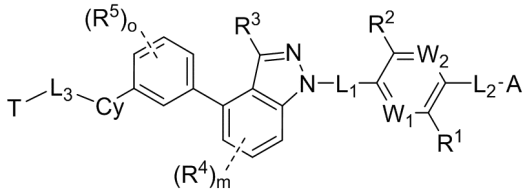
## CLAIMS

1. A compound of formula (I) or a pharmaceutically acceptable salt thereof, a prodrug, an isotopic derivative, an isomer, a solvate, or a metabolite thereof



Formula (I)

wherein $L_1$ is selected from $-CR^AR^B-$ and -C(O)-;

$L_2$, $L_3$ is selected from $-(CR^CR^D)_p$, $-(CR^CR^D)_p-NR^a-(CR^CR^D)_q-$, $-(CR^CR^D)_p-O-(CR^CR^D)_q-$ and -C(O)-;

$W_1$, $W_2$ each independently represents $CR^L$ or N;

$R^1$ each independently represents hydrogen, halogen, nitro, cyano or $-NR^aR^b$, or $C_1$-$C_6$ alkyl, $C_3$-$C_6$ cycloalkyl , $-O(C_1$-$C_6$ alkyl), $-O(C_0$-$C_6$ alkylene)($C_3$-$C_6$ cycloalkyl ) or $-O(C_0$-$C_6$ alkylene)(3-6 membered heterocycloalkyl) substituted with 0, 1, 2 or 3 substituents; wherein the substituents are selected from $-OR^a$, cyano, oxo, halogen, $C_1$-$C_6$ alkyl, $-(C_1$-$C_6$ alkylene)$OR^a$, cyano $C_1$-$C_6$ alkyl, $C_1$-$C_6$ haloalkyl, $C_3$-$C_8$ cycloalkyl , $-C(O)R^a$, $-(C_1$-$C_6$ alkylene)$C(O)R^a$, $-C(O)OR^a$, $-(C_1$-$C_6$ alkyl)$C(O)OR^a$, $-NR^aR^b$, $-(C_1$-$C_6$ alkylene)$NR^aR^b$,$-C(O)NR^aR^b$, $-SO_2R^a$, $-C(O)NR^aSO_2R^b$ and $-NR^aC(O)R^b$;

$R^2$, $R^3$, $R^4$, $R^5$ each independently represent hydrogen, halogen, nitro, cyano, $-NR^aR^b$, $-SO_2R^a$, $-S(O)R^a$, $-P(O)R^aR^b$, $C_1$-$C_6$ alkyl, $-O(C_1$-$C_6$ alkyl), $-O(C_3$-$C_6$ cycloalkyl ), halo($C_1$-$C_6$ alkyl) or $C_3$-$C_6$ cycloalkyl;

Cy represents benzene ring or six-membered heteroaryl substituted by 0, 1, 2 or 3 $R^6$, wherein the six-membered heteroaryl may optionally contain 1 or 2 nitrogen atoms; wherein the $R^6$ represents hydrogen, halogen, nitro, cyano, $-NR^aR^b$, $-SO_2R^a$, $-S(O)R^a$ or $-P(O)R^aR^b$ or $C_1$-$C_6$ alkyl, $C_3$-$C_6$ cycloalkyl , $-O(C_1$-$C_6$ alkyl), $-O(C_0$-$C_6$ alkylene)($C_5$-$C_{10}$ aryl), $-O(C_0$-$C_6$ alkylene)(5-10 membered heteroaryl), $-O(C_0$-$C_6$ alkylene)($C_3$-$C_6$ cycloalkyl ) or $-O(C_0$-$C_6$ alkylene)(3-6

membered heterocycloalkyl) substituted with 0, 1, 2 or 3 substituents; wherein the substituents are selected from -$OR^a$, cyano, oxo, halogen, $C_1$-$C_6$ alkyl, -($C_1$-$C_6$ alkylene)$OR^a$, cyano $C_1$-$C_6$ alkyl, $C_1$-$C_6$ haloalkyl, $C_3$-$C_8$ cycloalkyl , -$C(O)R^a$, -($C_1$-$C_6$ alkylene)$C(O)R^a$, -$C(O)OR^a$, -($C_1$-$C_6$ alkylene)$C(O)OR^a$, -$NR^aR^b$, -($C_1$-$C_6$ alkylene)$NR^aR^b$, -$C(O)NR^aR^b$, -$SO_2R^a$, -$C(O)NR^aSO_2R^b$ or -$NR^aC(O)R^b$;

wherein $R^L$ represents hydrogen, $C_1$-$C_6$ alkyl, -$O(C_1$-$C_6$ alkyl), -$O(C_3$-$C_6$ cycloalkyl ), halogen, nitro, cyano, -$NR^aR^b$, halo($C_1$-$C_6$ alkyl) or $C_3$-$C_6$ cycloalkyl;

T, A each independently represent -($C_1$-$C_6$ alkyl), -($C_0$-$C_6$ alkylene)-($C_3$-$C_{12}$ cycloalkyl ), -($C_0$-$C_6$ alkylene)-(3-12 membered heterocycle), -($C_0$-$C_6$ alkylene)-($C_6$-$C_{10}$ aryl) or -($C_0$-$C_6$ alkylene)-(5-10 membered heteroaryl) substituted with 0, 1, 2 or 3 substituents, wherein the substituents are selected from cyano, oxo, halogen, $C_1$-$C_6$ alkyl, -($C_0$-$C_6$ alkylene)$OR^a$, cyano $C_1$-$C_6$ alkyl, halo($C_1$-$C_6$ alkyl), $C_3$-$C_8$ cycloalkyl , -($C_0$-$C_6$ alkylene)$C(O)R^a$, -($C_0$-$C_6$ alkylene)$C(O)OR^a$, -($C_0$-$C_6$ alkenyl)$C(O)OR^a$, -($C_0$-$C_6$ alkylene)$NR^aR^b$, -$C(O)NR^aR^b$, -$NR^aSO_2R^b$, -$C(O)NR^aSO_2R^b$ and -$NR^aC(O)R^b$;

wherein $R^A$, $R^B$ each independently represent hydrogen, $C_1$-$C_6$ alkyl, -($C_0$-$C_3$ alkylene)($C_3$-$C_{12}$ cycloalkyl ), -($C_0$-$C_3$ alkylene)(3-12 membered heterocycle), halo($C_1$-$C_6$ alkyl) or halogen, or $R^A$ and $R^B$ together with their co-attached carbon atom form a 3-6 membered ring;

$R^C$, $R^D$ each independently represent hydrogen, $C_1$-$C_6$ alkyl, -($C_0$-$C_3$ alkylene)($C_3$-$C_{12}$ cycloalkyl ), -($C_0$-$C_3$ alkylene)(3-12 membered heterocycle), halo($C_1$-$C_6$ alkyl) or halogen, or $R^C$ and $R^D$ together with their co-attached carbon atom form a 3-6 membered ring;

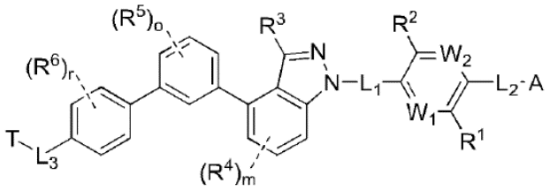
$R^a$, $R^b$ each independently represent hydrogen, $C_1$-$C_6$ alkyl, halo($C_1$-$C_6$ alkyl), -($C_0$-$C_6$ alkylene)OH, -($C_0$-$C_3$ alkylene)($C_3$-$C_{12}$ cycloalkyl), -($C_0$-$C_3$ alkylene)(3-12 membered heterocycle), -($C_0$-$C_3$ alkylene)($C_6$-$C_{10}$ aryl), -($C_0$-$C_3$ alkylene)(5-10 membered heteroaryl) or halo($C_1$-$C_6$ alkyl), or $R^a$ and $R^b$ together with their co-attached atom form a 3-6 membered ring;

wherein m, o each independently represent 0, 1 or 2; and

wherein p, q each independently represent 0, 1, 2 or 3.

2. The compound of Formula (I) or a pharmaceutically acceptable salt thereof, a prodrug, an

isotopic derivative, an isomer, a solvate, or a metabolite thereof according to claim 1, wherein the compound of Formula (I) having the following structure of Formula (II):

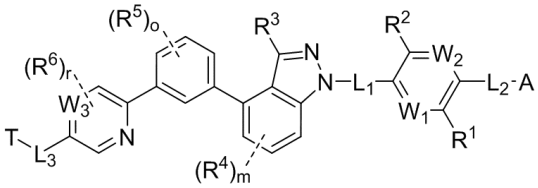


Formula (II)

wherein $R^1$, $R^2$, $R^3$, $R^4$, $R^5$, $R^6$, $L_1$, $L_2$, $L_3$, T, A, $W_1$, $W_2$, m, o are as defined in claim 1;

and wherein r represents 0, 1, 2 or 3.

3. The compound of Formula (I) or a pharmaceutically acceptable salt thereof, a prodrug, an isotopic derivative, an isomer, a solvate, or a metabolite thereof according to claim 1, wherein the compound of Formula (I) having the following structure of Formula (III):



Formula (III)

wherein $R^1$, $R^2$, $R^3$, $R^4$, $R^5$, $R^6$, $L_1$, $L_2$, $L_3$, T, A, $W_1$, $W_2$, m, o as defined in claim 1;

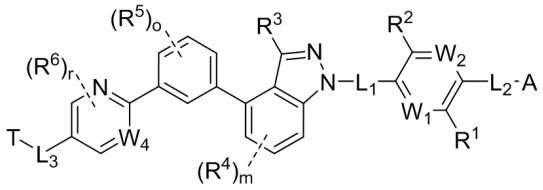
wherein $W_3$ represents $CR^M$ or N;

wherein $R^M$ represents hydrogen, $C_1$-$C_6$ alkyl, -O($C_1$-$C_6$ alkyl), -O($C_3$-$C_6$ cycloalkyl ), halogen, nitro, cyano, -$NR^aR^b$, halo($C_1$-$C_6$ alkyl) or $C_3$-$C_6$ cycloalkyl;

wherein r represents 0, 1 or 2.

4. The compound of Formula (I) or a pharmaceutically acceptable salt thereof, a prodrug, an isotopic derivative, an isomer, a solvate, or a metabolite thereof according to claim 1, wherein the

compound of Formula (I) having the following structure of Formula (IV):



Formula (IV)

wherein $R^1$, $R^2$, $R^3$, $R^4$, $R^5$, $R^6$, $L_1$, $L_2$, $L_3$, T, A, $W_1$, $W_2$, m, o as defined in claim 1;

wherein $W_4$ represents $CR^N$ or N;

wherein $R^N$ represents hydrogen, $C_1$-$C_6$ alkyl, -O($C_1$-$C_6$ alkyl), -O($C_3$-$C_6$ cycloalkyl ), halogen, nitro, cyano, -$NR^aR^b$, halo($C_1$-$C_6$ alkyl) or $C_3$-$C_6$ cycloalkyl;

wherein r represents 0, 1 or 2.

