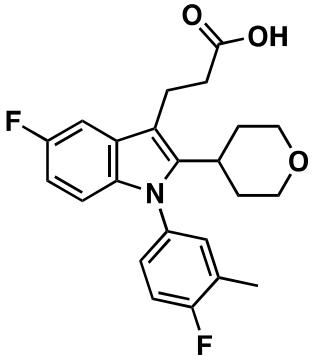
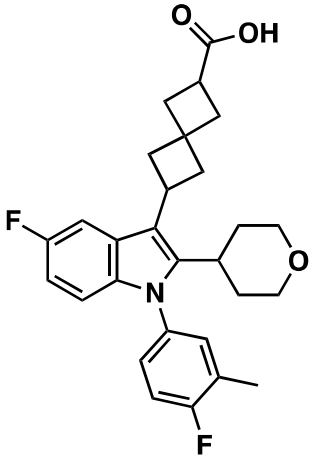
Compound 512	Compound 513	Compound 514
		
Compound 515	Compound 516	Compound 517
		
Compound 518	Compound 519	Compound 520
		 [ENANT-1]
Compound 521	Compound 522	Compound 523
 [ENANT-2]		

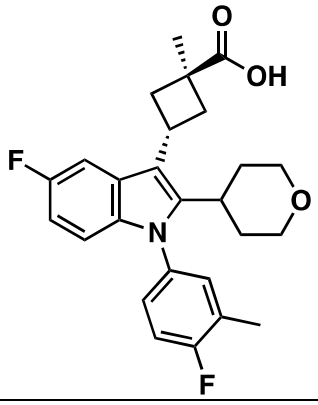
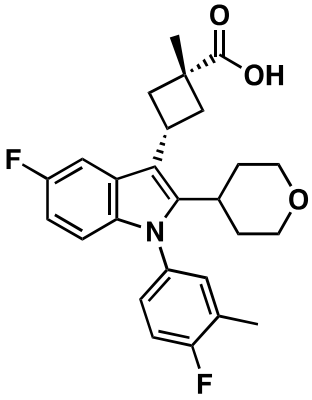
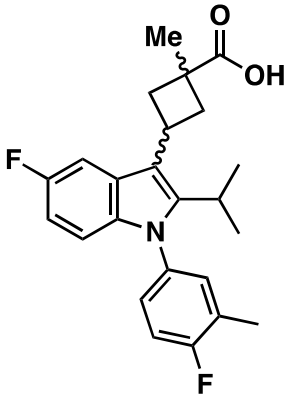
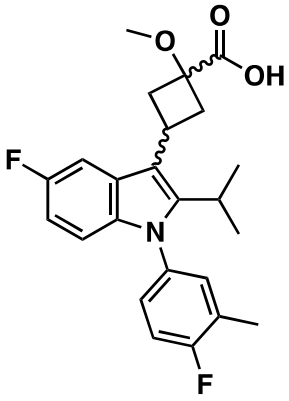
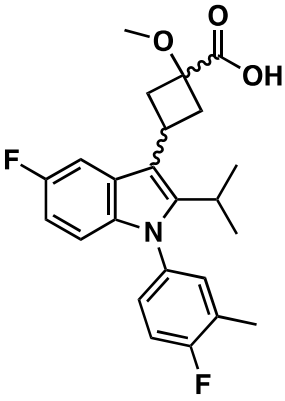
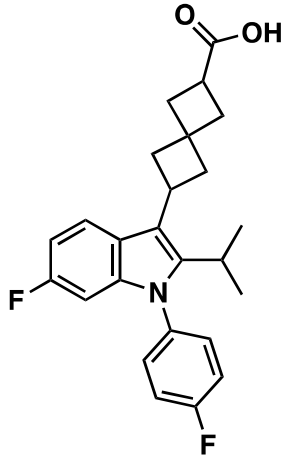
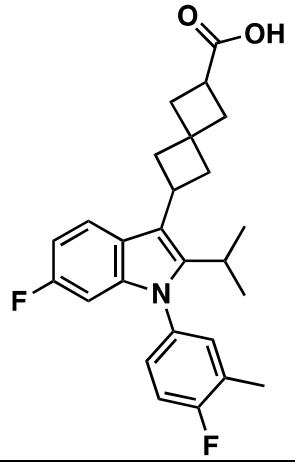
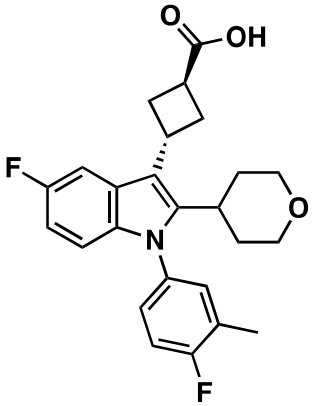
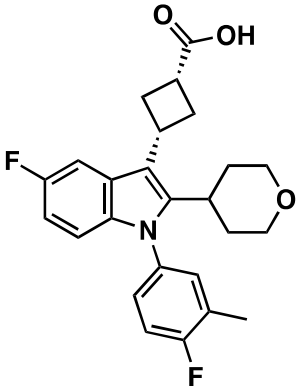
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Compound 527	Compound 528	Compound 529
		
Compound 530	Compound 531	Compound 532
		

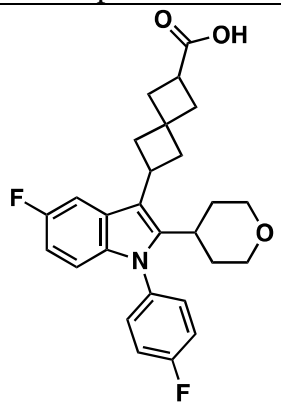
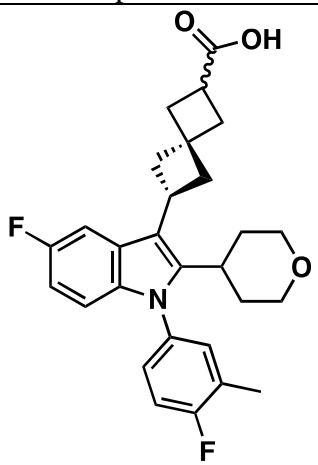
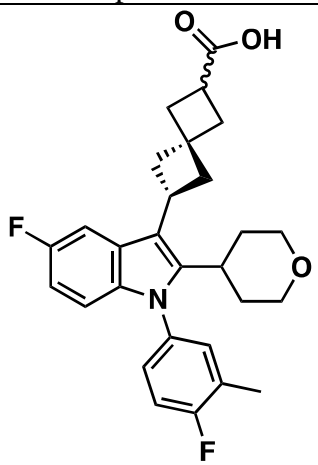
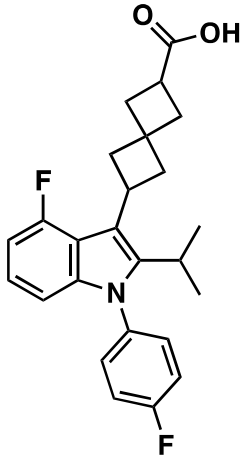
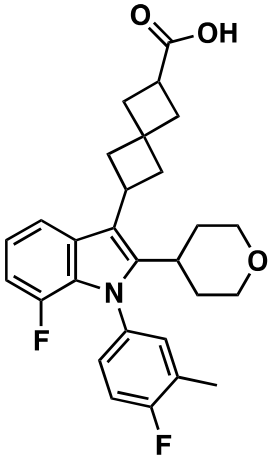
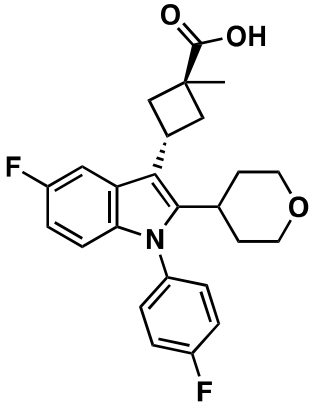
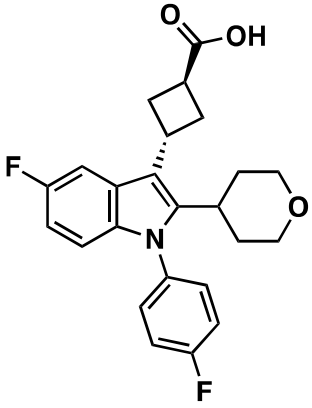
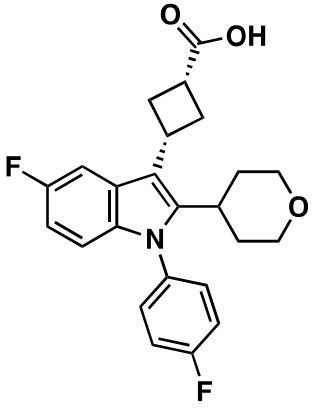
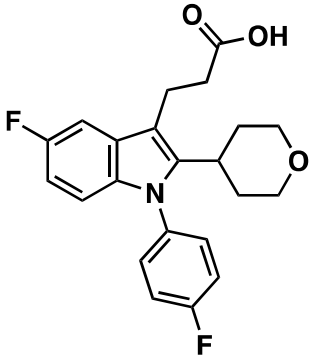
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Compound B4	Compound B5	Compound B6
		
Compound B7	Compound B8	Compound B9
		
Compound B10	Compound B11	Compound B12
		

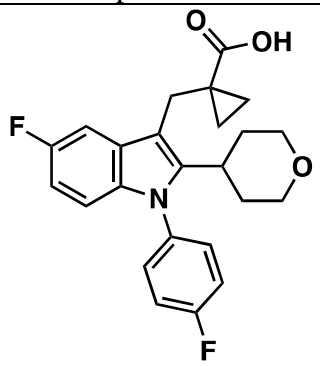
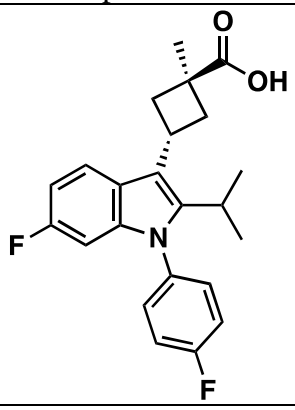
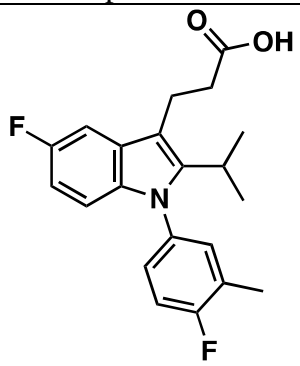
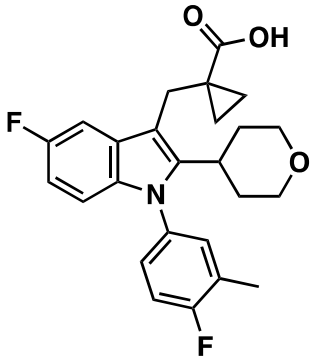
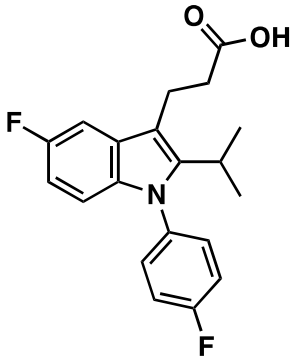
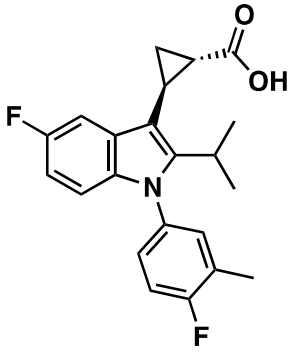
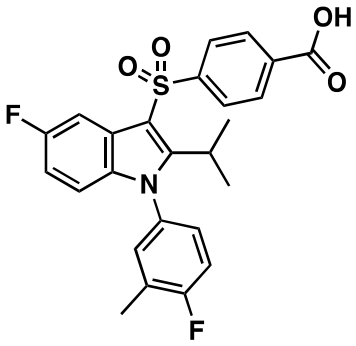
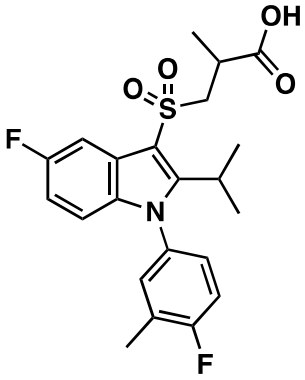
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Compound B16	Compound B17	Compound B18
		
Compound B19	Compound B20	Compound B21
		
Compound B22	Compound B23	Compound B24
		

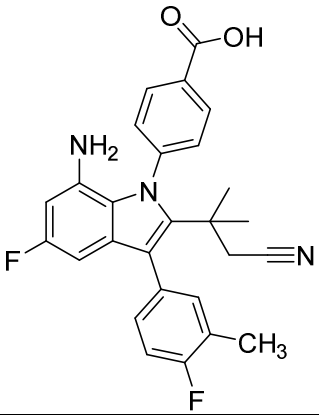
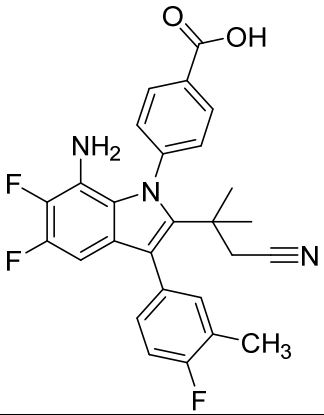
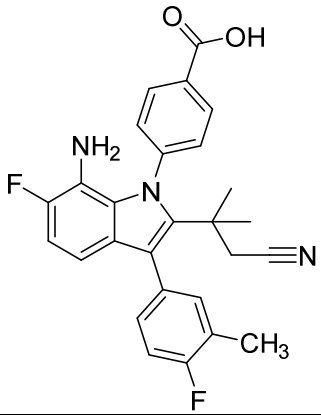
Compound B25


