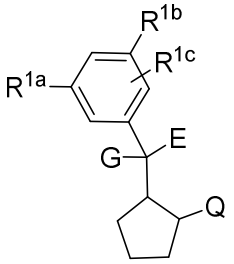
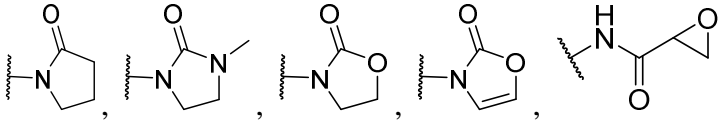
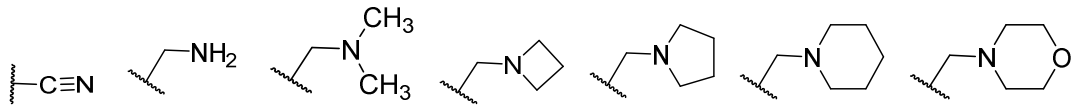
diseases or conditions wherein inhibition of menin provides a therapeutic benefit to a patient.

[0012a] In yet another aspect, the present disclosure provides a compound of Formula **I**:

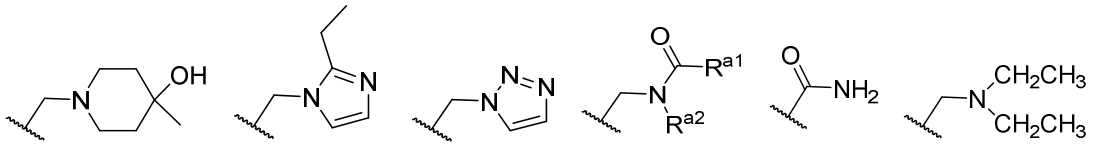


I,

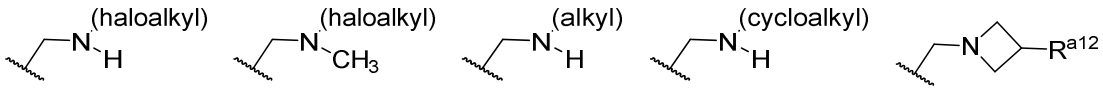
wherein Q is selected from the group consisting of -N(H)C(=O)OR, -N(R)C(=O)OR, -N(H)C(=O)R, -N(H)C(O)NR$_2$, , -OR, and -OC(=O)R; each R is independently C_1-C_4 alkyl or C_1-C_4 haloalkyl; G is selected from the group consisting of:



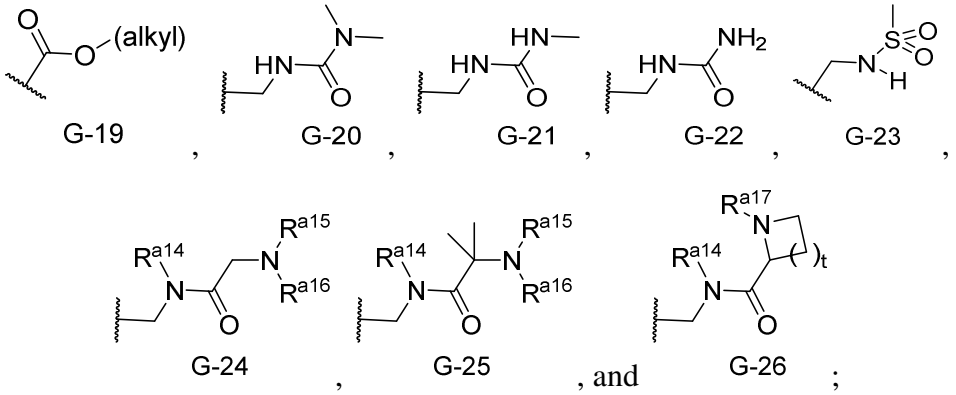
G-1, G-2, G-3, G-4, G-5, G-6, G-7,



G-8, G-9, G-10, G-11, G-12, G-13,

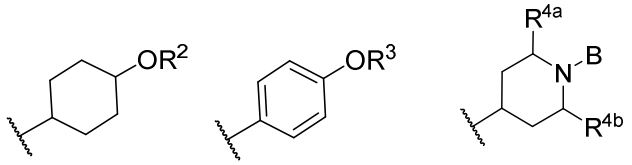


G-14, G-15, G-16, G-17, G-18,

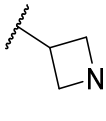


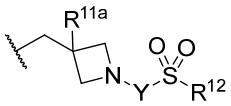
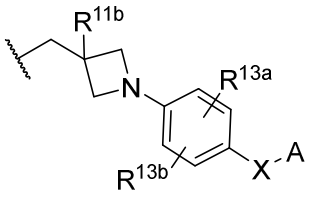
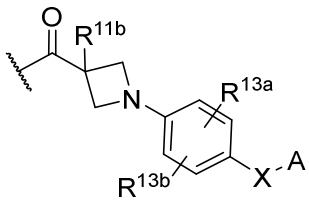
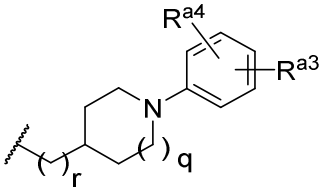
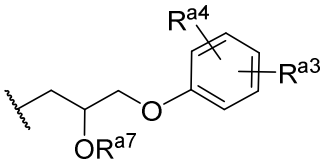
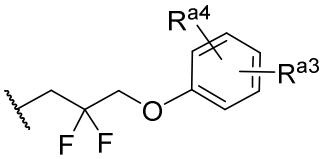
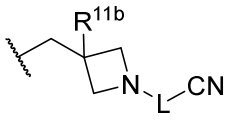
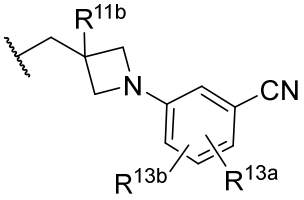
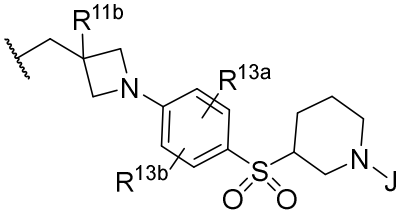
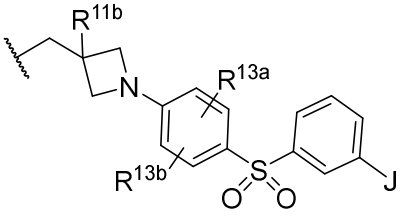
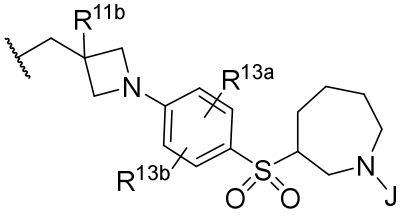
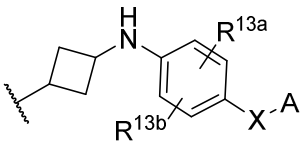
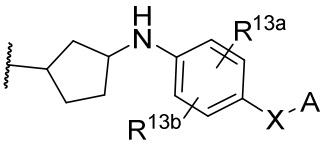
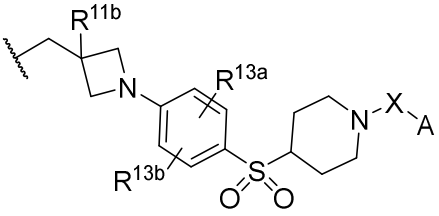
, , , , , , , and ;

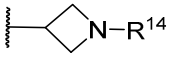
R^{a1} is selected from the group consisting of C_1-C_4 alkyl and C_1-C_4 alkoxy; R^{a2} is selected from the group consisting of hydrogen and C_1-C_4 alkyl; or R^{a1} and R^{a2} taken together with the atoms to which they are attached form an optionally substituted 5- or 6-membered heterocyclo; R^{a12} is CN, $C(O)OR^{a13}$, $C(O)N(R^{a13})_2$, C_1-C_4 alkyl, OH, C_1-C_4 alkoxy, or F; each R^{a13} is independently C_1-C_4 alkyl; R^{a14} is H or C_1-C_4 alkyl; R^{a15} and R^{a16} are each independently H or C_1-C_4 alkyl, or R^{a14} and R^{a15} together with the nitrogen atom to which they are attached form an optionally substituted 4- to 6-membered heterocyclo; R^{a17} is H or C_1-C_4 alkyl; t is 1, 2, or 3; R^{1a}, R^{1b}, and R^{1c} are each independently selected from the group consisting of hydrogen and halo; E is selected from the group consisting of:

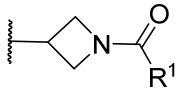


, and ;

R^2 is selected from the group consisting of C_1-C_6 alkyl and $-(CR^{5a}R^{5b})_pOR^{6a}$; R^3 is selected from the group consisting of hydrogen, $-(CR^{5a}R^{5b})_pOR^{6b}$, $-CH_2C{\equiv}CR^7$, and ; each R^{5a} and R^{5b} is independently selected from the group consisting of hydrogen and C_1-C_4 alkyl; p is 2, 3, or 4; R^{6a} is optionally substituted phenyl; R^{6b} is selected from the group consisting of C_1-C_6 alkyl and optionally substituted phenyl; R^7 is optionally substituted phenyl; R^8 is optionally substituted phenyl; R^{4a} and R^{4b} are independently selected from the group consisting of hydrogen, halo, and C_1-C_4 alkyl; B is selected from the group consisting of C_1-C_6 alkyl, aralkyl, $-C(=O)R^9$, $-(CR^{5c}R^{5d})_mOR^{10}$,


B-1 ,

B-2 ,

B-3 ,

B-4 ,

B-5 ,

B-6 ,

B-7 ,

B-8 ,

B-9 ,

B-10 ,

B-11 ,

B-12 ,

B-13 , and

B-14 ;

R^9 is selected from the group consisting of C_1-C_6 alkyl, aralkyl, heteroaralkyl, and ; R^{14} is optionally substituted phenyl; each R^{5c} and R^{5d} is independently selected from the group consisting of hydrogen and C_1-C_4 alkyl; m is 2, 3, or 4; R^{10} is

optionally substituted phenyl; R^{11a} is selected from the group consisting of hydrogen, halo, and C_1-C_4 alkyl; Y is -$(CR^{5e}R^{5f})_o$-;each R^{5e} and R^{5f} is independently selected from the group consisting of hydrogen and C_1-C_4 alkyl; o is 2, 3, or 4; R^{12} is optionally substituted phenyl; R^{11b} is selected from the group consisting of hydrogen, halo, C_1-C_4 alkyl, and R^{a6}; R^{13a} and R^{13b} are independently selected from the group consisting of hydrogen, halo, C_1-C_4 alkyl, and R^{a5}; R^{a3} is selected from the group consisting of cyano, alkylsulfonyl, haloalkylsulfonyl, cycloalkylsulfonyl, arylsulfonyl, heteroarylsulfonyl, heterocyclosulfonyl, and carboxamido; R^{a4} is selected from the group consisting of hydrogen, halo, C_1-C_4 alkyl, C_1-C_4 alkoxy, and C_1-C_4 haloalkyl; R^{a5} is selected from the group consisting of (heterocyclo)alkyl, (heteroaryl)alkyl, (amino)alkyl, carboxamido, hydroxyalkyl, heteroaryloxy, heteroaralkyloxy, C_1-C_4 alkoxy, -OR^{a8}, and -$CH_2NR^{a9}C(=O)R^{a10}$; R^{a6} is selected from the group consisting of hydroxy, C_1-C_4 alkoxy, C_1-C_4 haloalkyl, C_1-C_4 hydroxyalkyl, alkoxyalkyl, carboxy, alkoxycarbonyl, and carboxamido; R^{a7} is selected from the group consisting of hydrogen and C_1-C_4 alkyl; R^{a8} is selected from the group consisting of heteroaryl, heteroaralkyl, alkoxyalkyl, and (heterocyclo)alkyl; R^{a9} is selected from the group consisting of hydrogen and C_1-C_4 alkyl; R^{a10} is C_1-C_4 alkyl; r is 0 or 1; q is 0, 1, 2, or 3; L is selected from the group consisting of C_3-C_8 cycloalkylenyl, optionally substituted 5-membered heteroarylenyl, and optionally substituted 6-membered heteroarylenyl; (1) X is selected from the group consisting of -$S(=O)_2$- and -C(=O)-; and A is selected from the group consisting of optionally substituted C_1-C_6 alkyl, optionally substituted C_3-C_{12} cycloalkyl, optionally substituted 4- to 14-membered heterocyclo, optionally substituted C_6-C_{10} aryl, optionally substituted 5- to 14-membered heteroaryl, -$NR^{15a}R^{15b}$, , and R^{a11}; or (2) X is absent; and A is selected from the group consisting of cyano, C(=O)OH, C_1-C_4 alkyl, C_1-C_4 alkoxy, and C_1-C_4 haloalkyl; J is carboxamido or $C(O)CH_2CN$; R^{a11} is selected from the group consisting of hydroxyalkyl and (heterocyclo)alkyl; R^{15a} and R^{15b} are independently selected from the group consisting of hydrogen, optionally substituted C_1-C_6 alkyl, optionally substituted C_3-C_{12} cycloalkyl, optionally substituted 4- to 14-membered heterocyclo, optionally substituted C_6-C_{10} aryl, and optionally substituted 5- to 14-membered heteroaryl; and R^{16} is