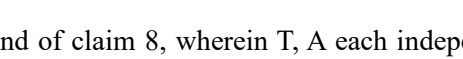
5. The compound according to any one of claims 1-4, wherein $L_1$ is selected from -$CR^AR^B$-, and wherein $R^A$ and $R^B$ are each independently selected from hydrogen, halogen, $C_1$-$C_6$ alkyl and halo($C_1$-$C_6$ alkyl), preferably are hydrogen; and/or wherein $L_2$ and $L_3$ are each independently selected from -$CR^CR^D$- and -$CR^CR^D$ -$NR^a$- ($CR^CR^D$)$_q$-, wherein q is selected from 0, 1 or 2, and wherein $R^C$, $R^D$ are each independently selected from hydrogen, halogen, $C_1$-$C_6$ alkyl and halo($C_1$-$C_6$ alkyl) , preferably are hydrogen; $R^a$ is each independently selected from hydrogen, $C_1$-$C_6$ alkyl, halo($C_1$-$C_6$ alkyl) and -($C_0$-$C_3$ alkylene)$C_3$-$C_{12}$ cycloalkyl.

6. The compound of Formula (I) or a pharmaceutically acceptable salt thereof, a prodrug, an isotopic derivative, an isomer, a solvate, or a metabolite thereof according to any one of claims 1-5, wherein $W_1$, $W_2$ each independently represents CH or N; and/or wherein $W_3$ represents CH or N; and/or wherein $W_4$ represents CH or N.

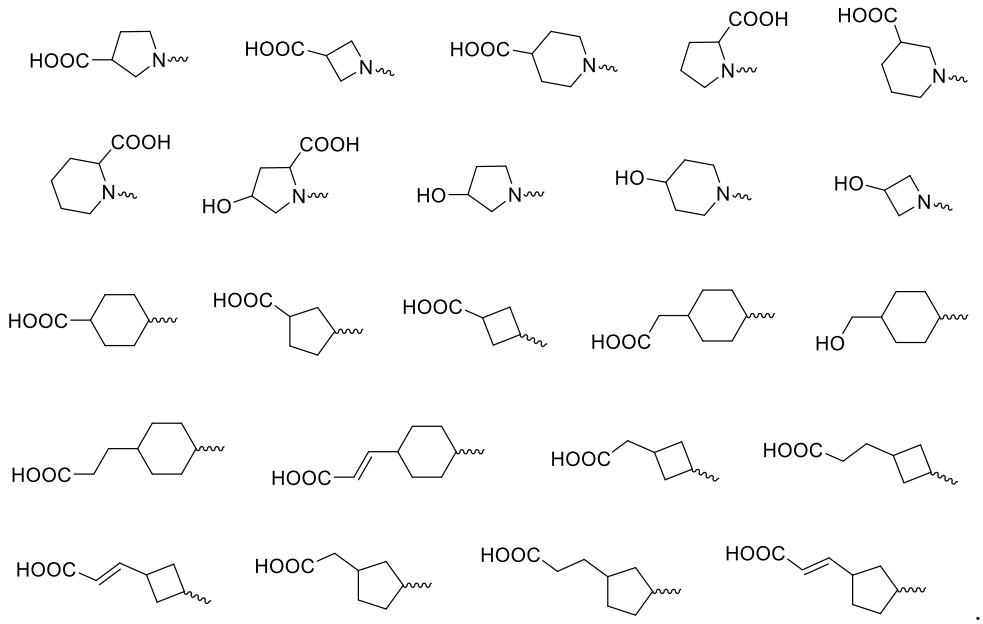
7. The compound according to any one of claims 1-6, wherein T, A each independently represent -($C_1$-$C_6$ alkyl), -($C_0$-$C_6$ alkylene)-($C_3$-$C_{12}$ cycloalkyl ) or -($C_0$-$C_6$ alkylene)-(3-12

membered heterocycle) substituted with 0, 1, 2 or 3 substituents, and wherein the substituents are selected from cyano, oxo, halogen, $C_1$-$C_6$ alkyl, -($C_0$-$C_6$ alkylene)$OR^a$, cyano $C_1$-$C_6$ alkyl, halo($C_1$-$C_6$ alkyl), $C_3$-$C_8$ cycloalkyl, -($C_0$-$C_6$ alkylene)$C(O)R^a$, -($C_0$-$C_6$ alkylene)$C(O)OR^a$, -($C_0$-$C_6$ alkenyl)$C(O)OR^a$, -($C_0$-$C_6$ alkylene)$NR^aR^b$, $-C(O)NR^aR^b$, $-NR^aSO_2R^b$, $-C(O)NR^aSO_2R^b$ and $-NR^aC(O)R^b$, wherein $R^a$ and $R^b$ each independently represent hydrogen, $C_1$-$C_6$ alkyl or halo($C_1$-$C_6$ alkyl).

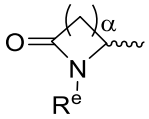
8. The compound of claim 7, wherein T, A each independently represents $C_1$-$C_6$ alkyl, $C_3$-$C_{12}$ cycloalkyl or 3-12 membered heterocycle substituted with 0, 1 or 2 substituents, wherein the substituents are selected from cyano, oxo, $-OR^a$, -($C_0$-$C_6$ alkylene)$C(O)OR^a$, -($C_0$-$C_6$ alkenyl)$C(O)OR^a$, $-NR^aSO_2R^b$, $-C(O)NR^aSO_2R^b$ and $-NR^aC(O)R^b$, wherein $R^a$ and $R^b$ each independently represent hydrogen, $C_1$-$C_6$ alkyl or halo($C_1$-$C_6$ alkyl).

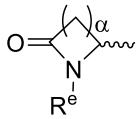
9. The compound of claim 8, wherein T, A each independently represents ,  optionally substituted with 0, 1 or 2 substituents, wherein the substituents are selected from $C_1$-$C_6$ alkyl, $-OR^a$, -($C_0$-$C_6$ alkylene)$C(O)OR^a$ and -($C_0$-$C_6$ alkenyl)$C(O)OR^a$, wherein $R^a$ represents hydrogen or $C_1$-$C_6$ alkyl, preferably are hydrogen, wherein α represents 1, 2 or 3.

10. The compound of claim 9, wherein T, A each independently represents the following groups:

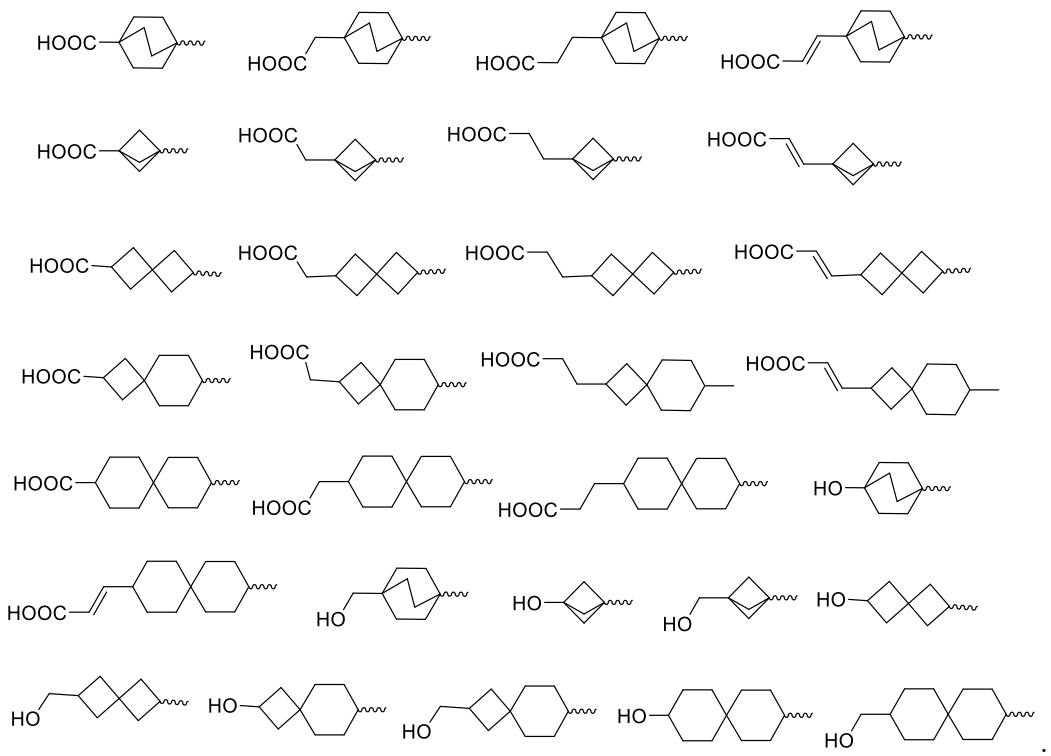


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11. The compound of claim 8, wherein T, A each independently represent  optionally substituted with 0, 1 or 2 substituents:, wherein the substituents are selected from: $C_1$-$C_6$ alkyl, -$OR^a$ and halogen, wherein $R^e$, $R^a$ each independently represent hydrogen or $C_1$-$C_6$ alkyl;wherein α represents 1, 2 , 3 or 4.

12. The compound of claim 11, wherein T, A each independently represents , wherein $R^e$ represents hydrogen or $C_1$-$C_6$ alkyl; wherein α represents 1, 2, 3 or 4.