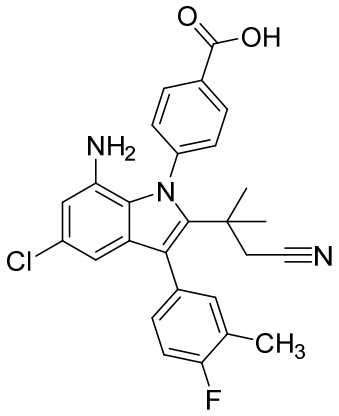
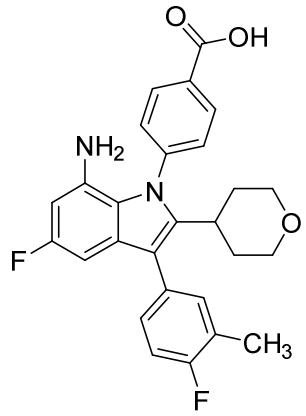
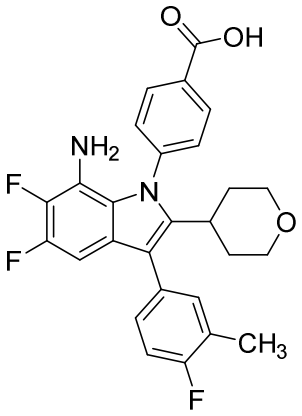
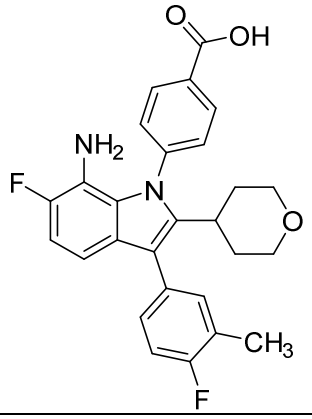
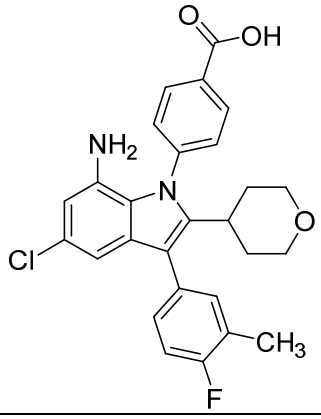
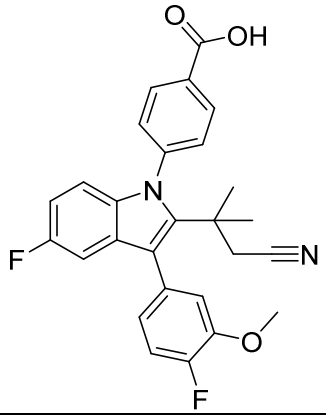
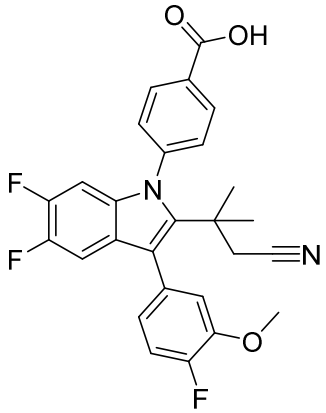
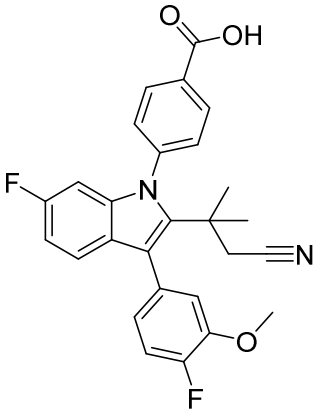
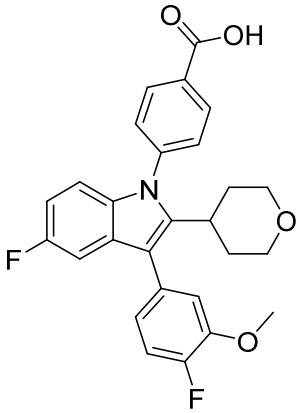
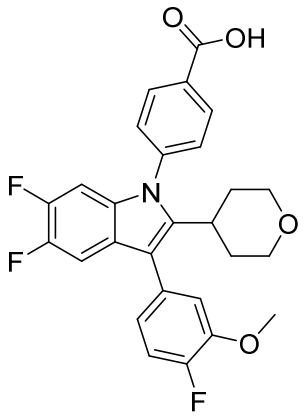
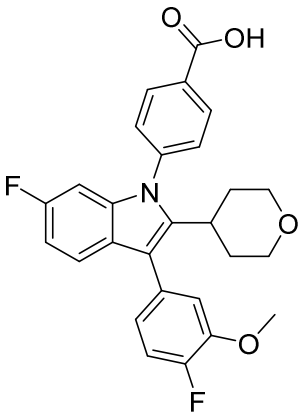
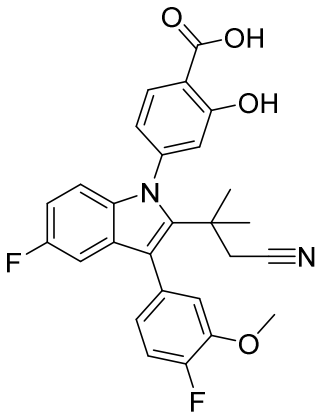
Compound W1	Compound W2	Compound W3
		
Compound W4	Compound W5	Compound W6
		

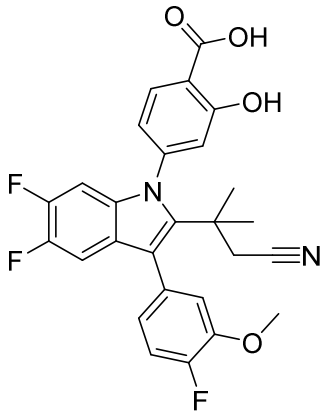
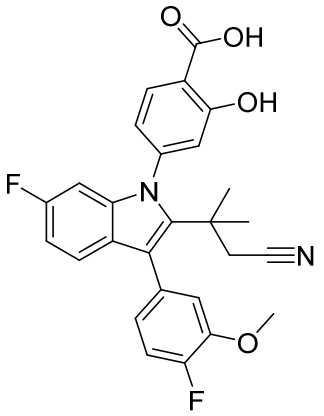
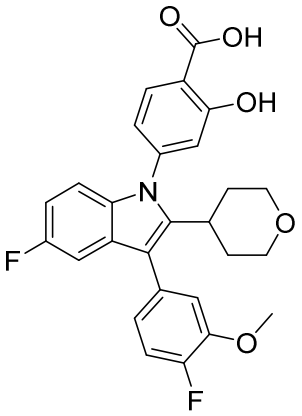
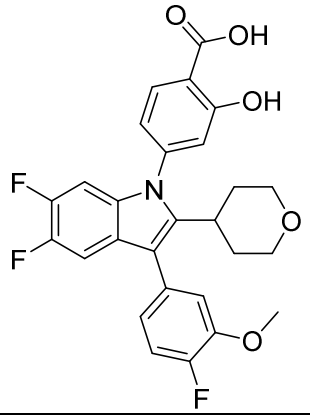
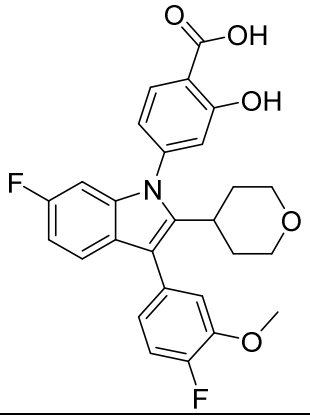
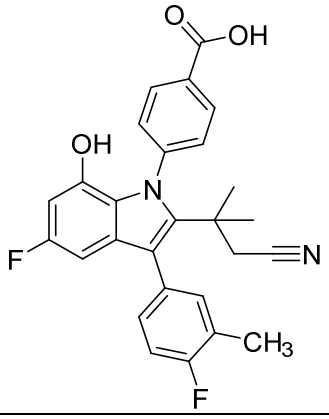
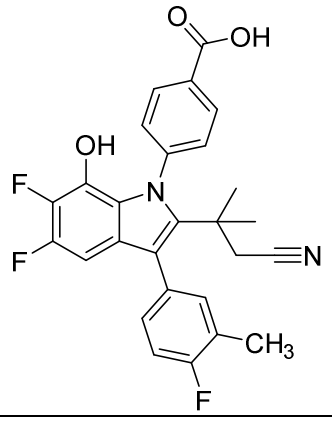
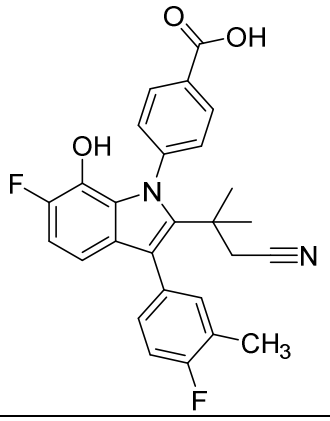
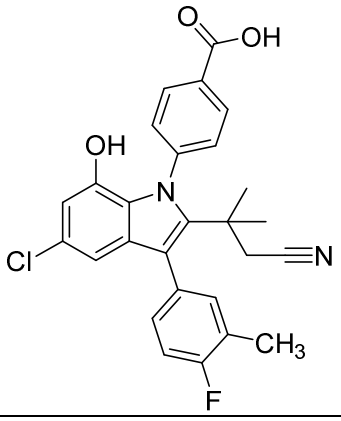
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Compound W10	Compound W11	Compound W12
		
Compound W13	Compound W14	Compound W15
		

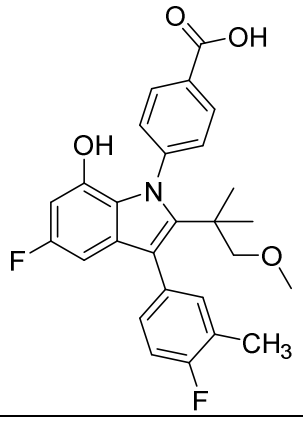
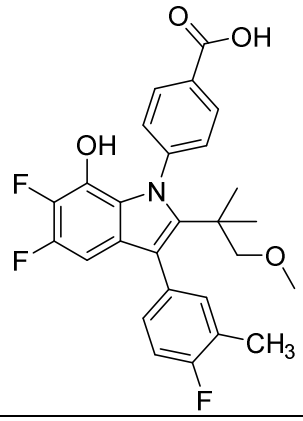
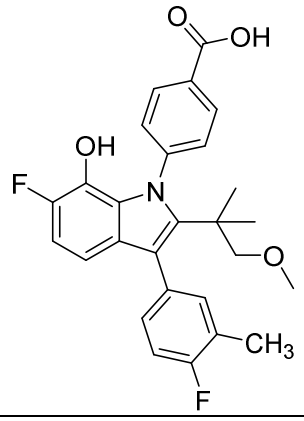
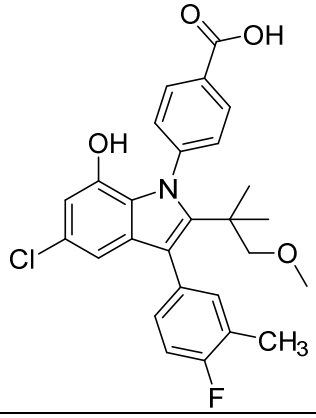
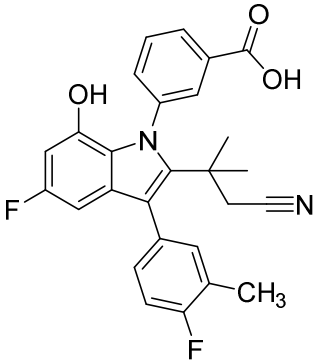
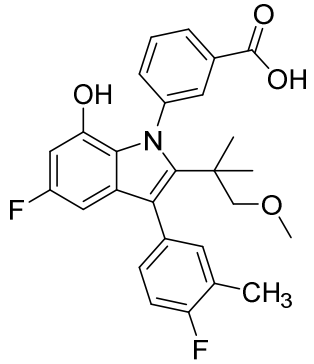
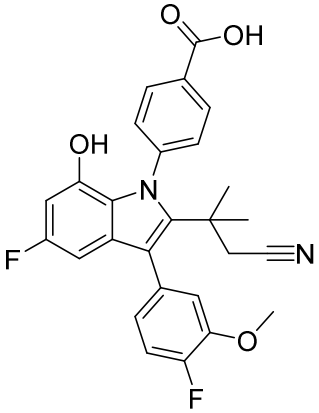
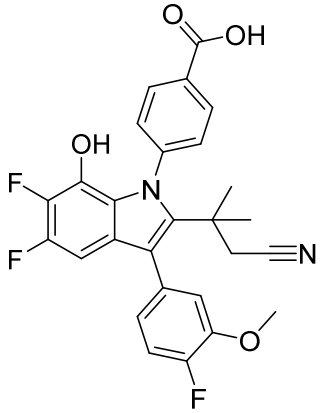
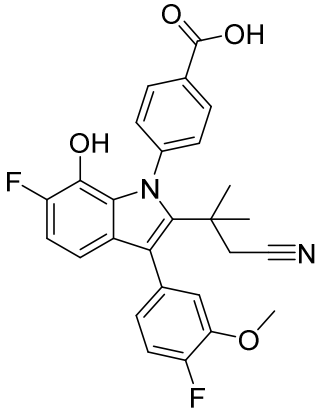
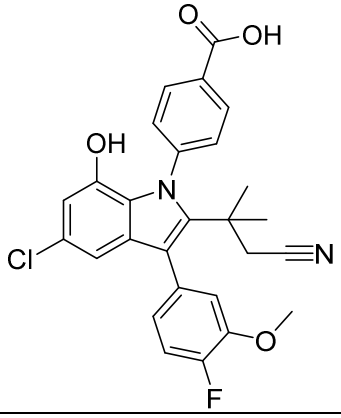
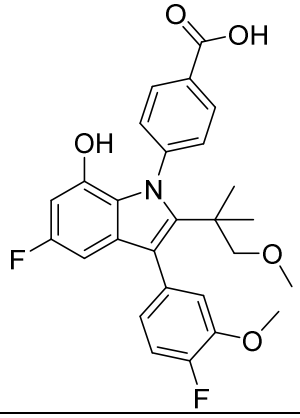
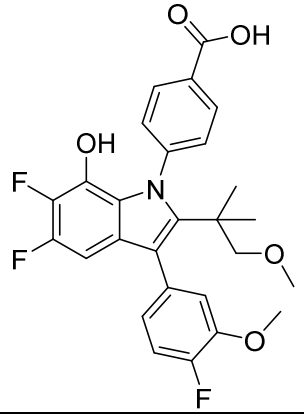
Compound W16	Compound W17	Compound W18
	 [ENANT-1]	 [ENANT-2]
Compound W19	Compound W20	Compound W21
		
Compound W22	Compound W23	Compound W24
		

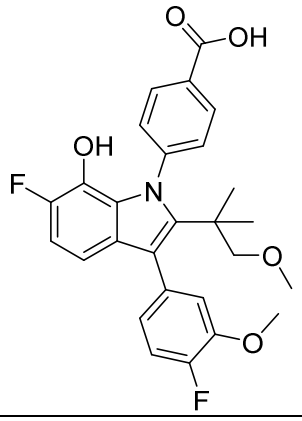
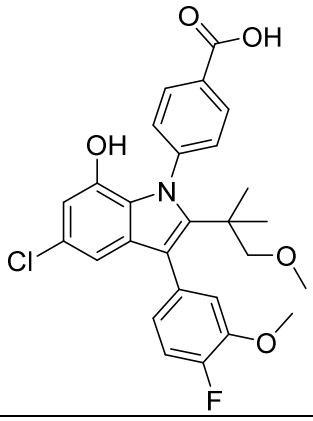
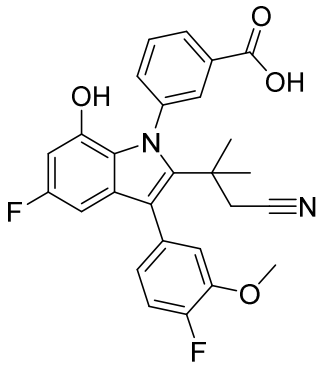
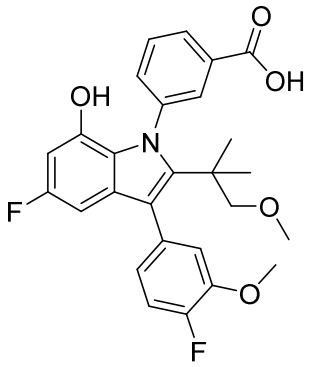
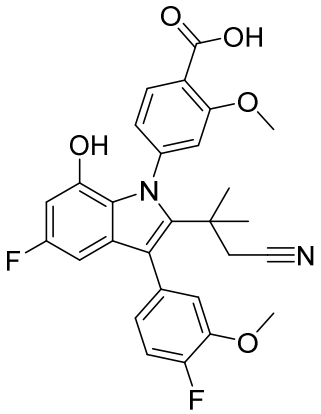
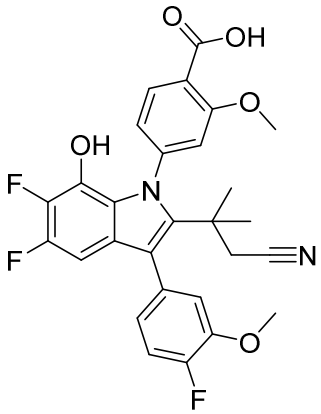
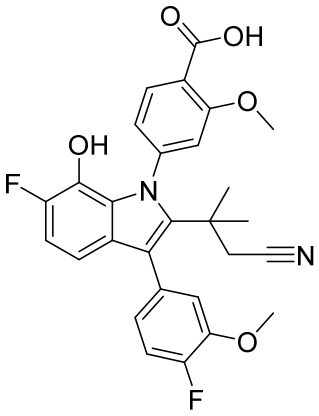
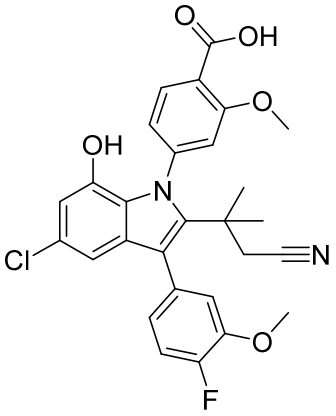
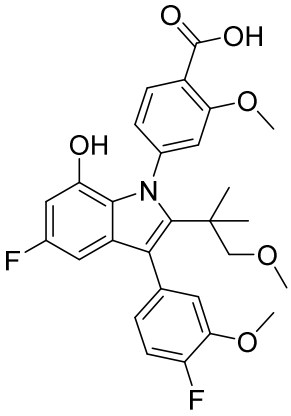
Compound W25	Compound W26	Compound W27
		
Compound W28	Compound W29	Compound W30
		
Compound W31	Compound W32	
		

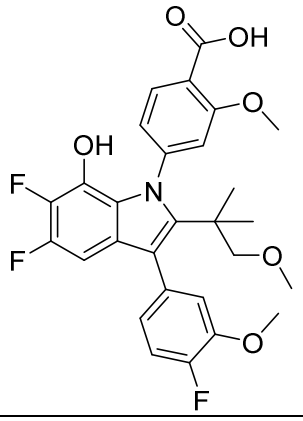
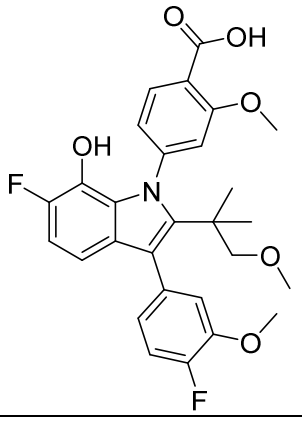
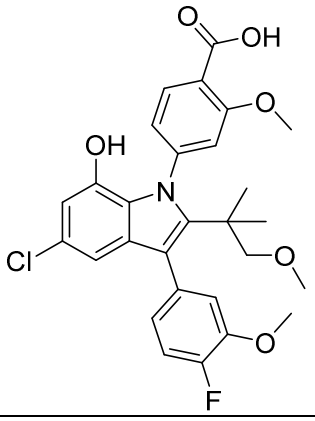
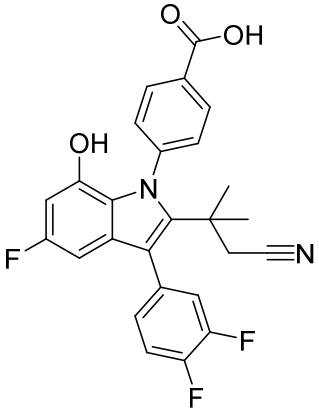
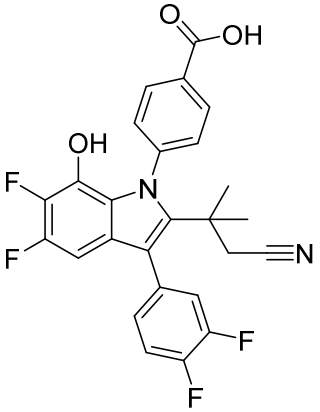
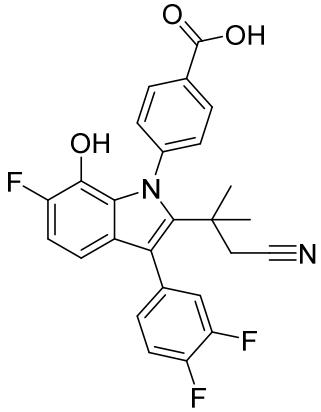
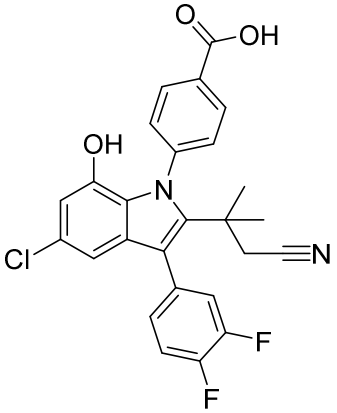
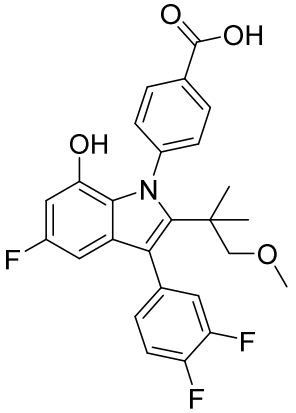
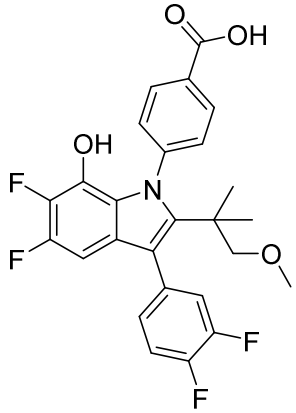
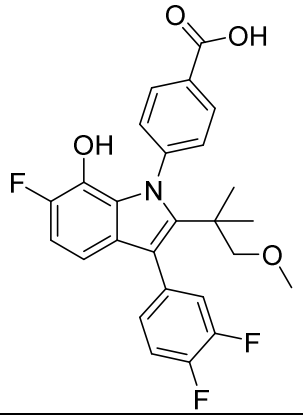
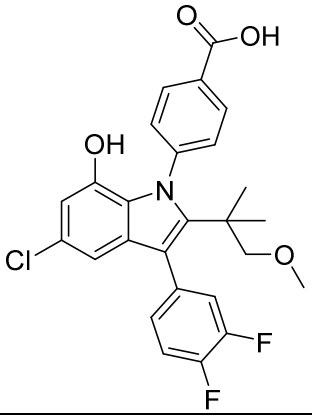
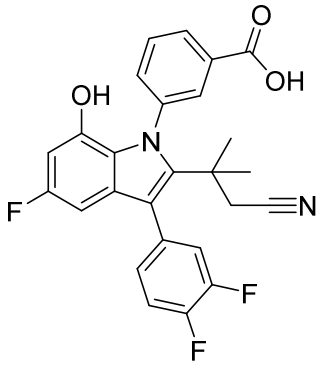
Compound P1	Compound P2	Compound P3
		

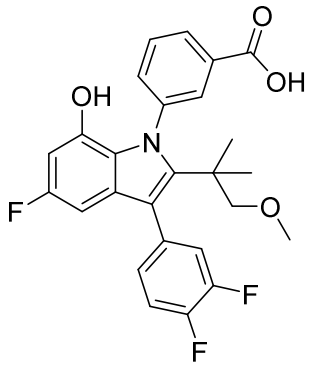
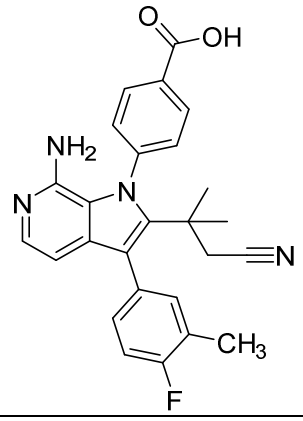
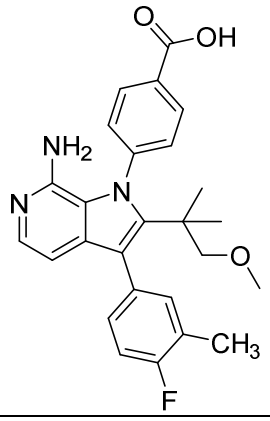
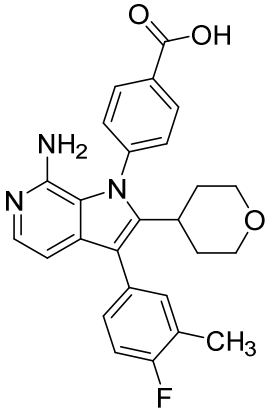
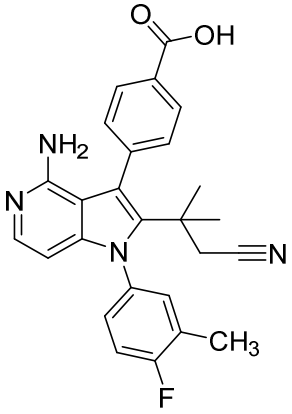
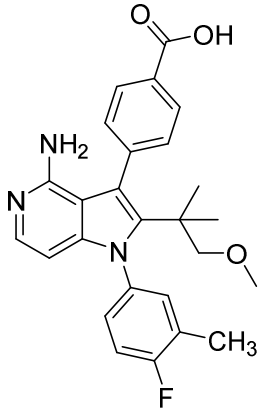
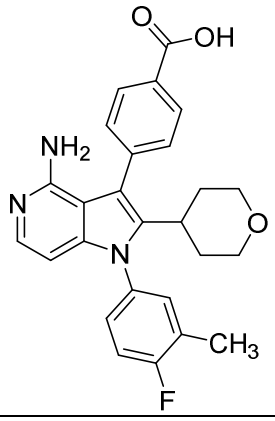
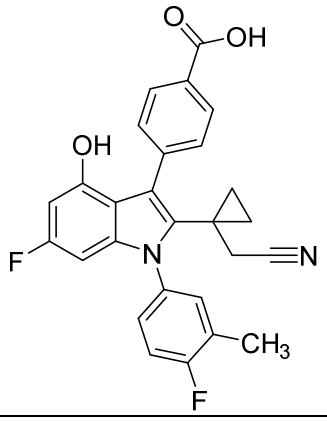
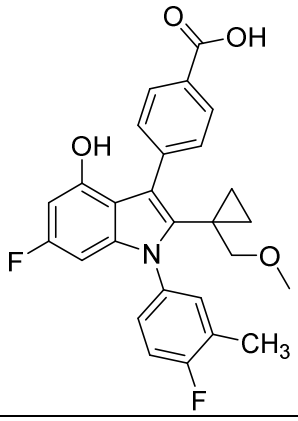
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Compound P7	Compound P8	Compound P9
		
Compound P10	Compound P11	Compound P12
		
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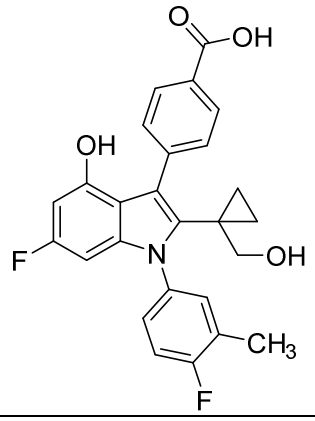
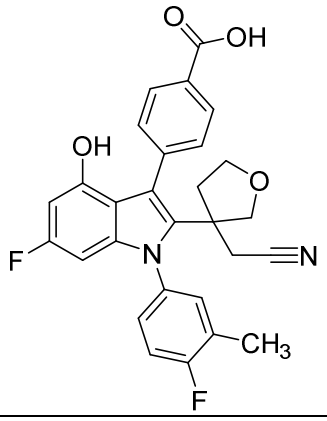
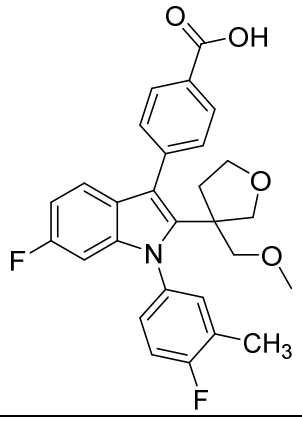
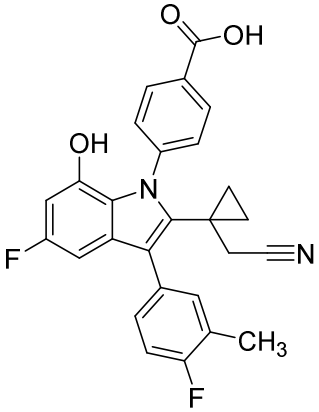
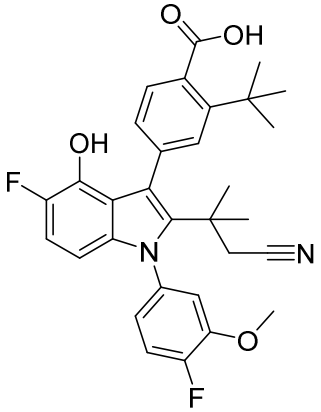
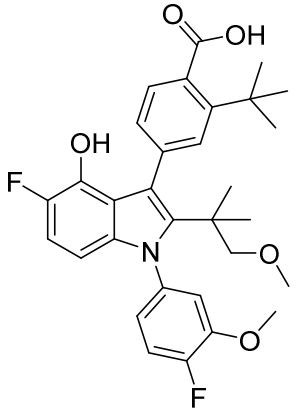
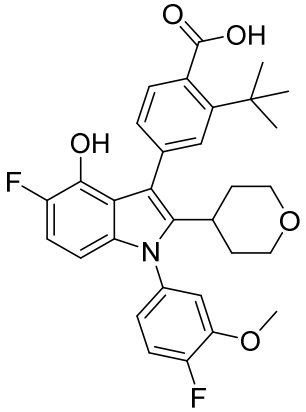
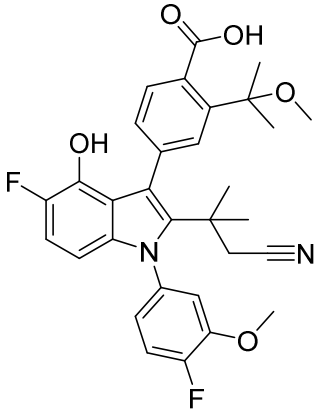
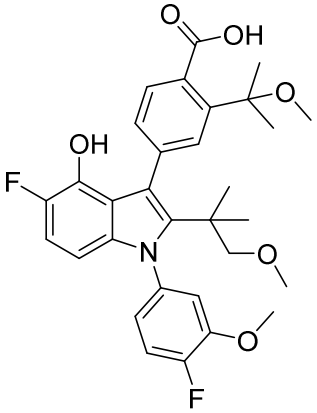
Compound P16	Compound P17	Compound P18
		