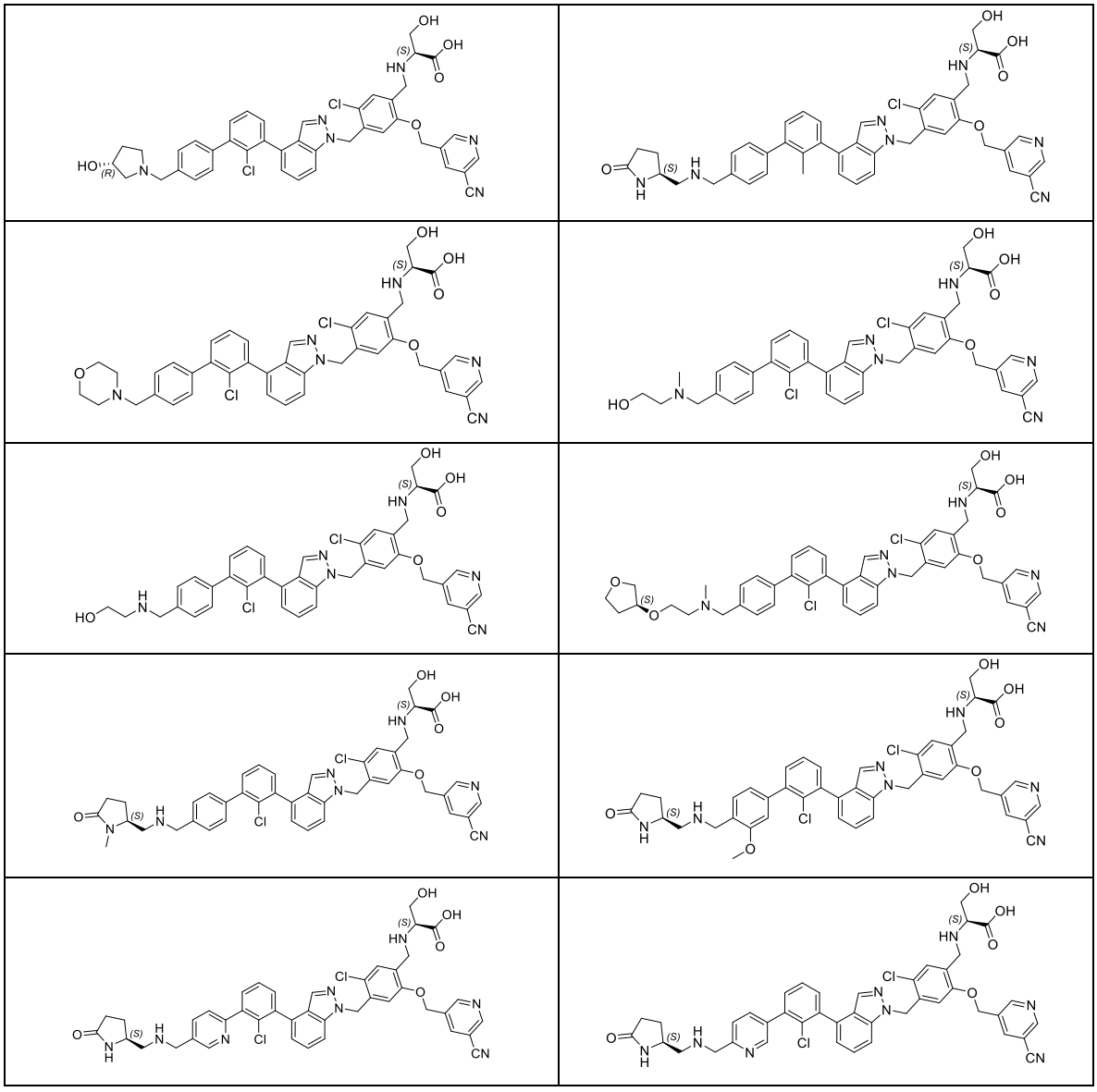
13. The compound of claim 8, wherein T, A each independently represents:

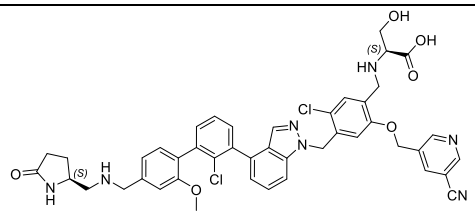
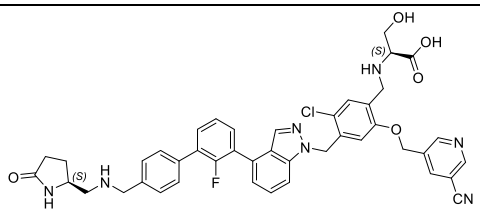
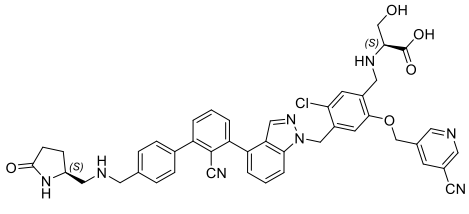
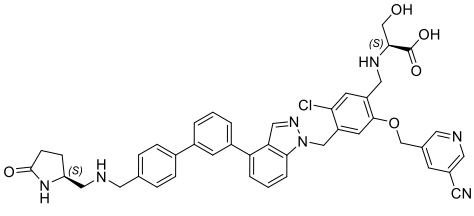
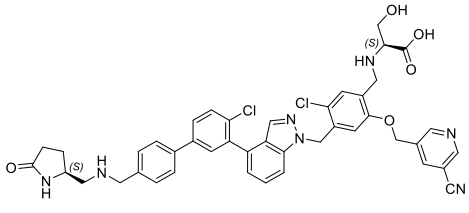
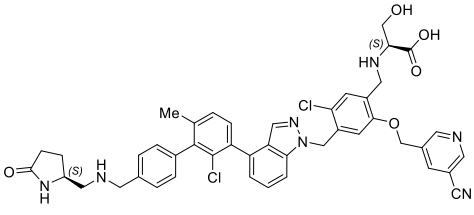
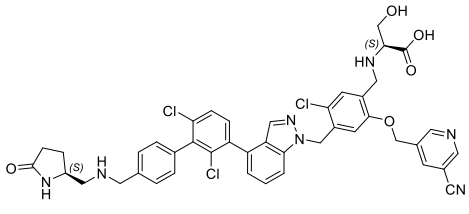
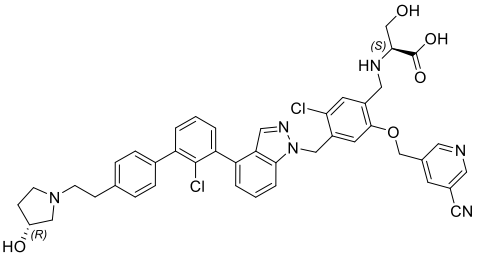
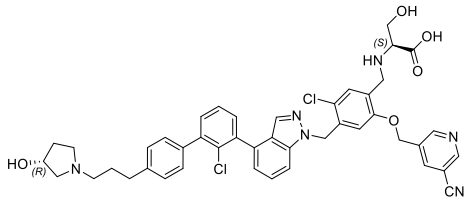
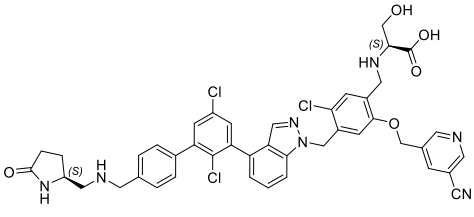
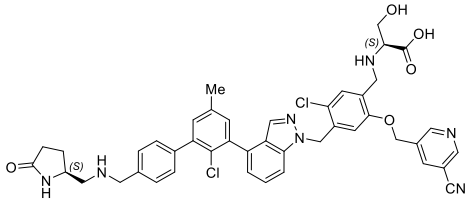
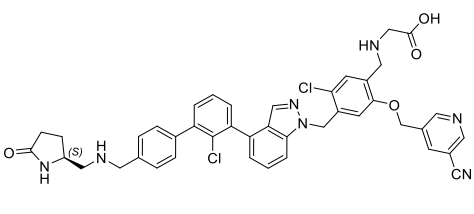


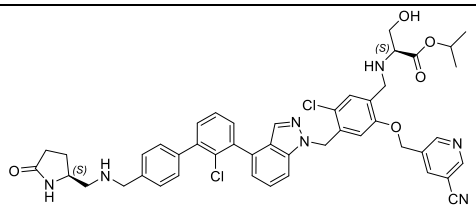
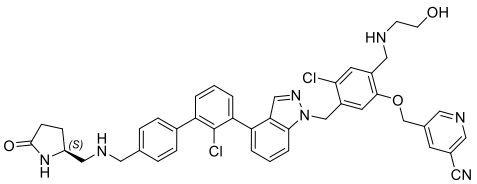
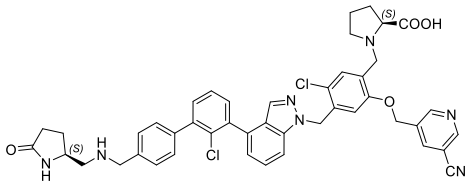
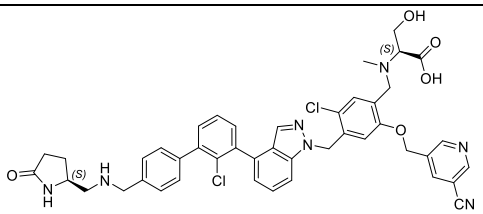
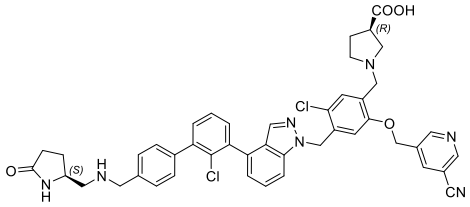
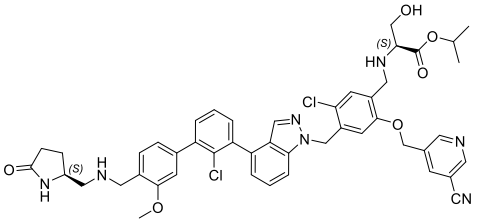
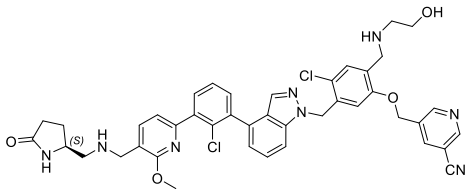
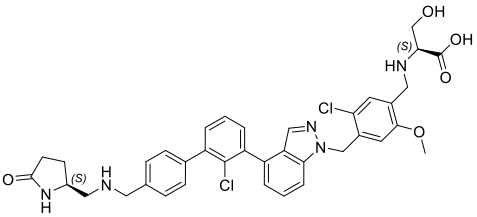
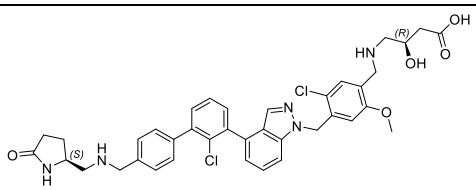
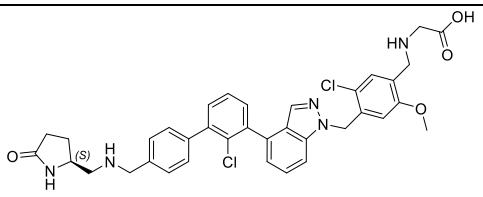
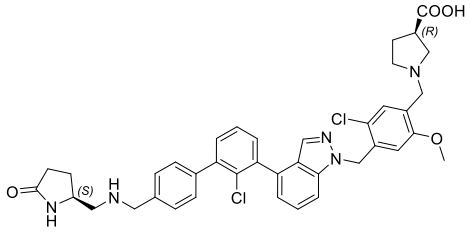
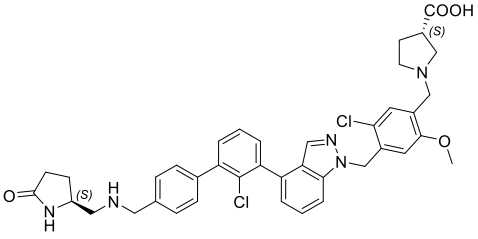