Compound P19	Compound P20	Compound P21
		
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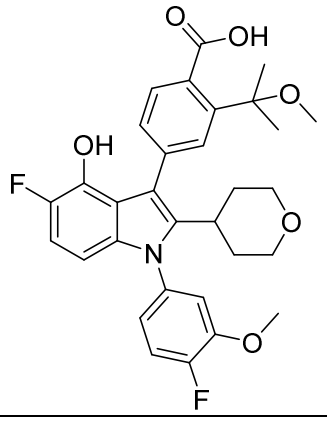
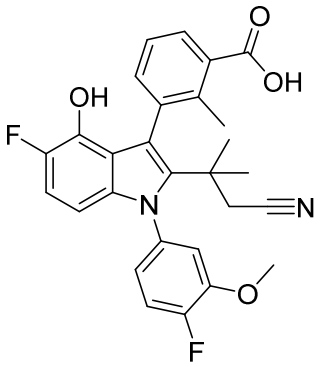
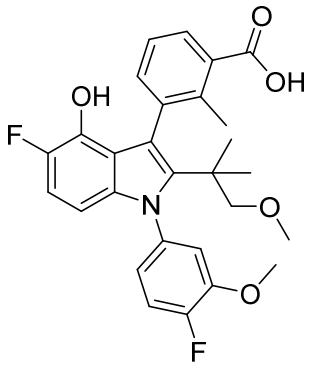
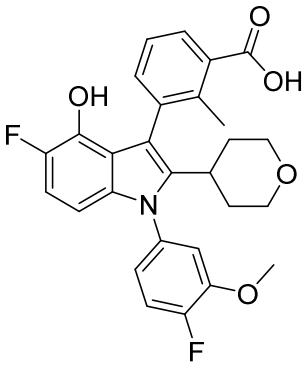
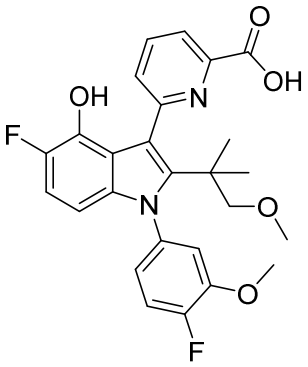
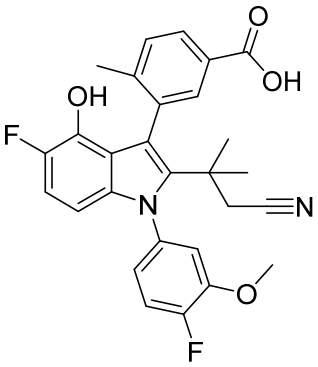
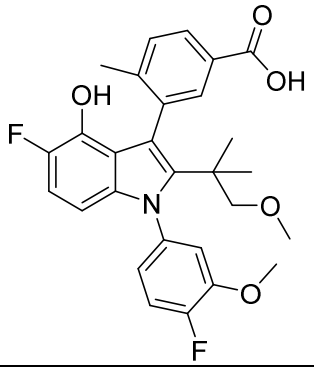
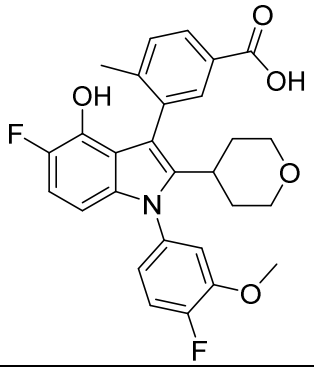
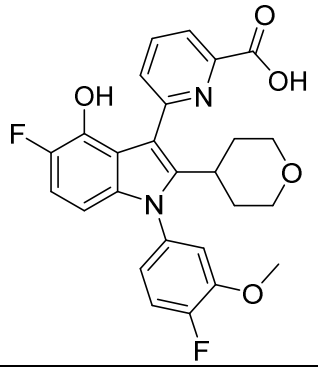
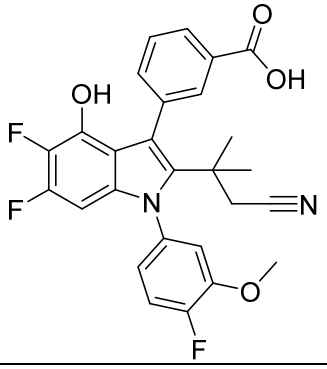
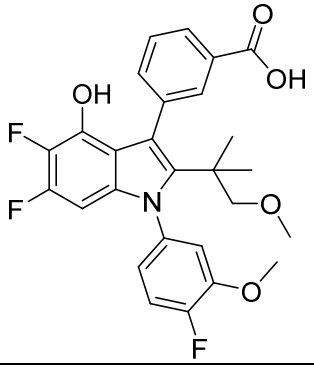
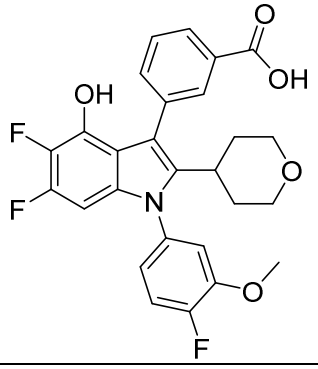
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Compound P31	Compound P32	Compound P33
		
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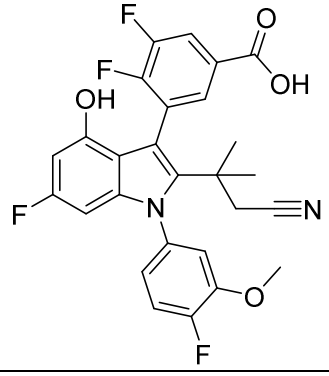
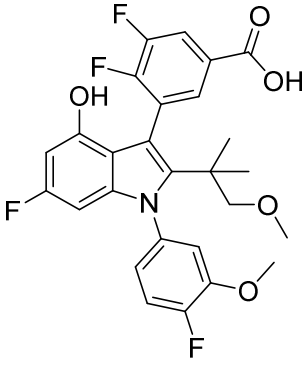
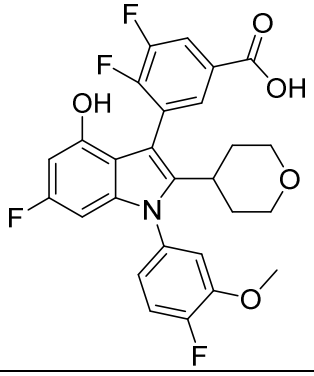
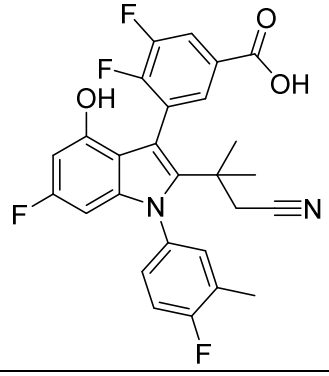
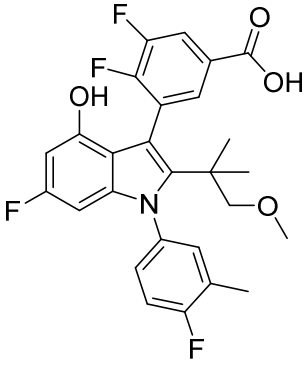
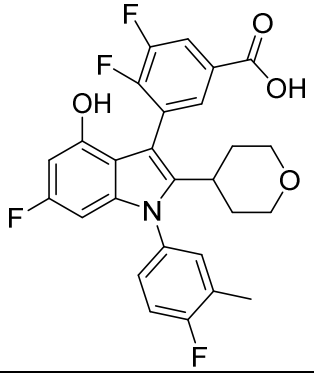
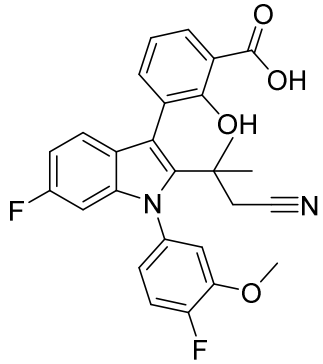
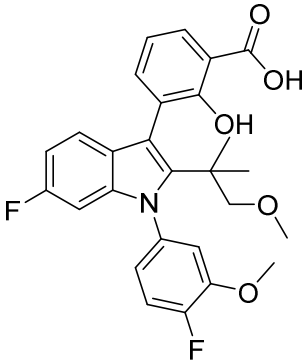
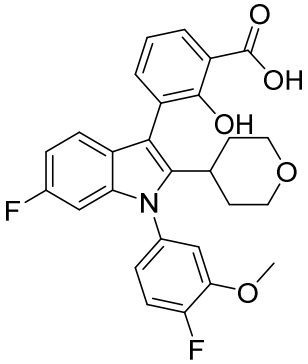
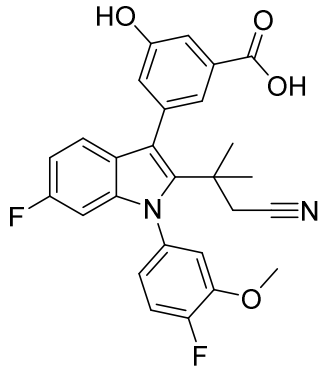
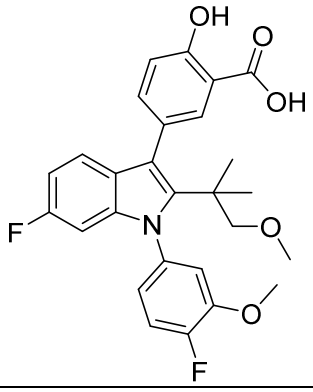
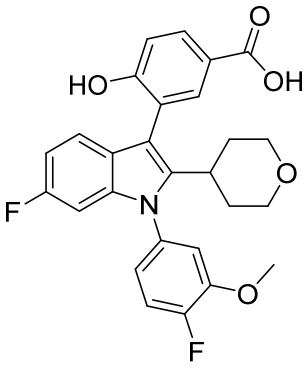
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Compound P40	Compound P41	Compound P42
		
Compound P43	Compound P44	Compound P45
		

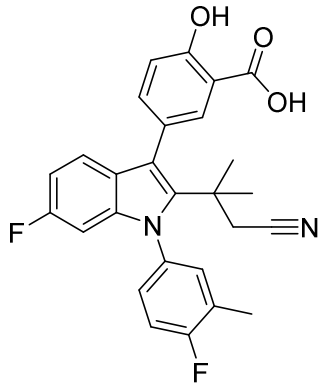
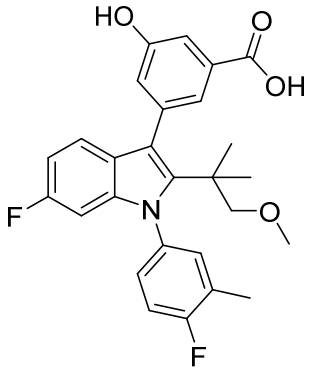
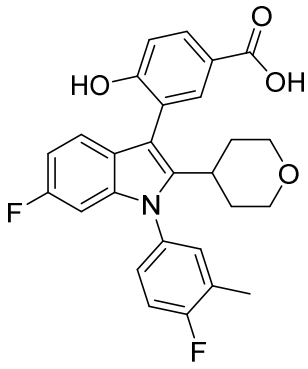
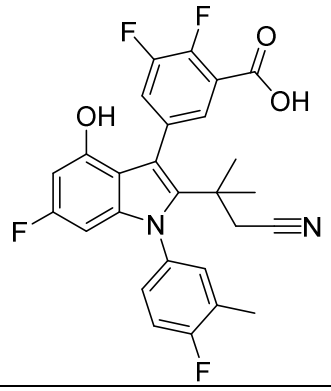
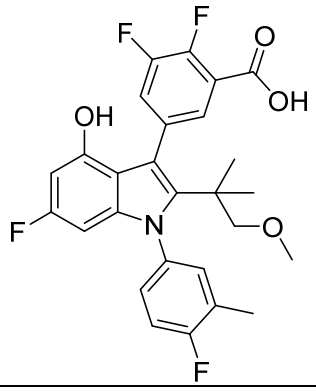
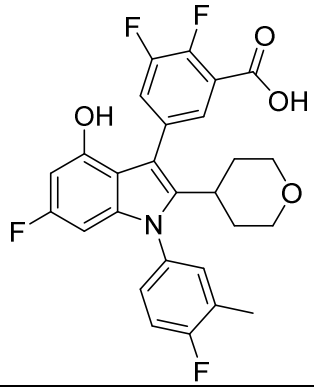
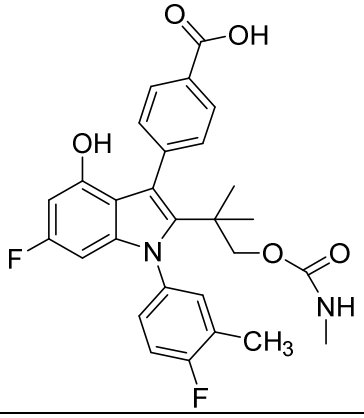
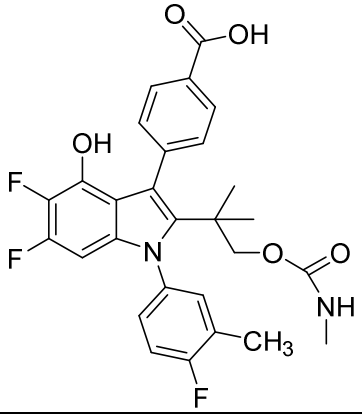
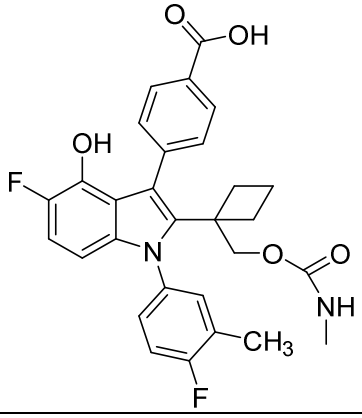
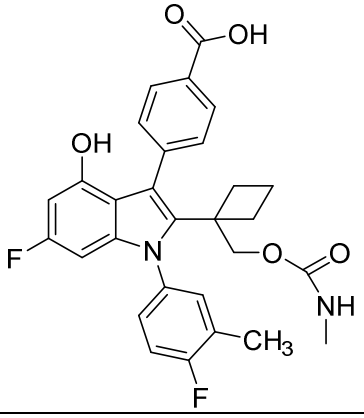
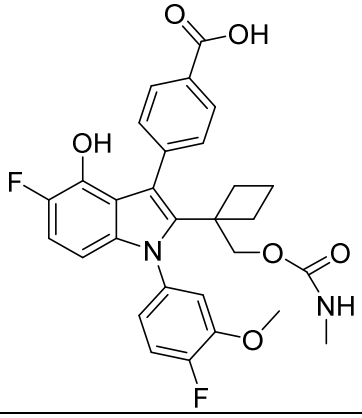
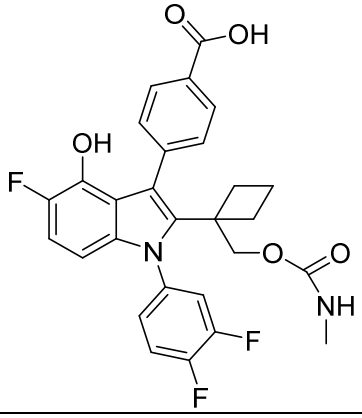
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Compound P49	Compound P50	Compound P51
		