14. The compound according to any one of claims 1-13, wherein $R^1$ represents -O($C_1$-$C_6$ alkyl), -O($C_0$-$C_6$ alkylene)($C_5$-$C_{10}$ aryl), -O($C_0$-$C_6$ alkylene)(5-10 membered heteroaryl), -O($C_0$-$C_6$ alkylene)($C_3$-$C_6$ cycloalkyl ) or -O($C_0$-$C_6$ alkylene)(3-6 membered heterocycloalkyl ) substituted with 0, 1, 2 or 3 substituents; wherein the substituents are selected from: cyano, oxo, halogen, cyano $C_1$-$C_6$ alkyl and $C_1$-$C_6$ haloalkyl; and/or wherein $R^2$ represents hydrogen, halogen, nitro, cyano, -$SO_2R^a$, $C_1$-$C_6$ alkyl, halo($C_1$-$C_6$ alkyl) or $C_3$-$C_6$ cycloalkyl; wherein $R^a$ represents hydrogen, $C_1$-$C_6$ alkyl or halo($C_1$-$C_6$ alkyl); and/or wherein $R^3$, $R^4$ each independently represent hydrogen, halogen, nitro or cyano; and/or wherein $R^5$ represents hydrogen, halogen, nitro, cyano, $C_1$-$C_6$ alkyl, halo($C_1$-$C_6$ alkyl) or $C_3$-$C_6$ cycloalkyl; and/or wherein $R^6$ represents hydrogen, halogen, nitro, cyano, -$SO_2R^a$, $C_1$-$C_6$ alkyl, halo($C_1$-$C_6$ alkyl) or $C_3$-$C_6$ cycloalkyl or -O($C_1$-$C_6$ alkyl), -O($C_0$-$C_6$ alkylene)($C_5$-$C_{10}$ aryl), -O($C_0$-$C_6$ alkylene)(5-10 membered heteroaryl), -O($C_0$-$C_6$ alkylene)($C_3$-$C_6$ cycloalkyl ) or -O($C_0$-$C_6$ alkylene)(3-6 membered heterocycloalkyl ) substituted with 0, 1, 2 or 3 substituents; wherein the substituents are selected from: cyano, oxo, halogen, cyano $C_1$-$C_6$ alkyl and $C_1$-$C_6$ haloalkyl.

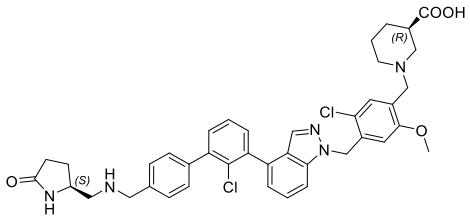
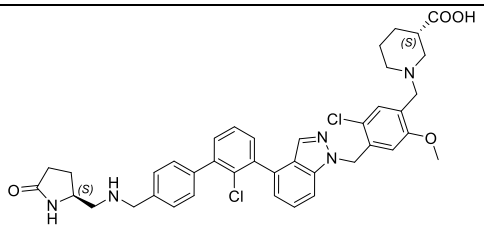
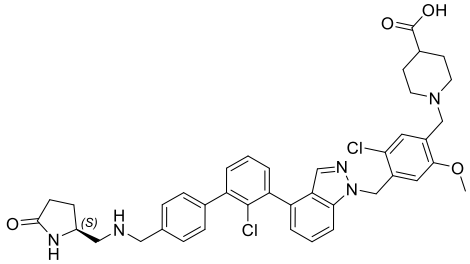
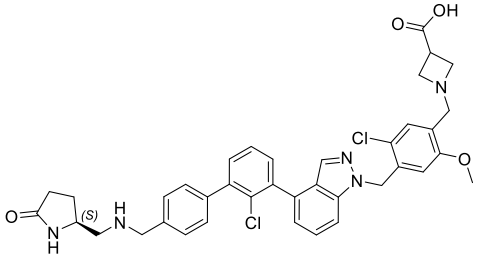
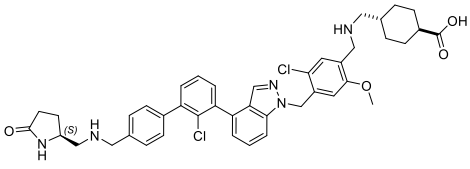
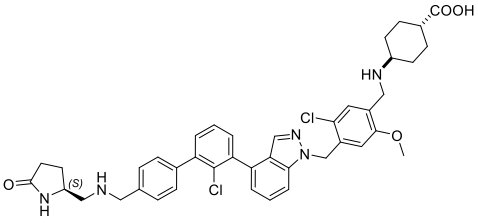
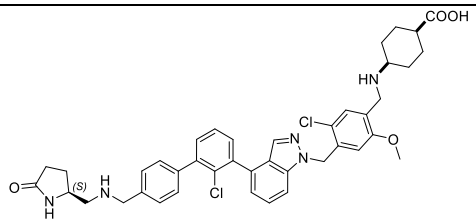
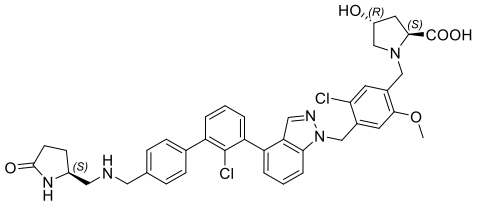
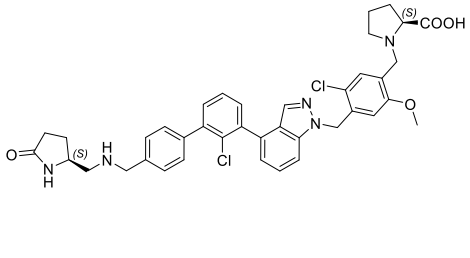
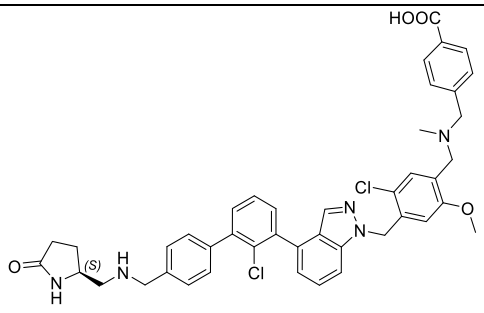
15. The compound according to any one of claims 1-14, $R^L$ represents hydrogen or halogen; and/or $R^M$, $R^N$ each preferably independently represents hydrogen.

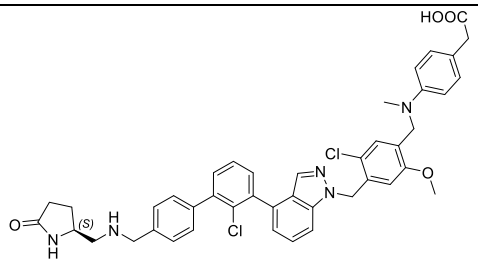
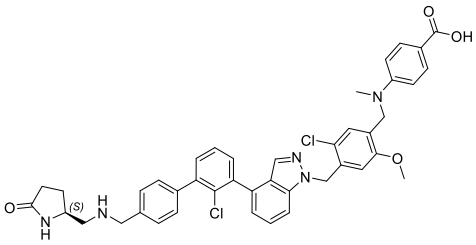
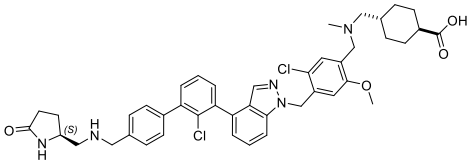
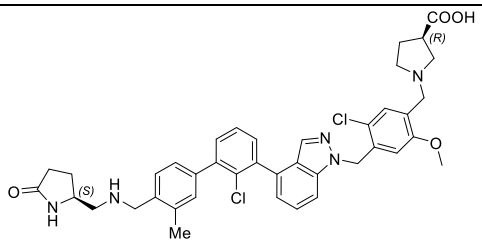
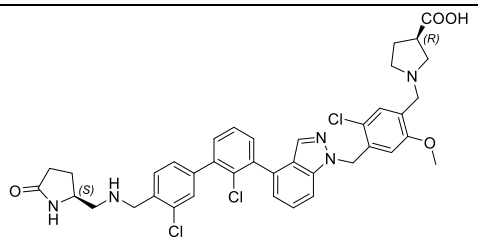
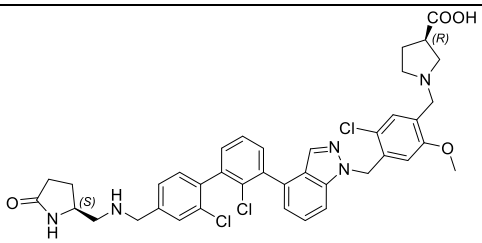
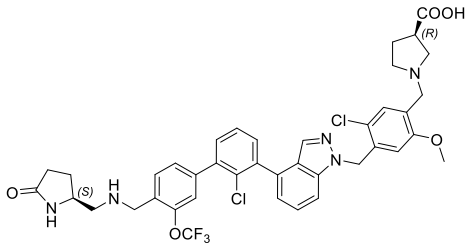
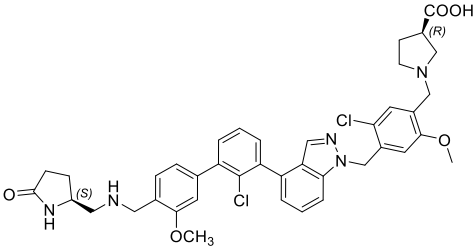
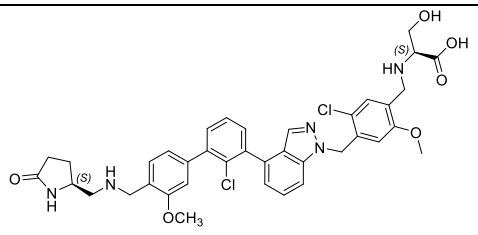
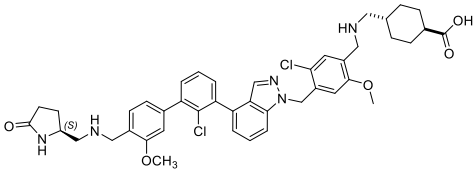
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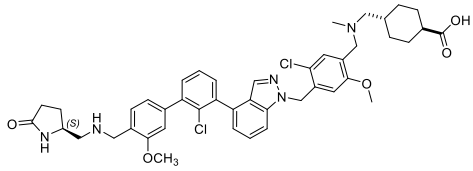
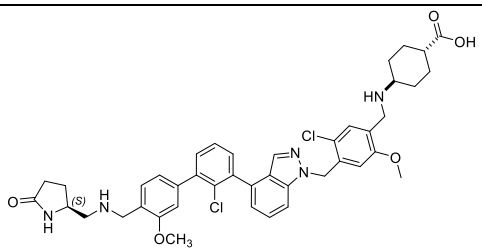
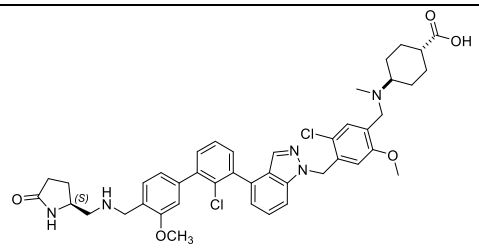
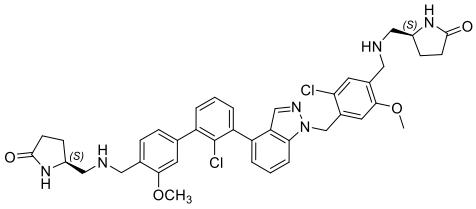
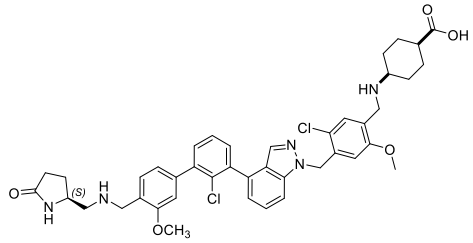
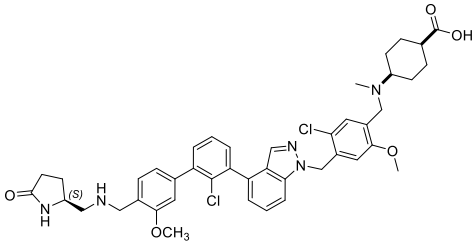
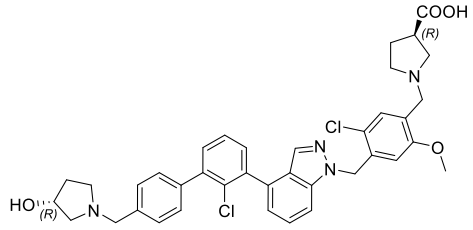
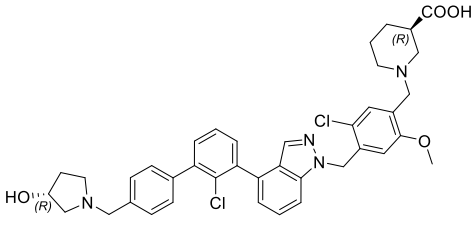
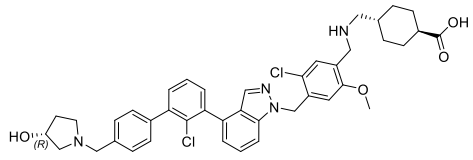
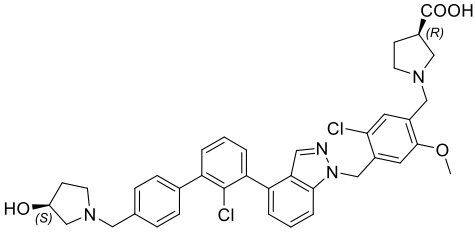