Compound P52	Compound P53	Compound P54
		
Compound P55	Compound P56	Compound P57
		

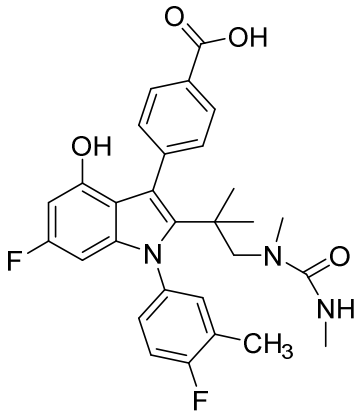
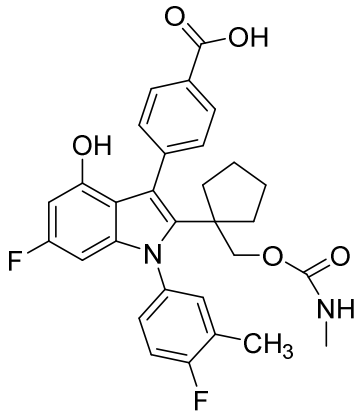
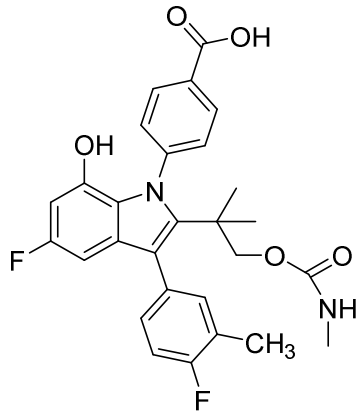
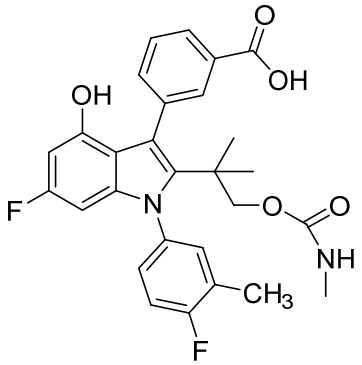
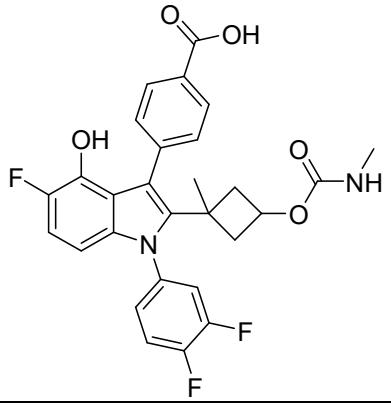
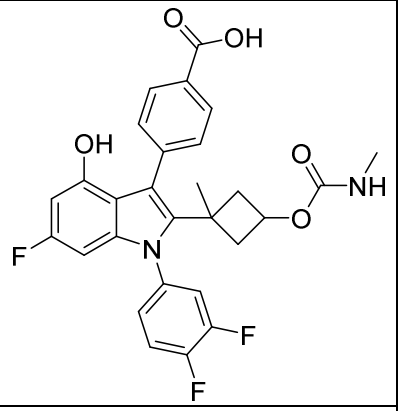
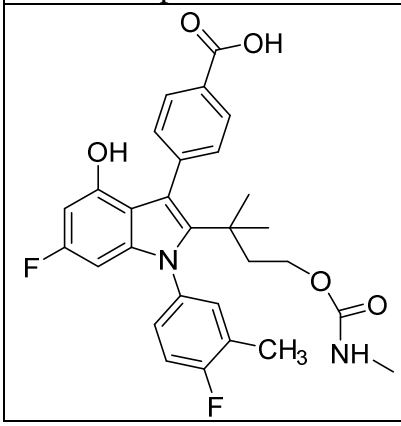
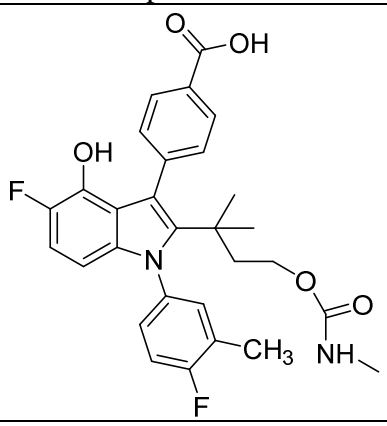
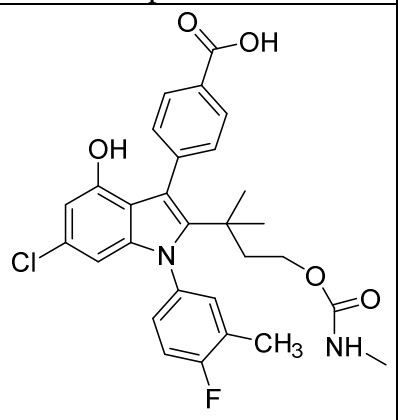
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Compound P61	Compound P62	Compound P63
		
Compound P64	Compound P65	Compound P66
		

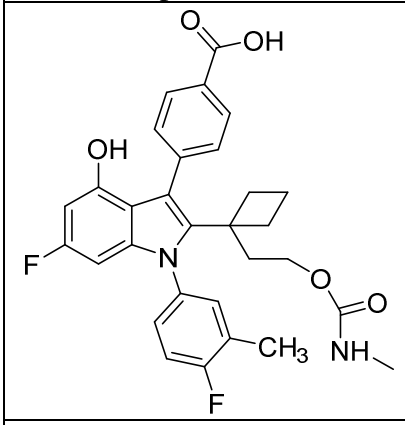
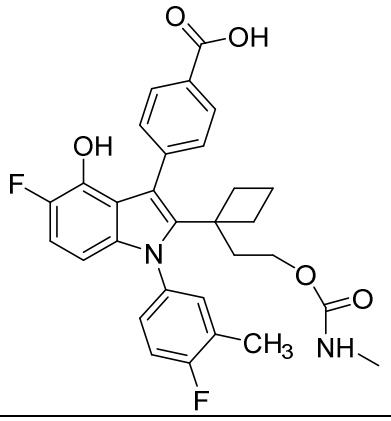
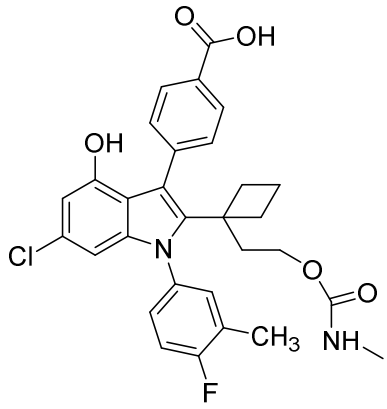
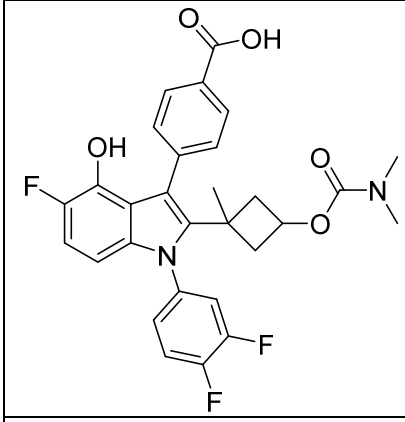
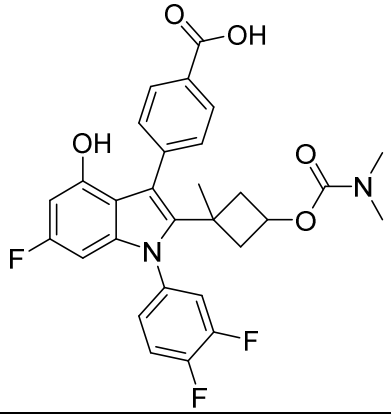
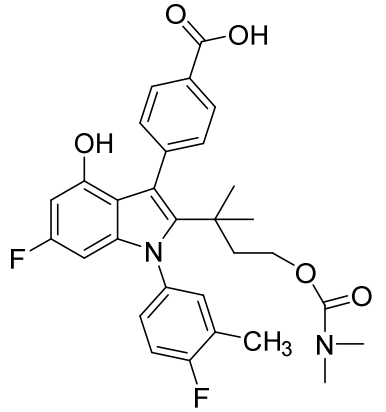
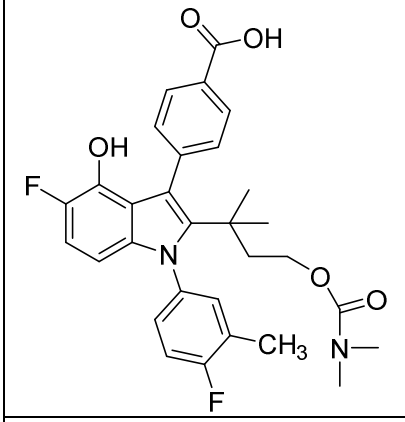
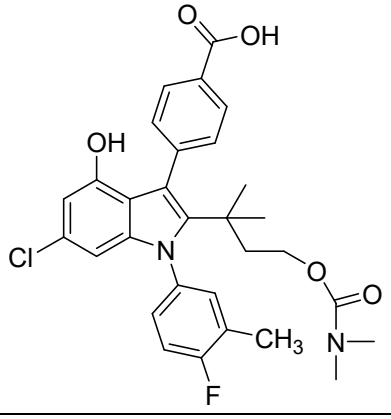
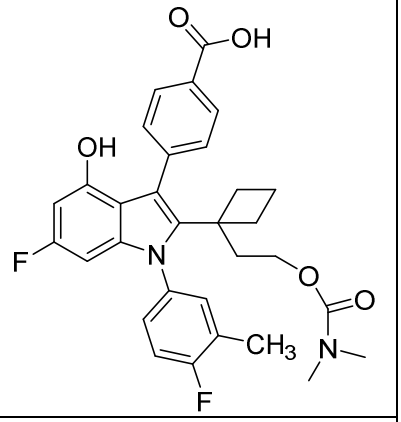
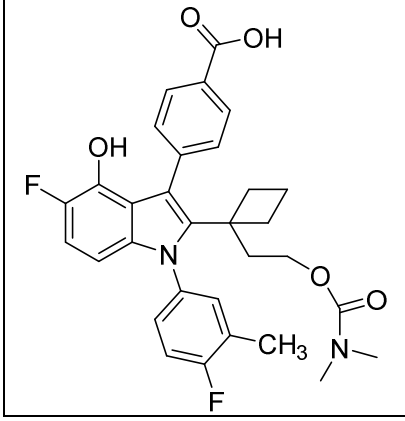
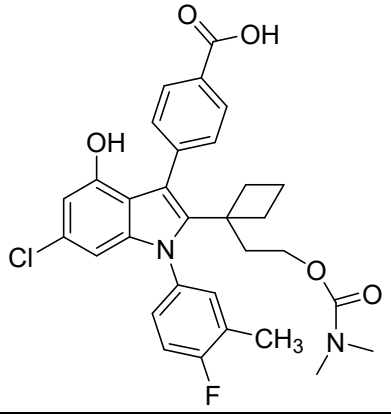
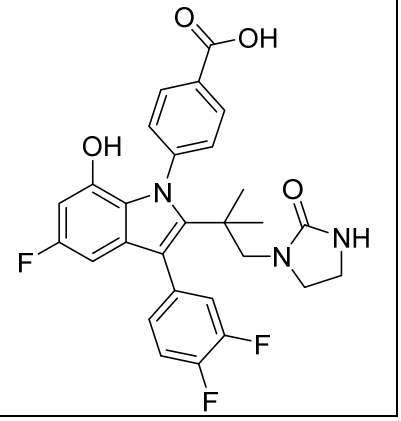
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Compound P70	Compound P71	Compound P72
		
Compound P73	Compound P74	Compound P75
		

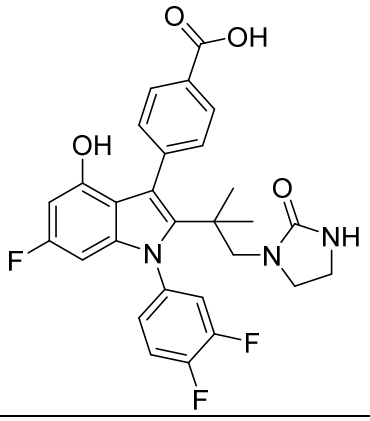
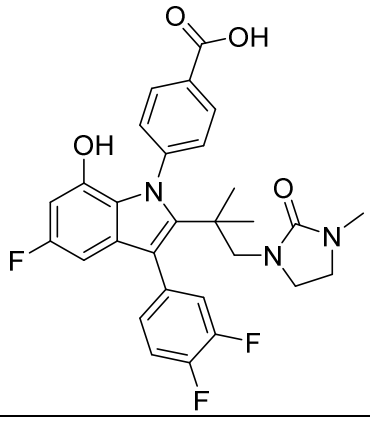
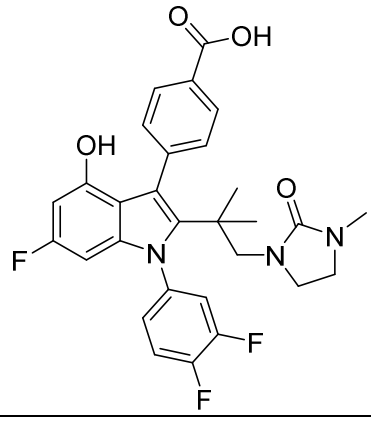
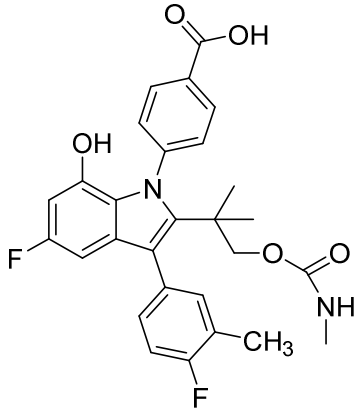
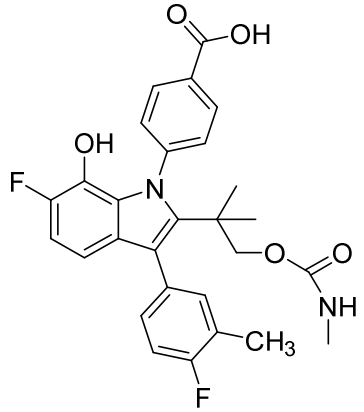
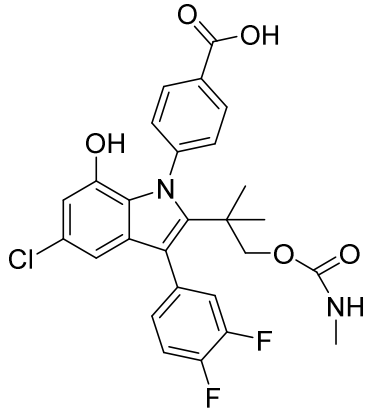
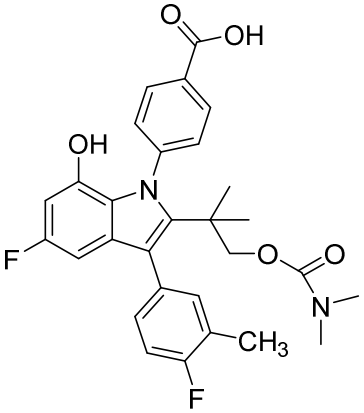
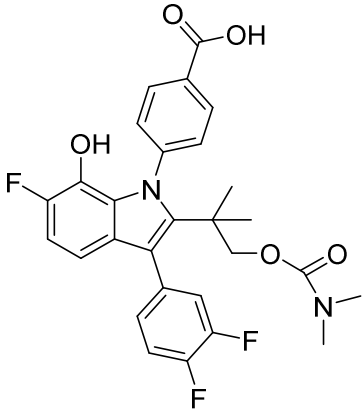
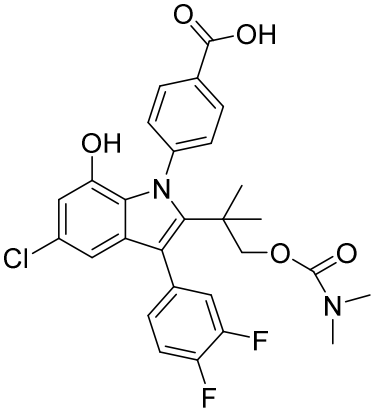
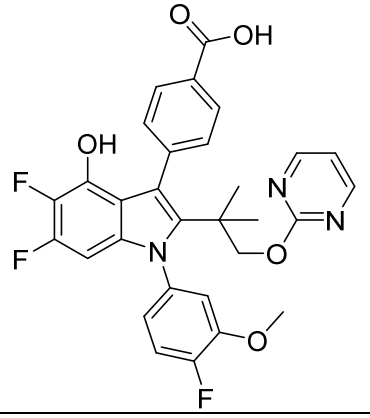
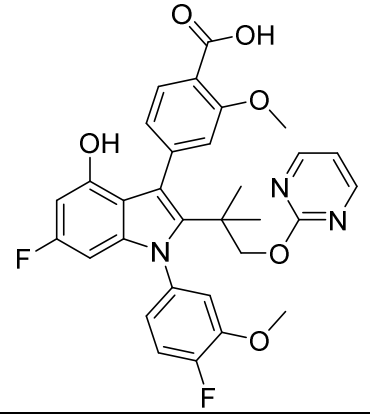
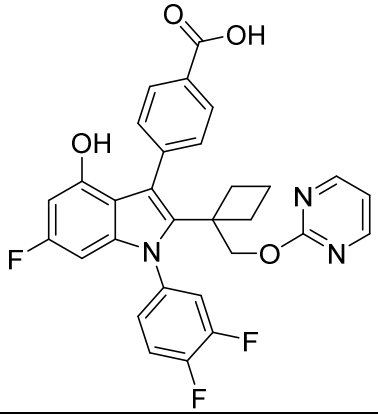
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Compound P79	Compound P80	Compound P81
		