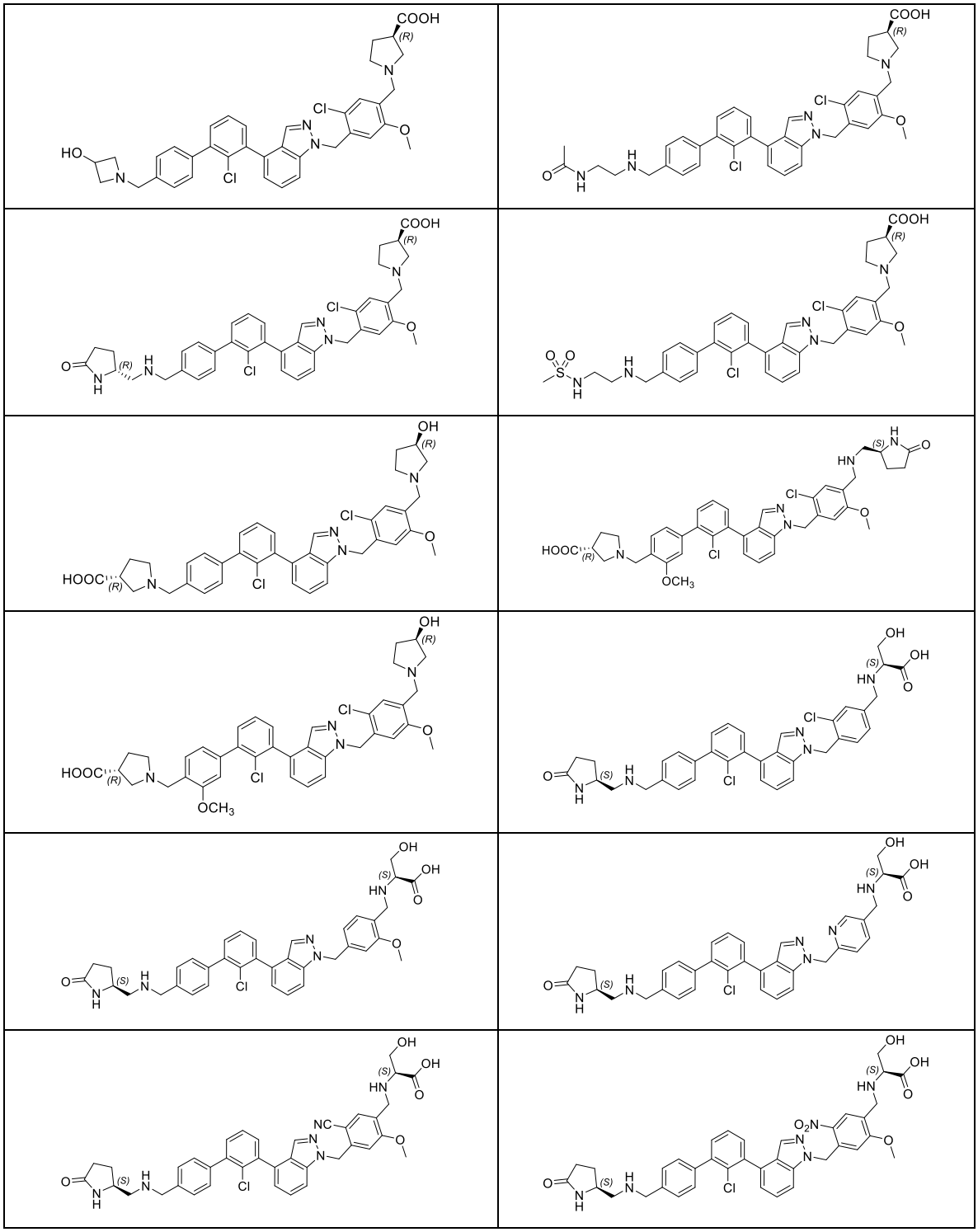
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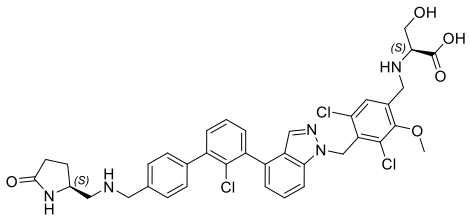
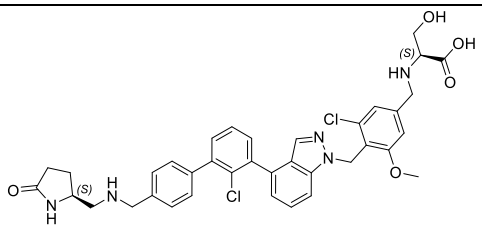
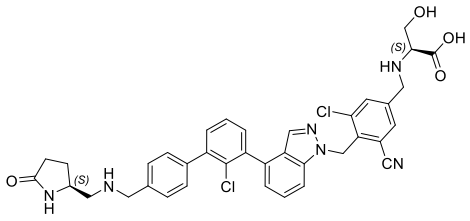
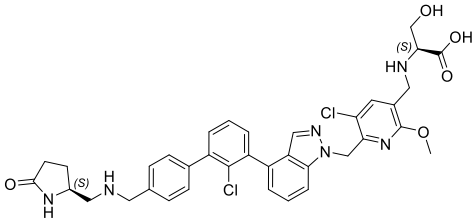
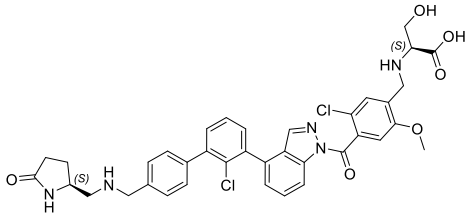
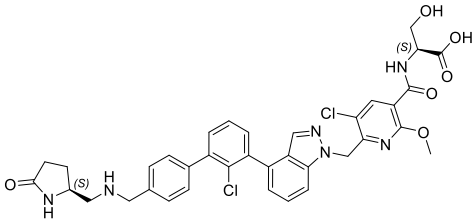
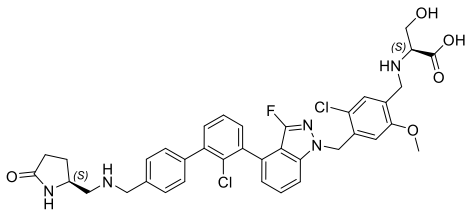
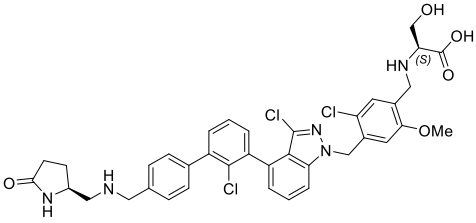
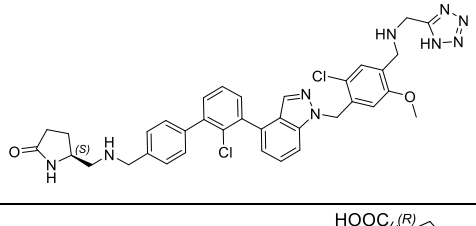
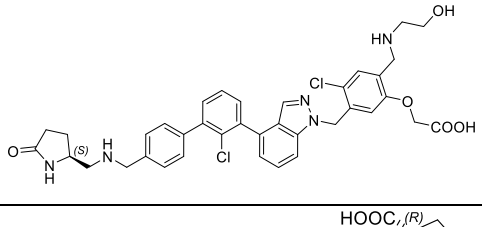
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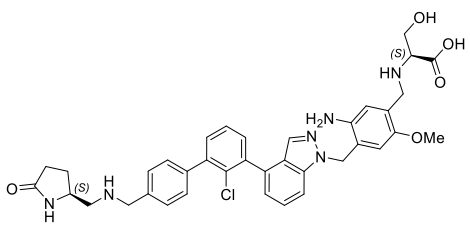
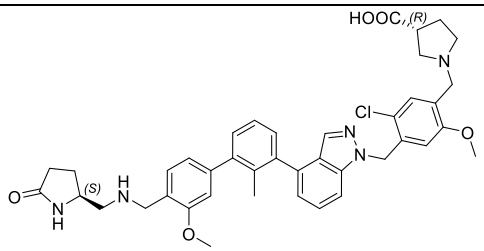
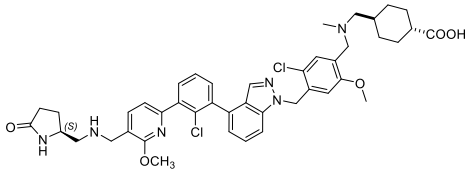
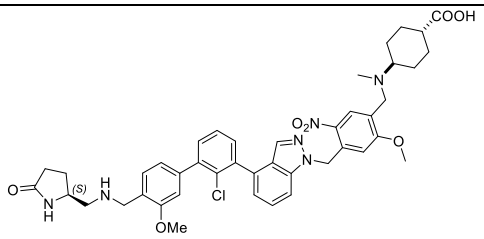
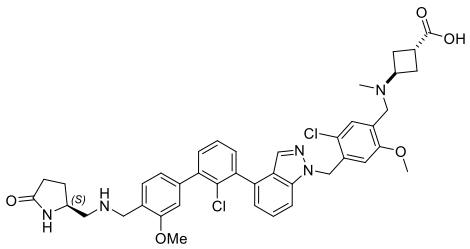
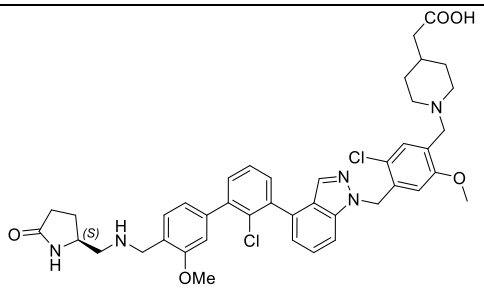
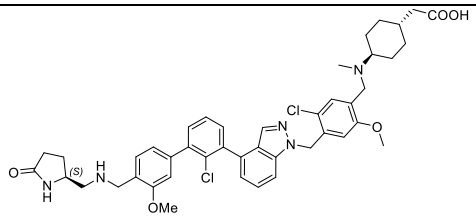
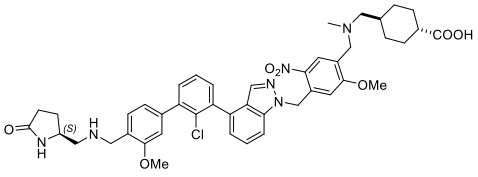
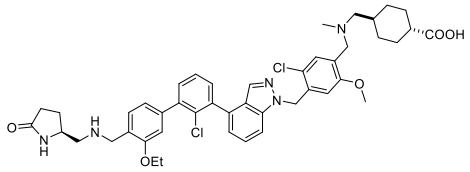
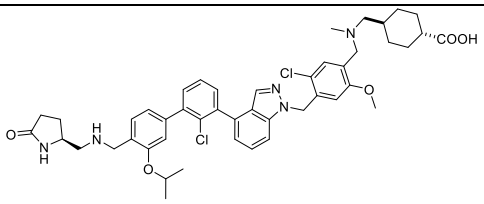
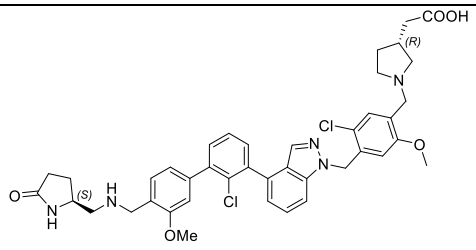
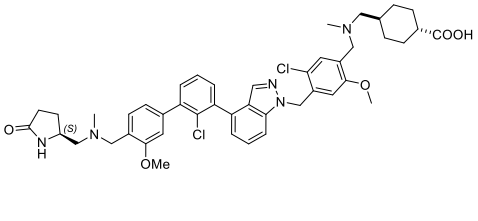
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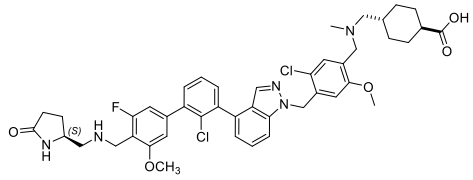
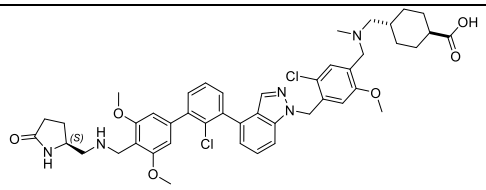
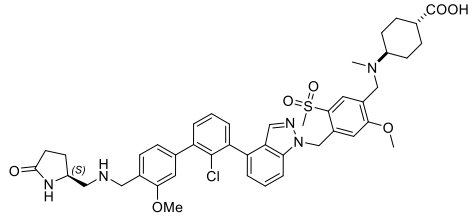
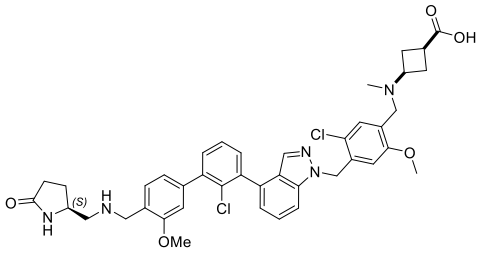