Compound P82	Compound P83	Compound P84
		
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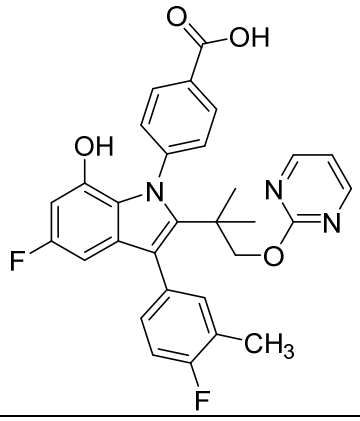
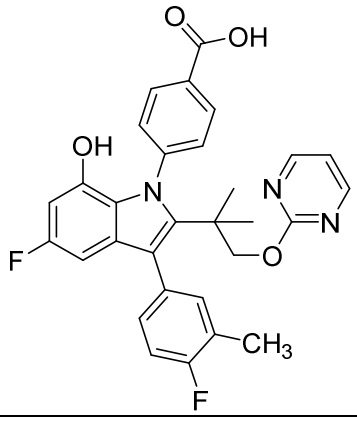
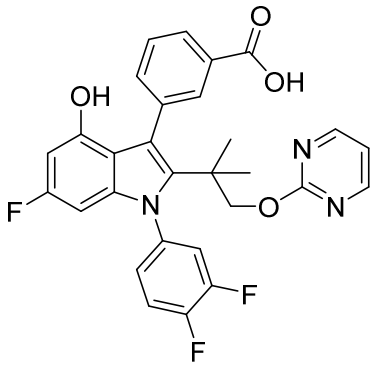
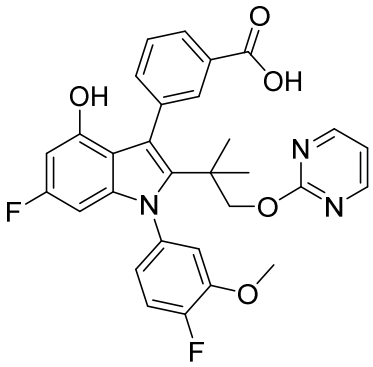
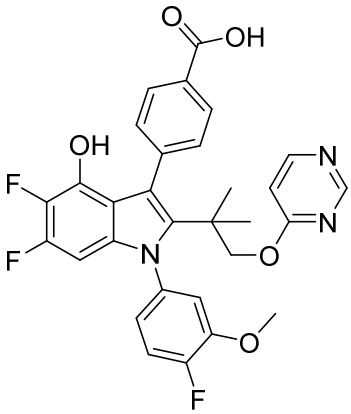
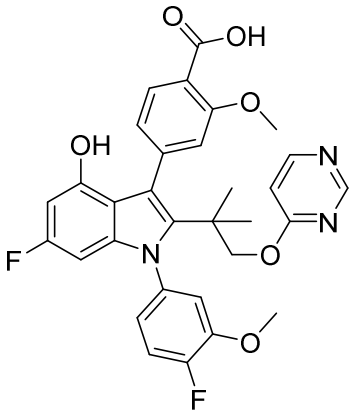
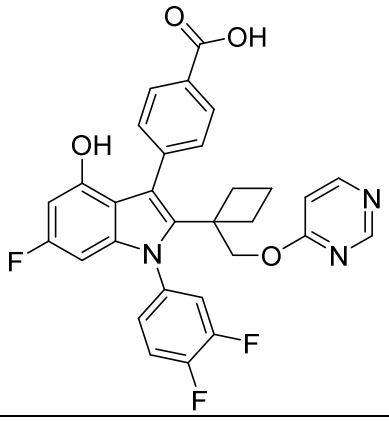
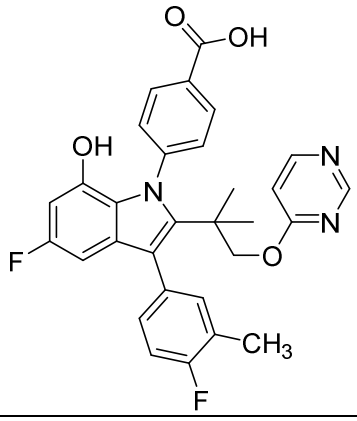
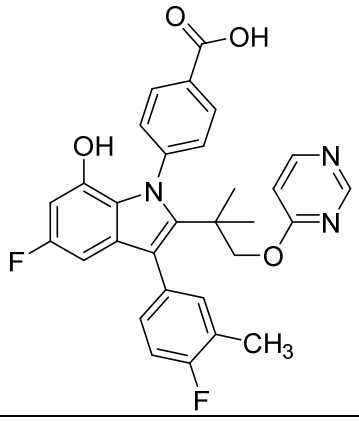
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Compound P91	Compound P92	Compound P93
		
Compound P94	Compound P95	Compound P96
		
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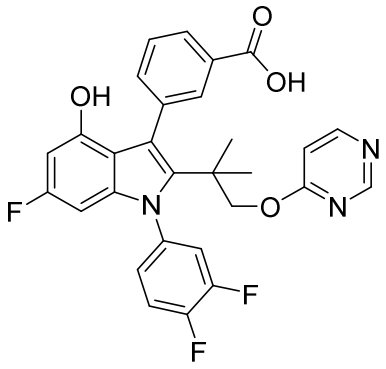
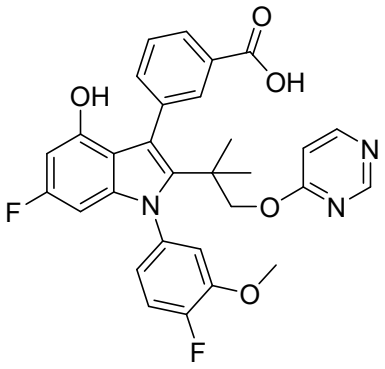
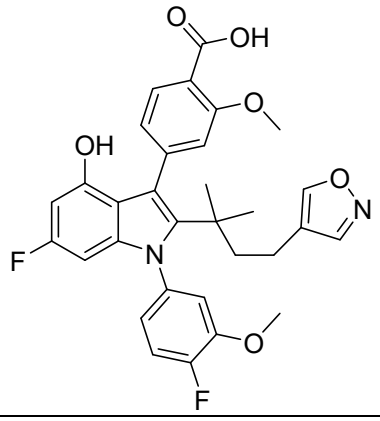
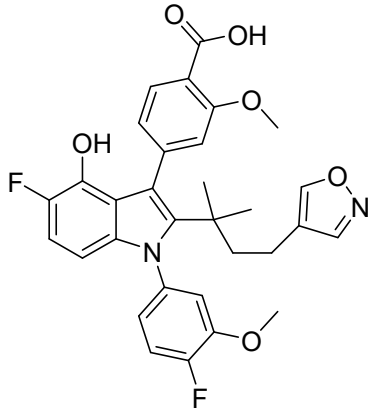
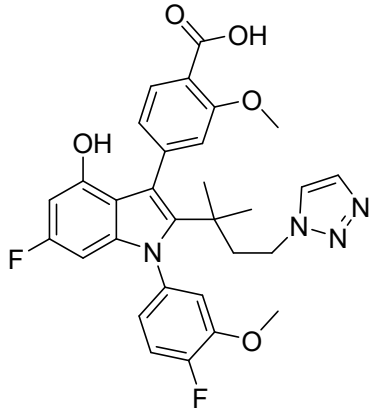
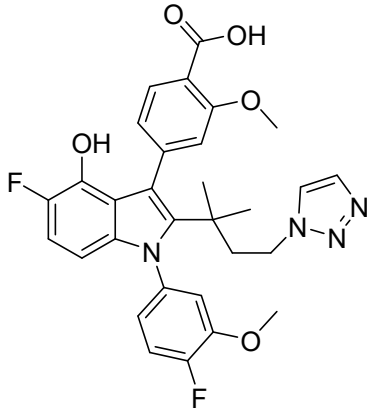
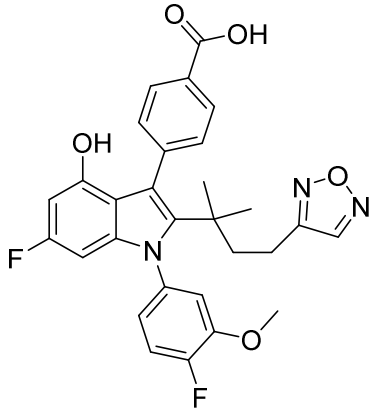
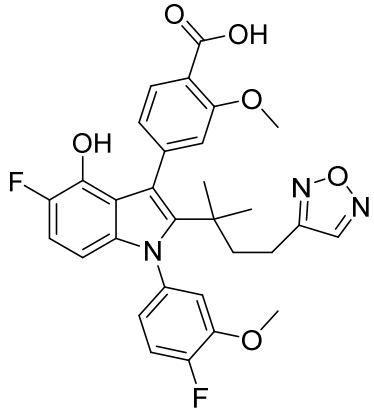
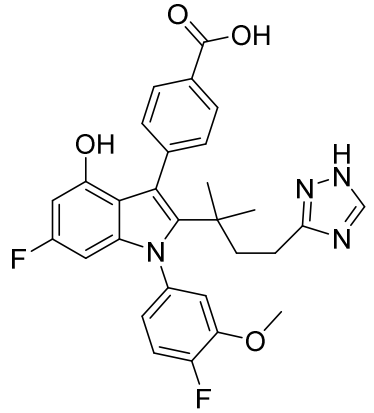
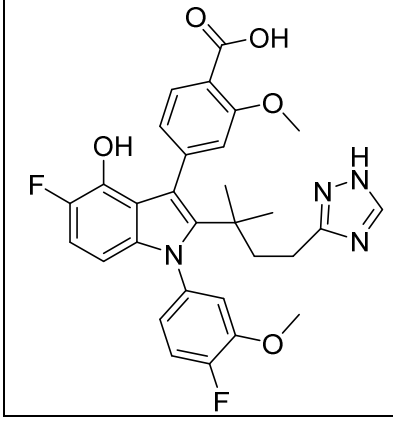
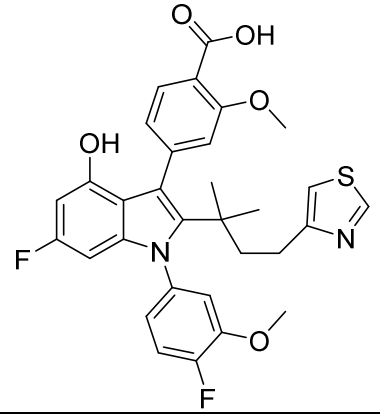
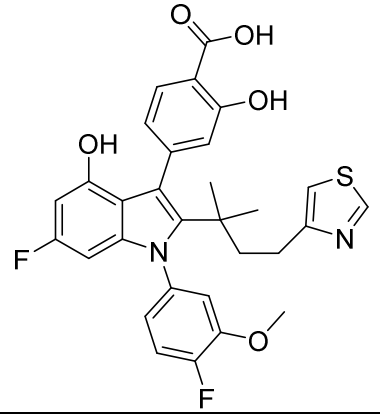
Compound P100	Compound P101	Compound P102
		
Compound P103	Compound P104	Compound P105
		
Compound P106	Compound P107	Compound P108
		
Compound P109	Compound P110	Compound P111
		

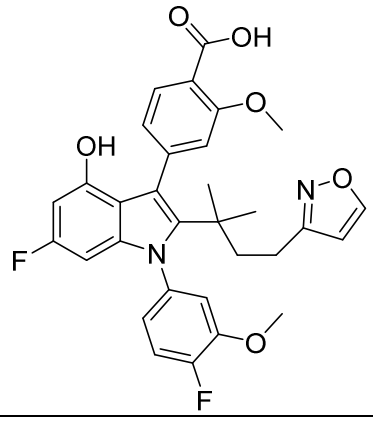
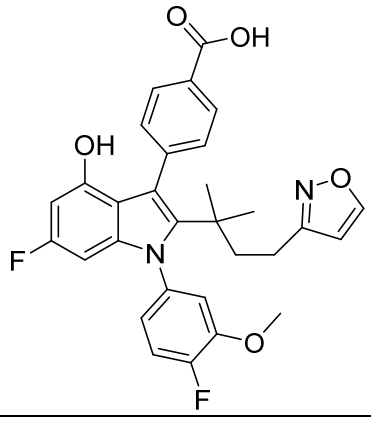
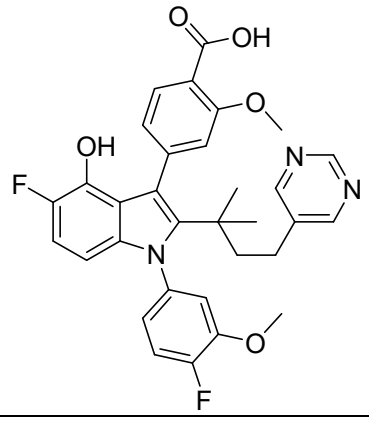
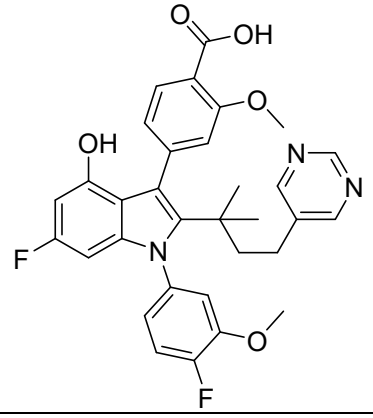
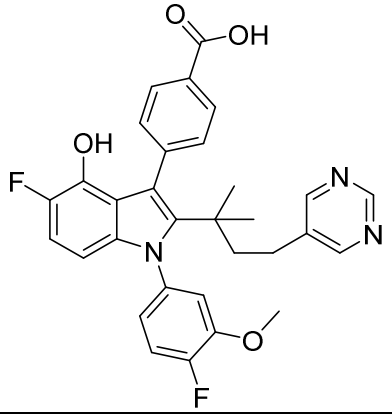
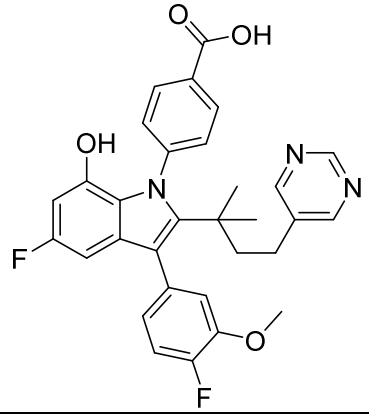
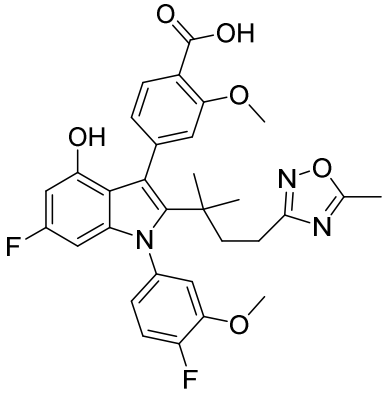
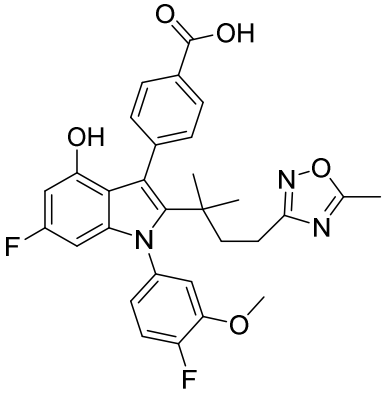
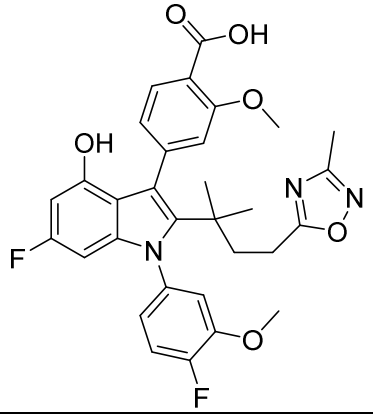
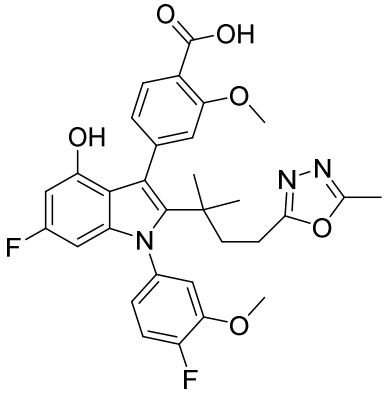
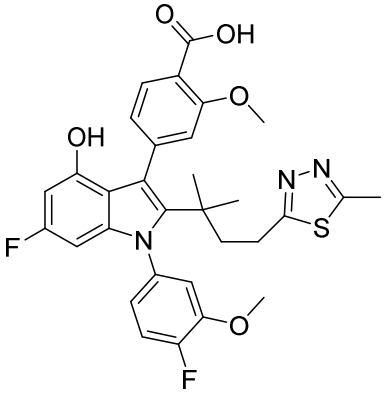
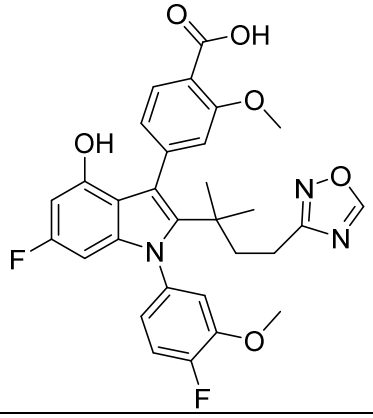
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Compound P115	Compound P116	Compound P117
		