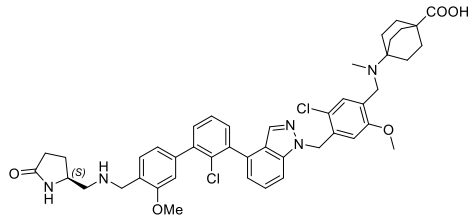
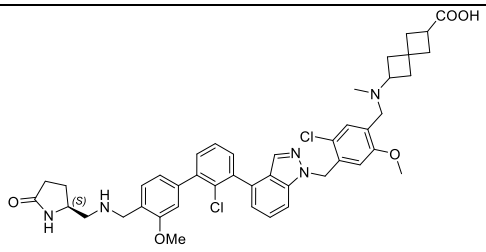
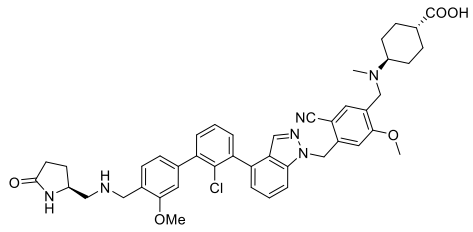
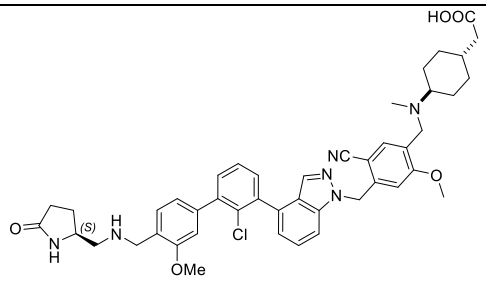
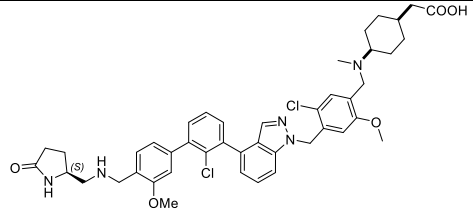
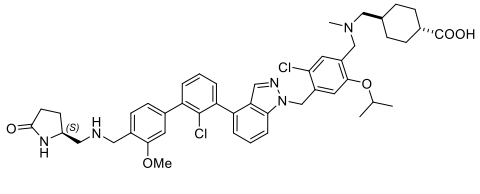
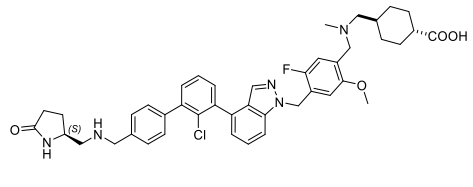
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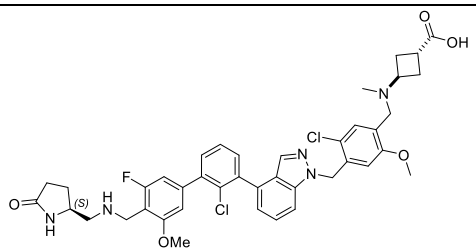
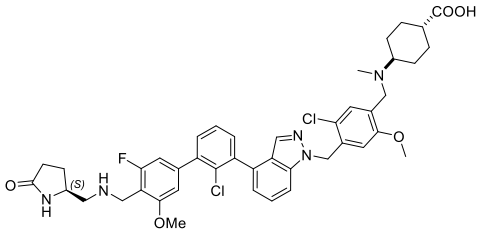
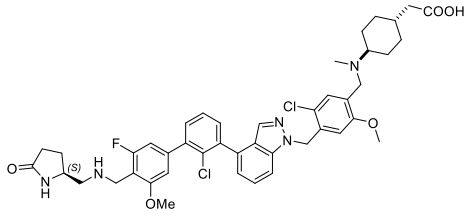
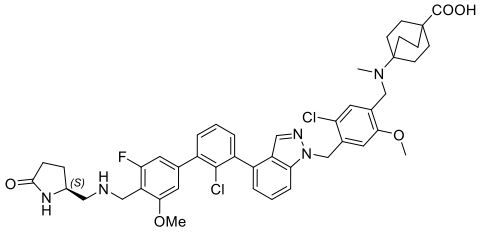
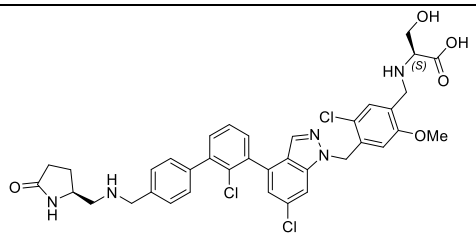
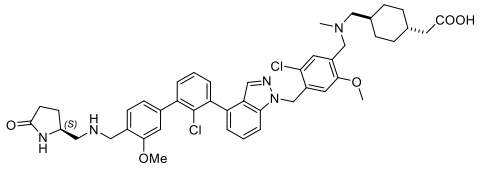
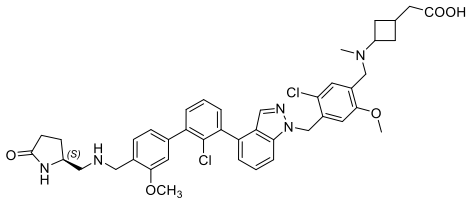
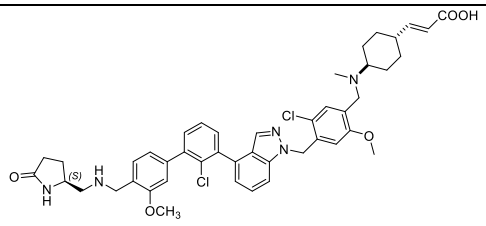
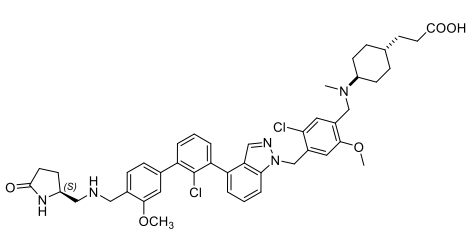
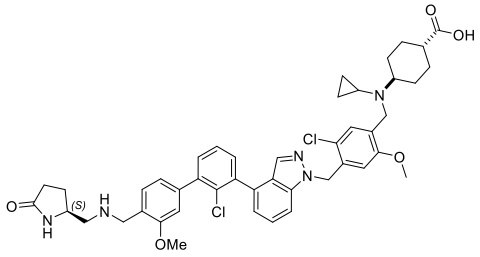
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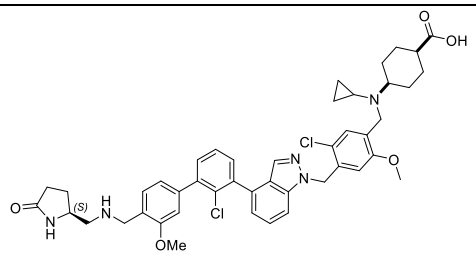
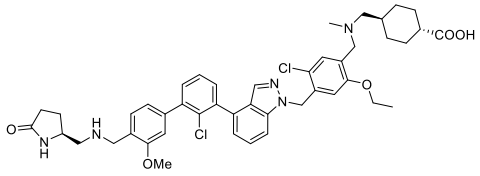
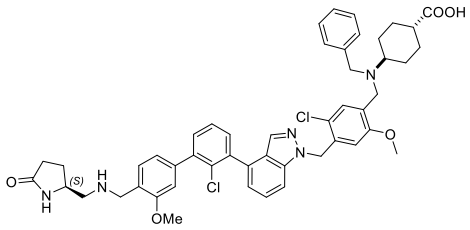
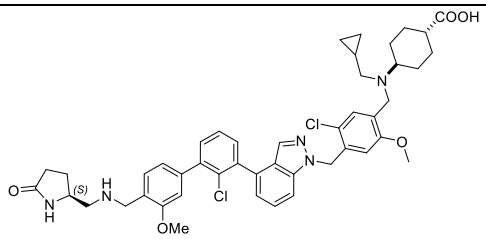
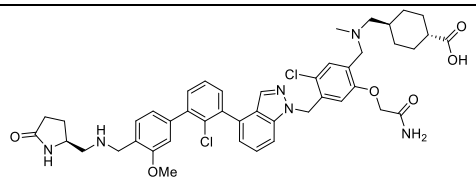
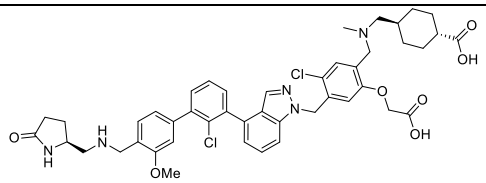
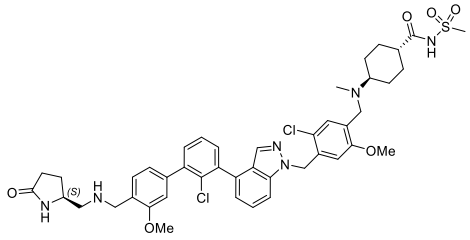
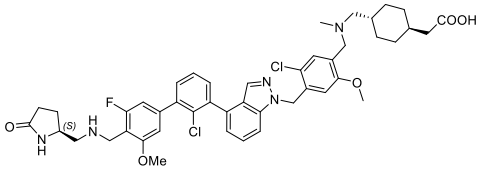
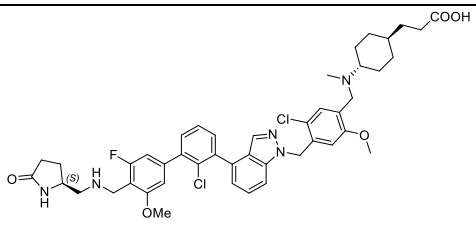
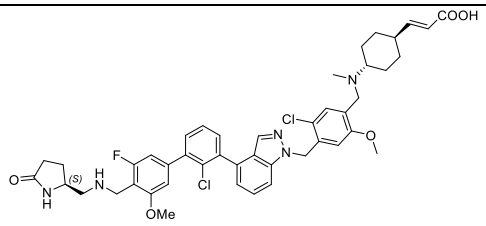
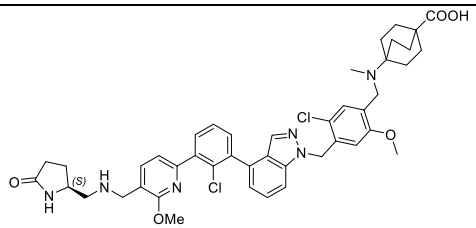
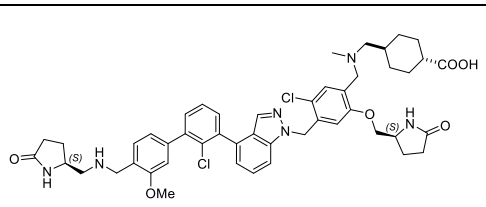