Compound P118	Compound P119	Compound P120
		

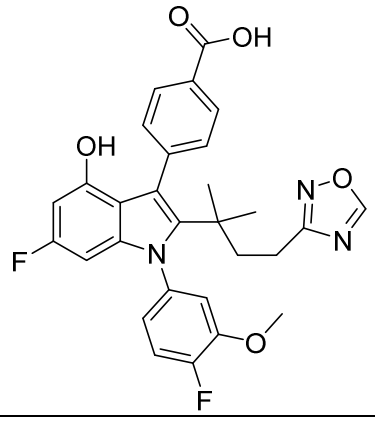
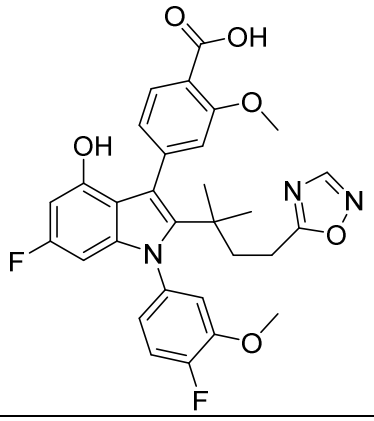
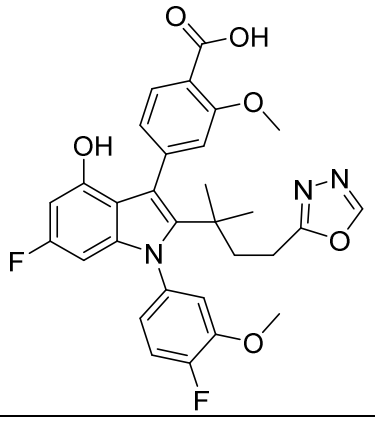
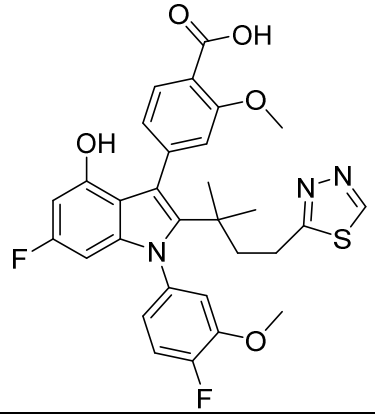
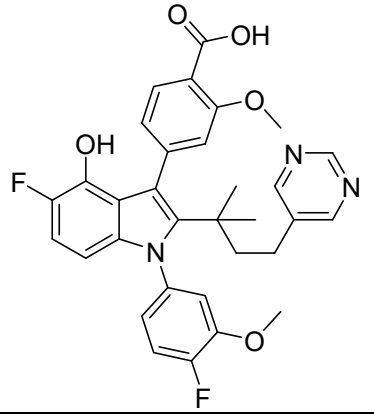
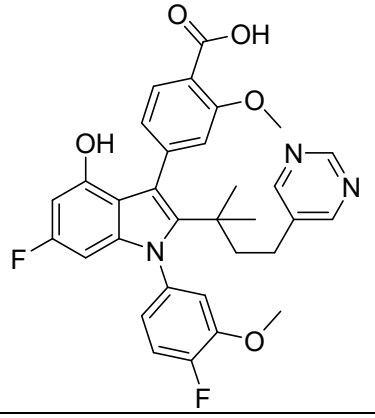
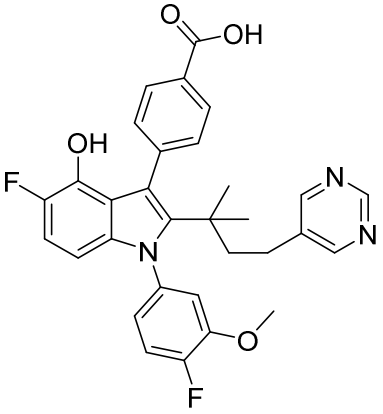
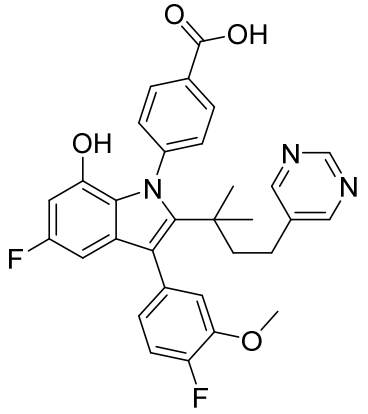
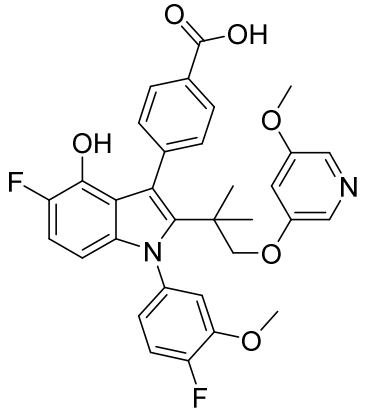
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Compound P124	Compound P125	Compound P126
		
Compound P127	Compound P128	Compound P129
		
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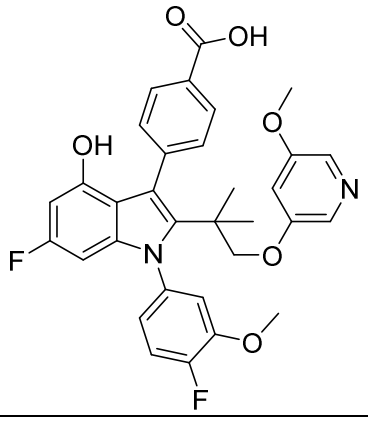
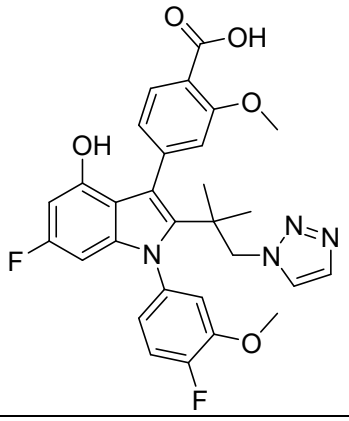
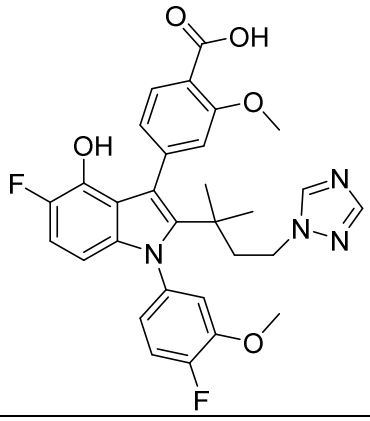
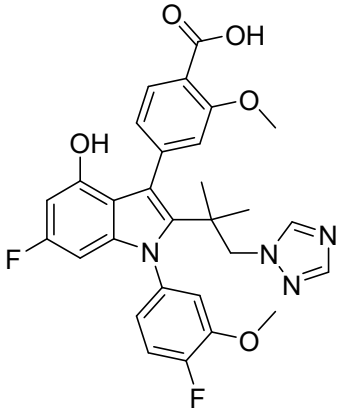
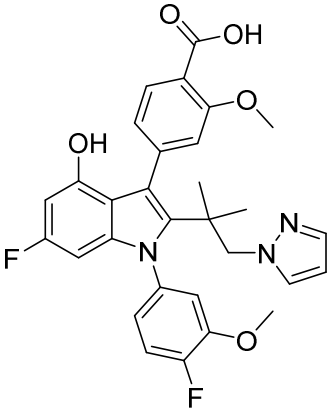
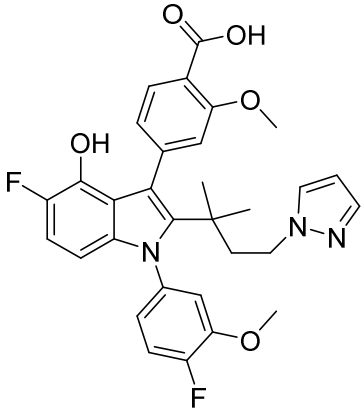
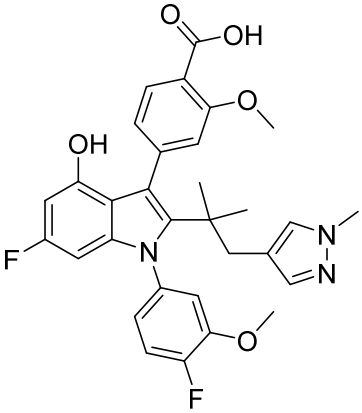
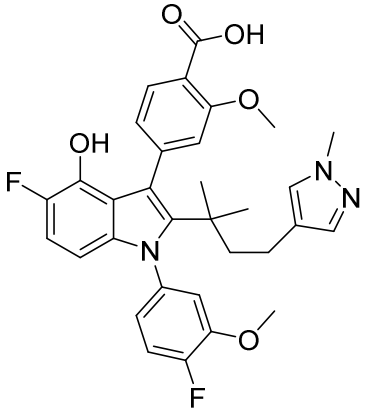
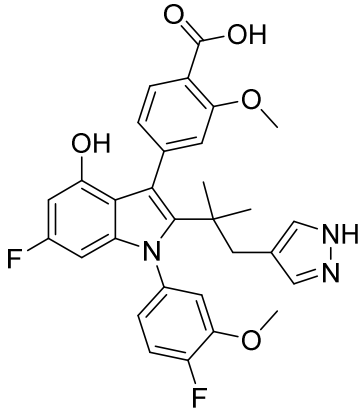
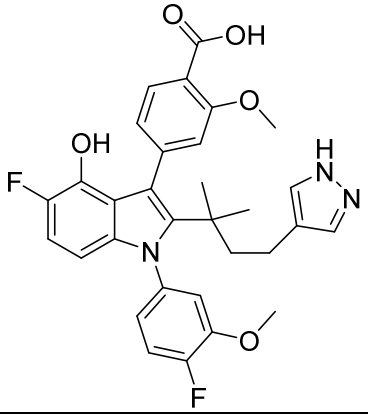
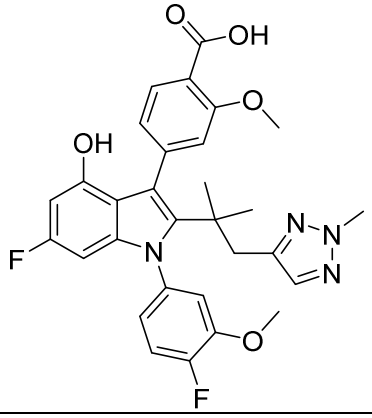
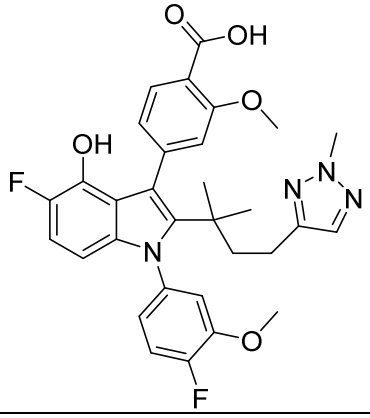
Compound P133	Compound P134	Compound P135
		