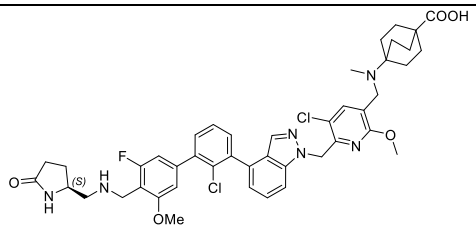
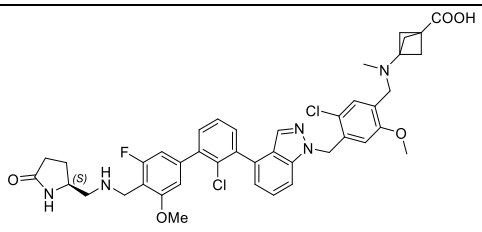
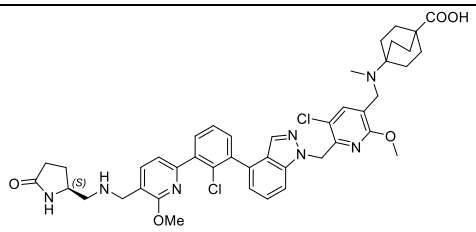
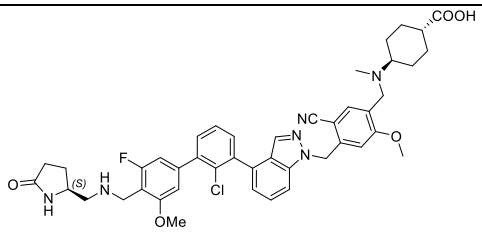
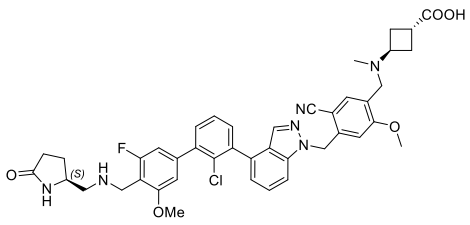
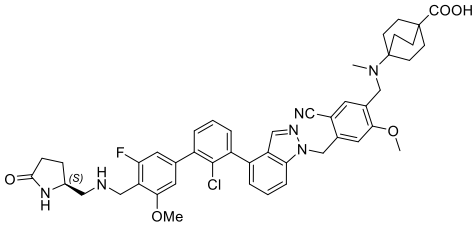
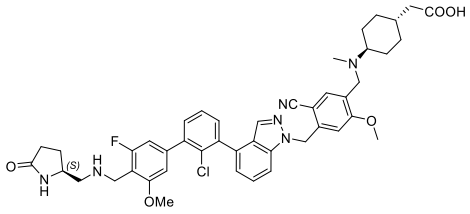
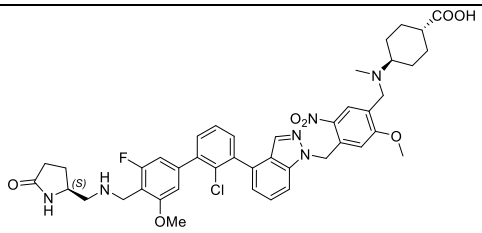
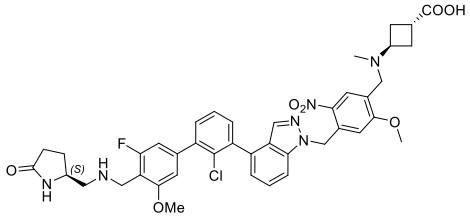
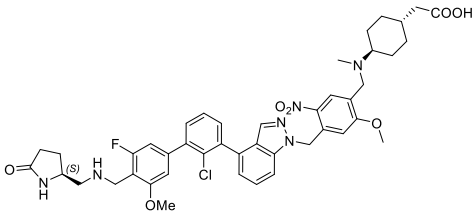
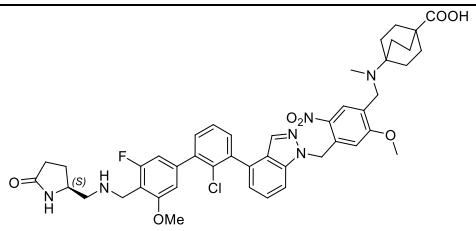
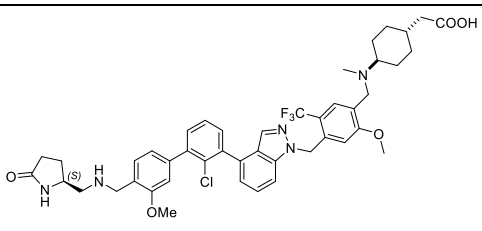
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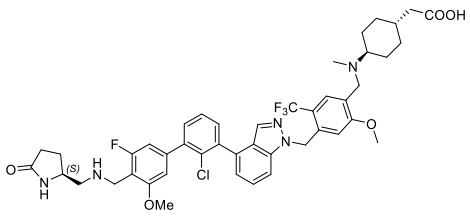
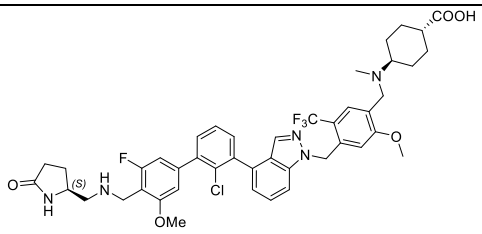
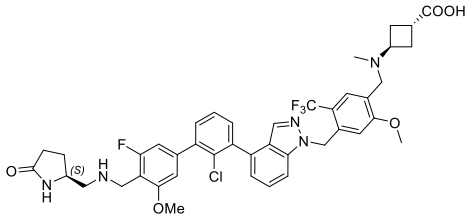
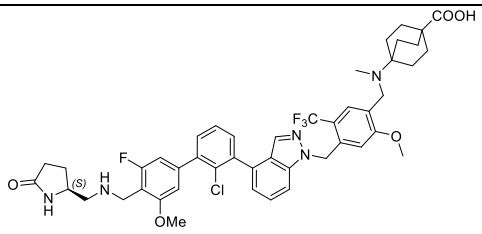
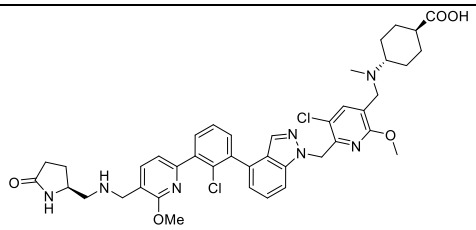
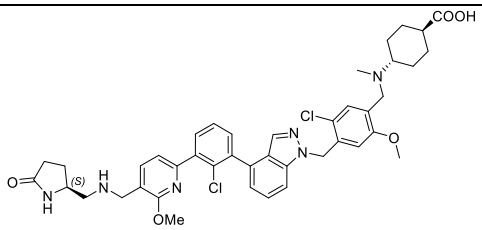
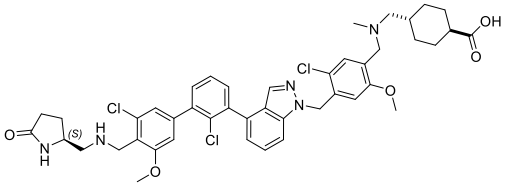
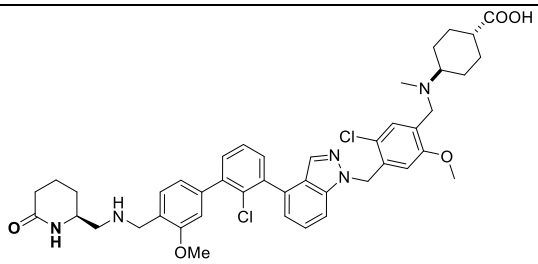
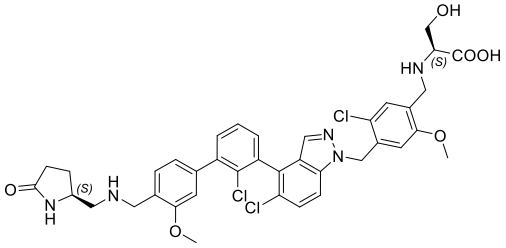
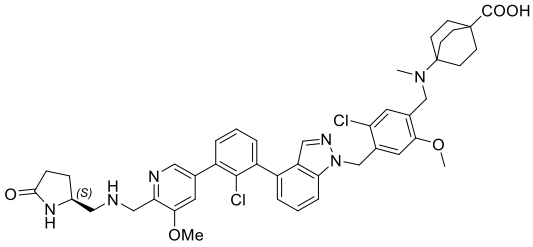
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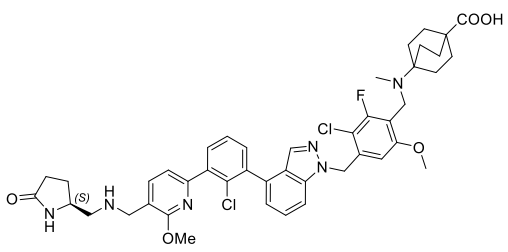
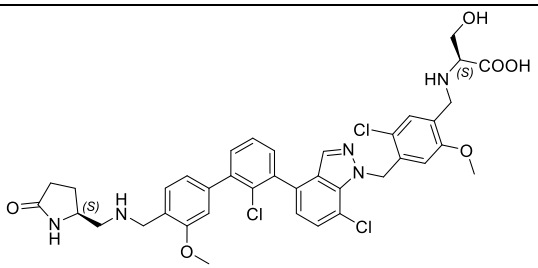
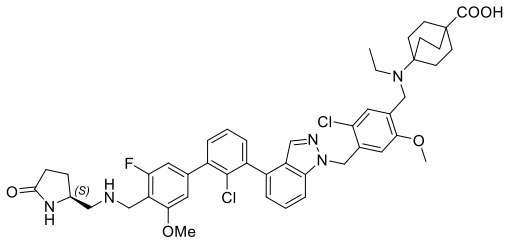
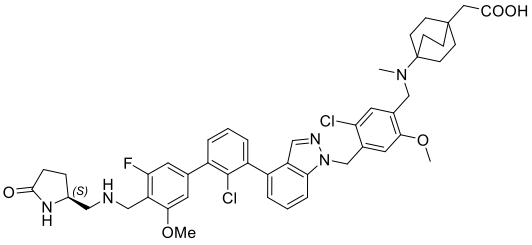
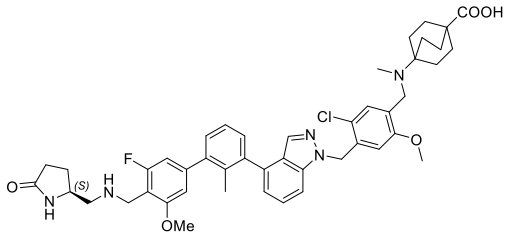
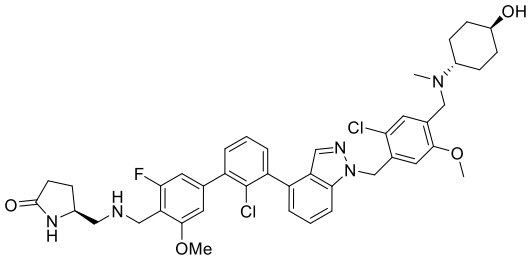
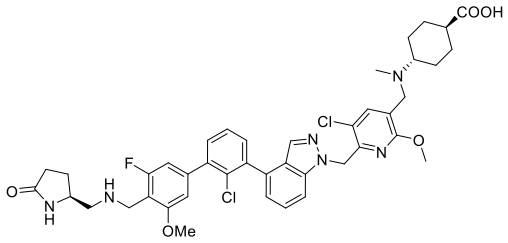
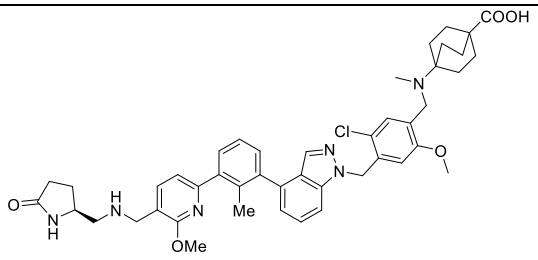
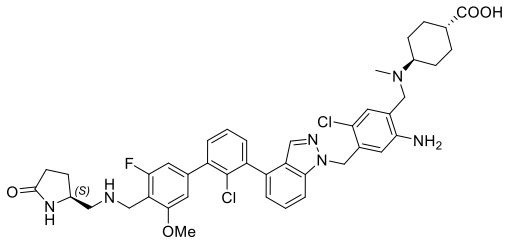
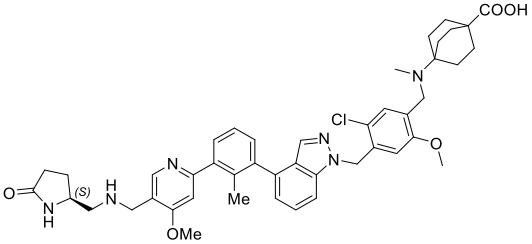
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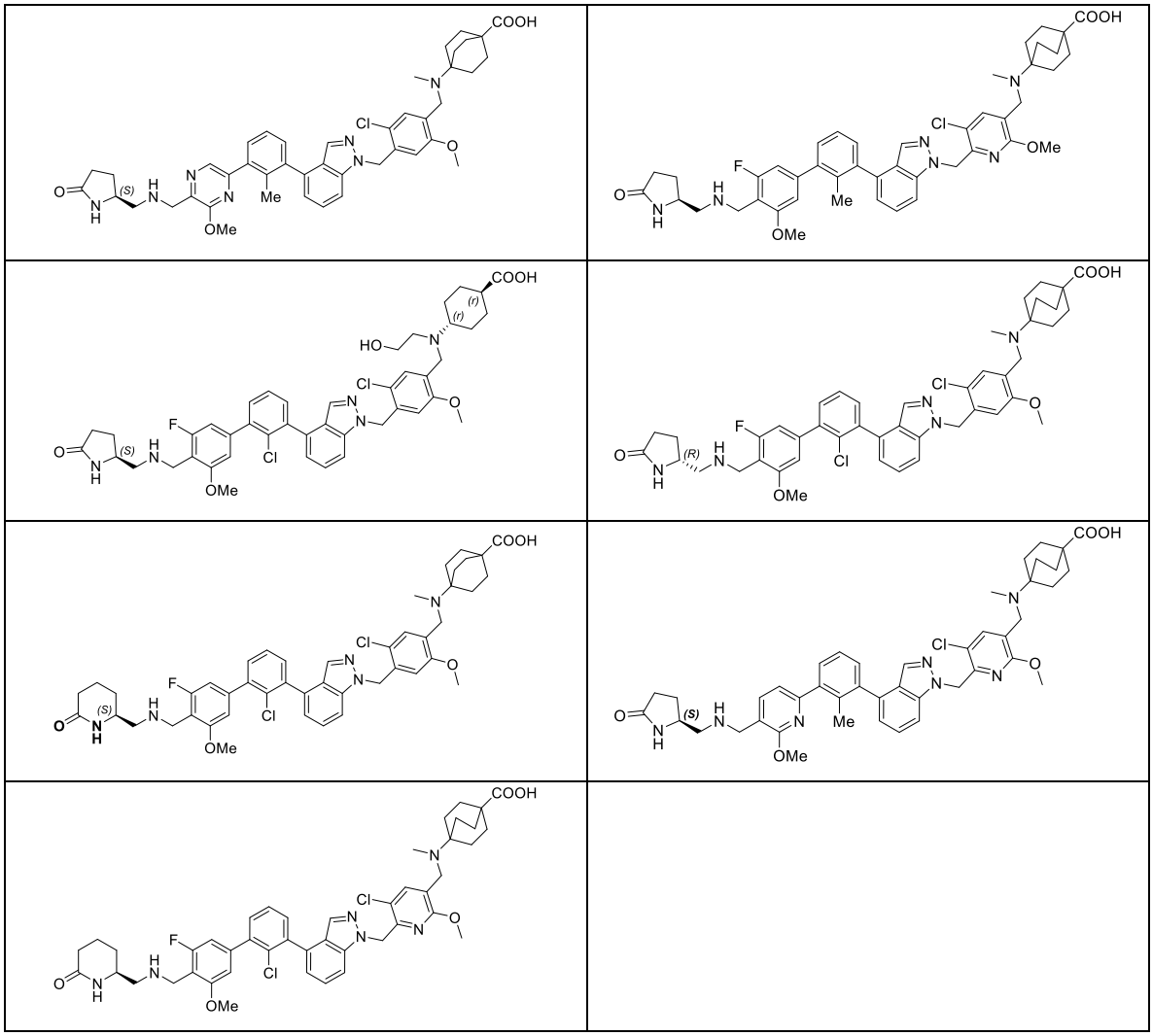
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17. A pharmaceutical composition, comprising a compound according to any one of claims 1 to 16 and optionally a pharmaceutically acceptable carrier.

18. Use of the compound according to any one of claims 1 to 16 or the pharmaceutical composition of claim 17 in the manufacture of a medicament for the prevention or treatment of a disease or condition responsive to inhibition of the binding of PD-L1 to PD-1.

19. The use according to claim 18, wherein the disease or condition is selected from tumors, cancers, viral infections, inflammation-related diseases and autoimmune diseases.