Compound P136	Compound P137	Compound P138
		
Compound P139	Compound P140	Compound P141
		
Compound P142	Compound P143	Compound P144
		

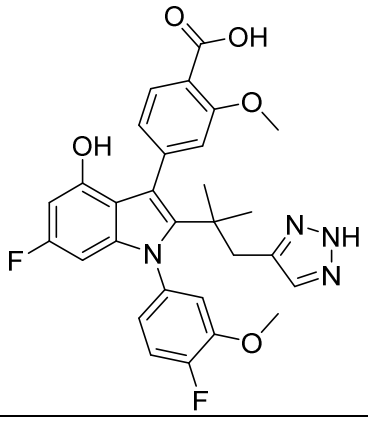
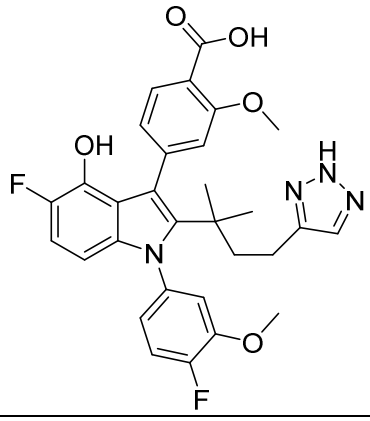
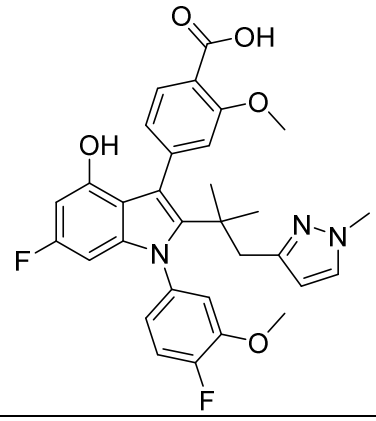
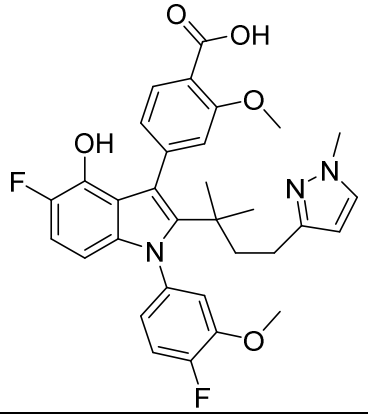
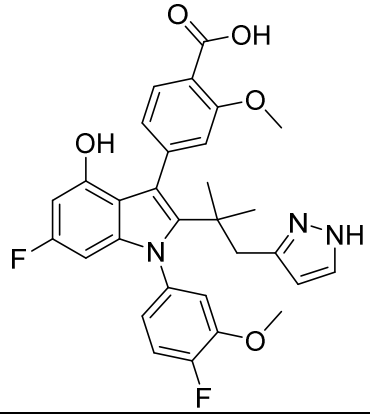
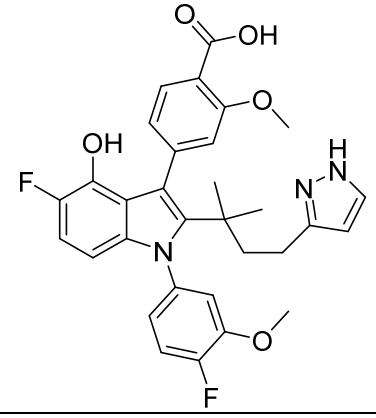
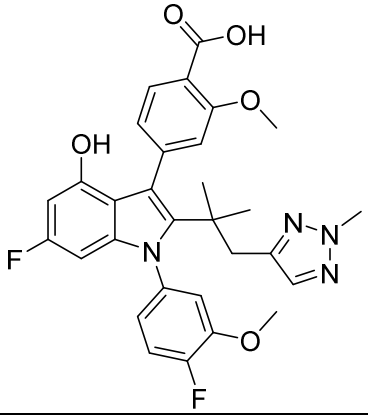
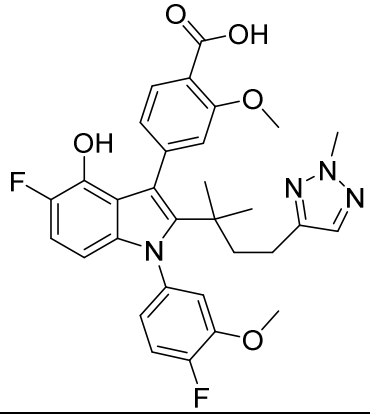
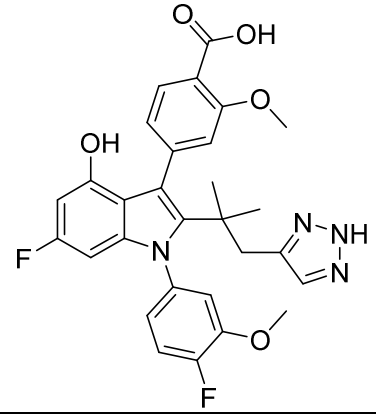
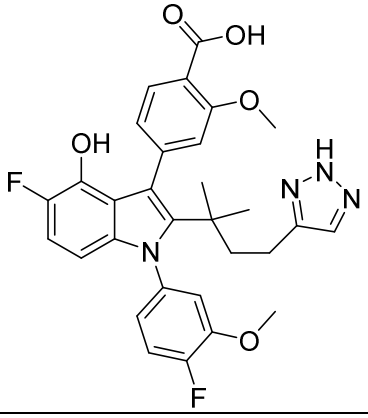
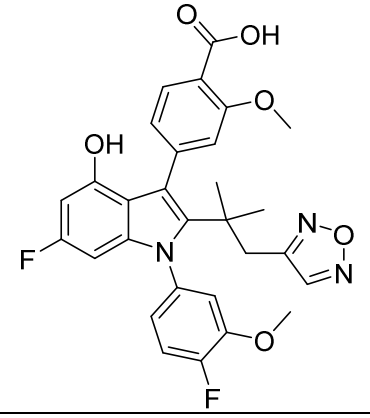
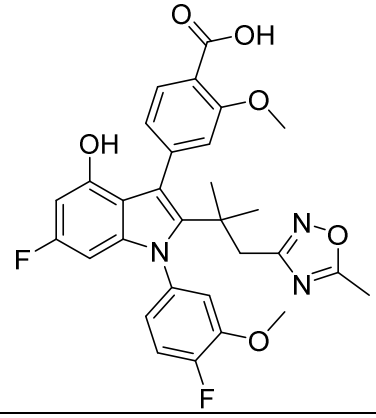
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Compound P148	Compound P149	Compound P150
		
Compound P151	Compound P152	Compound P153
		

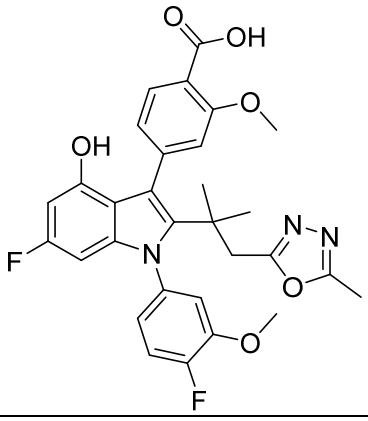
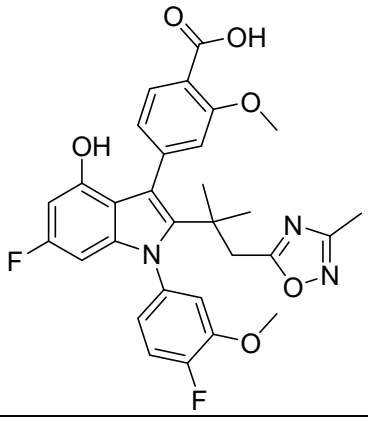
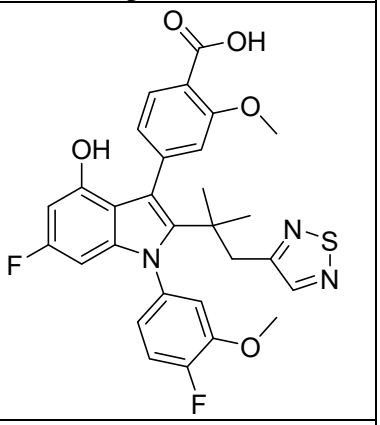
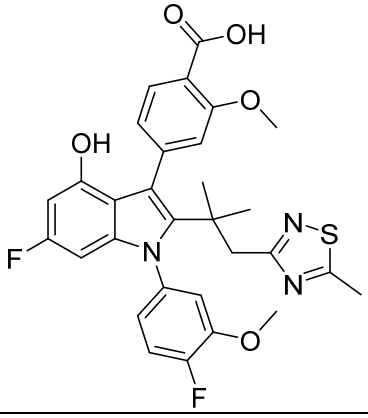
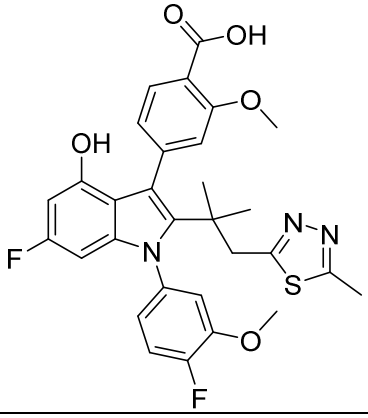
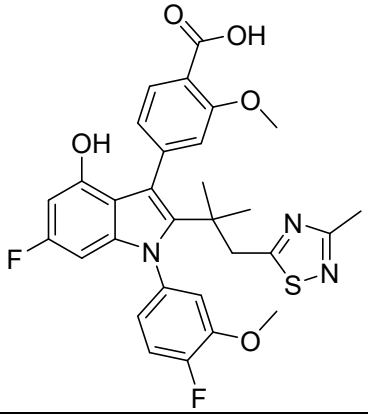
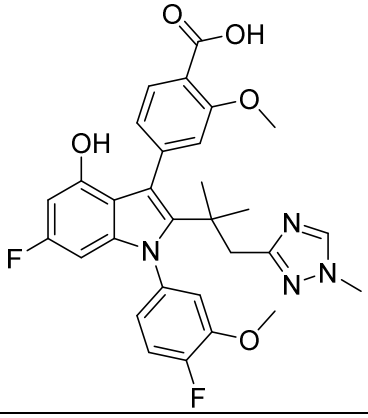
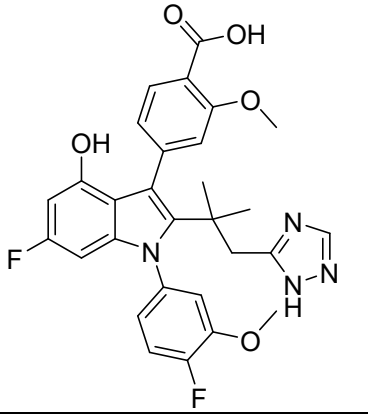
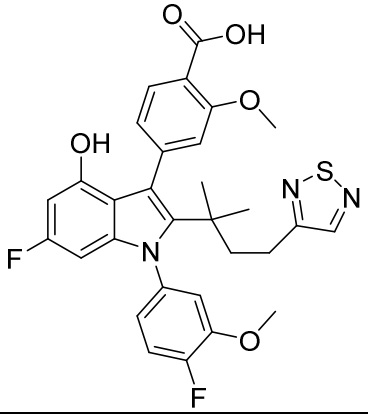
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Compound P160	Compound P161	Compound P162
		
Compound P163	Compound P164	Compound P165
		

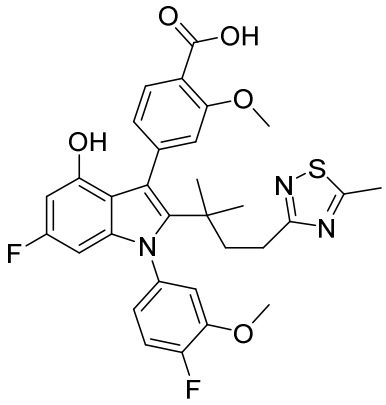
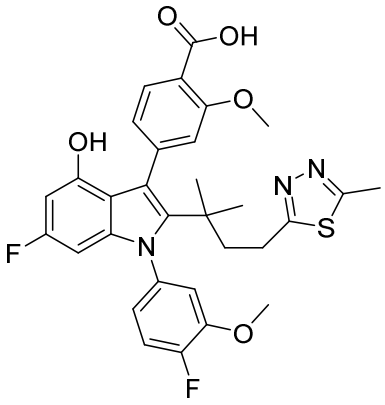
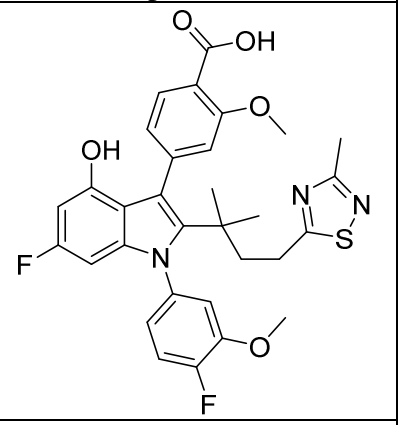
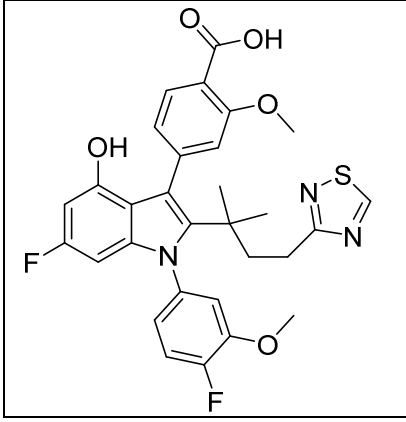
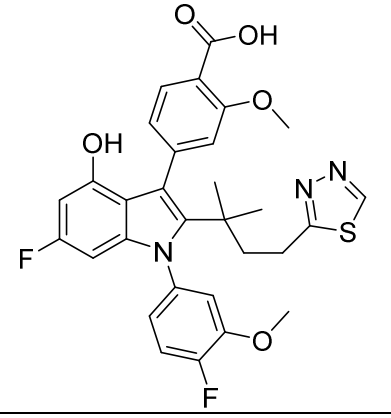
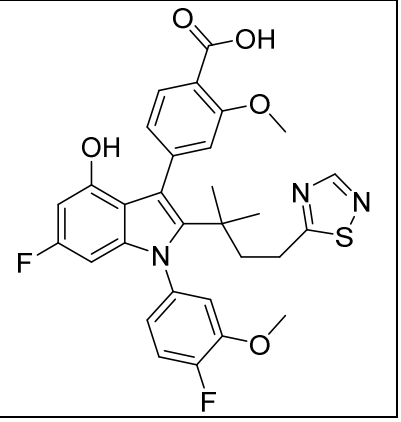
Compound P166	Compound P167	Compound P168
		
Compound P169	Compound P170	Compound P171
		
Compound P172	Compound P173	Compound P174
		
Compound P175	Compound P176	Compound P177
		

Compound P178	Compound P179	Compound P180
		
Compound P181	Compound P182	Compound P183
		
Compound P184	Compound P185	Compound P186
		

Compound P187	Compound P188	Compound P189
		
Compound P190	Compound P191	Compound P192
		
Compound P193	Compound P194	Compound P195
		
Compound P196	Compound P197	Compound P198
		

Compound P199	Compound P200	Compound P201
		
Compound P202	Compound P203	Compound P204
		
Compound P205	Compound P206	Compound P207
		
Compound P208	Compound P209	Compound P210
		

Compound P211	Compound P212	Compound P213
		
Compound P214	Compound P215	Compound P216
		
Compound P217	Compound P218	Compound P219
		

Compound P220	Compound P221	Compound P222
		
Compound P223	Compound P224	Compound P225
		

tautomers thereof, deuterated derivatives of those compounds and tautomers and pharmaceutically acceptable salts of the compounds, tautomers, and deuterated derivatives.

43. A compound according to claim 42, wherein the compound is selected from Compounds 1-457, tautomers thereof, deuterated derivatives of those compounds and tautomers and pharmaceutically acceptable salts of the compounds, tautomers, and deuterated derivatives.

44. A compound according to claim 42, wherein the compound is selected from Compounds 458-532, tautomers thereof, deuterated derivatives of those compounds and tautomers and pharmaceutically acceptable salts of the compounds, tautomers, and deuterated derivatives.

45. A compound according to claim 42, wherein the compound is selected from Compounds B1-B25 and Compounds W1-W32, tautomers thereof, deuterated derivatives of

those compounds and tautomers and pharmaceutically acceptable salts of the compounds, tautomers, and deuterated derivatives.

46. A compound according to claim 42, wherein the compound is selected from Compounds P1-P225, tautomers thereof, deuterated derivatives of those compounds and tautomers and pharmaceutically acceptable salts of the compounds, tautomers, and deuterated derivatives.

47. A pharmaceutical composition comprising a therapeutically effective amount of at least one compound according to any one of claims 1 to 46, a tautomer thereof, a deuterated derivative of that compound or tautomer, or a pharmaceutically acceptable salt of the foregoing.

48. Use of therapeutically effective amount of a compound, tautomer, deuterated derivative, or pharmaceutically acceptable salt according to any one of claims 1 to 46, or pharmaceutical composition according to claim 47, in the manufacture of a medicament for the treatment of alpha-1 antitrypsin (AAT) deficiency.49. The use of claim 48, wherein said therapeutically effective amount of the at least one compound, tautomer, deuterated derivative, or pharmaceutically acceptable salt is to be administered in combination with AAT augmentation therapy and/or AAT replacement therapy.

50. A therapeutically effective amount of a compound, tautomer, deuterated derivative, or pharmaceutically acceptable salt according to any one of claims 1 to 46, or pharmaceutical composition according to claim 47, for use in the treatment of alpha-1 antitrypsin (AAT) deficiency.