selected from the group consisting of (amino)alkyl and (heterocyclo)alkyl, or a pharmaceutically acceptable salt or solvate thereof.

[0013] In another aspect, the present disclosure provides methods of treating a condition or disease by administering a therapeutically effective amount of a Compound of the Disclosure to a subject, e.g., a human, in need thereof. The disease or condition is treatable by inhibition of menin, for example, a cancer, e.g., leukemia, a chronic autoimmune disorder, an inflammatory condition, a proliferative disorder, sepsis, or a viral infection. Also provided are methods of preventing the proliferation of unwanted proliferating cells, such as cancer, in a subject comprising administering a therapeutically effective amount of a Compound of the Disclosure to a subject at risk of developing a condition characterized by unwanted proliferating cells. In some embodiments, the Compounds of the Disclosure reduce the proliferation of unwanted cells by inducing apoptosis and/or differentiation in those cells.

[0014] In another aspect, the present disclosure provides a method of inhibiting menin in an individual, comprising administering to the individual an effective amount of at least one Compound of the Disclosure.

[0015] In another aspect, the present disclosure provides a pharmaceutical composition comprising a Compound of the Disclosure and an excipient and/or pharmaceutically acceptable carrier.

[0016] In another aspect, the present disclosure provides a composition comprising a Compound of the Disclosure and an excipient and/or pharmaceutically acceptable carrier for use treating diseases or conditions wherein inhibition of menin provides a benefit, e.g., cancer.

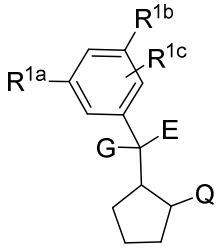
[0016a] In yet another aspect, the present disclosure provides a use of a compound as described herein, or a pharmaceutically acceptable salt or solvate thereof, or pharmaceutical composition described herein in the preparation of a medicament for treating cancer

[0017] In another aspect, the present disclosure provides a composition comprising: (a) a Compound of the Disclosure; (b) a second therapeutically active agent; and (c) optionally an excipient and/or pharmaceutically acceptable carrier.

[0018] In another aspect, the present disclosure provides a Compound of the Disclosure for use in treatment of a disease or condition of interest, e.g., cancer.

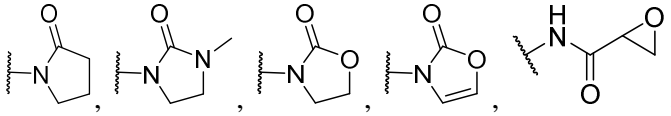
What is Claimed Is:

1. A compound of Formula **I**:



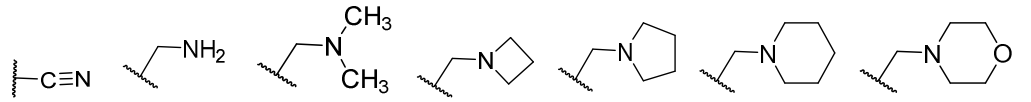
I,

wherein:

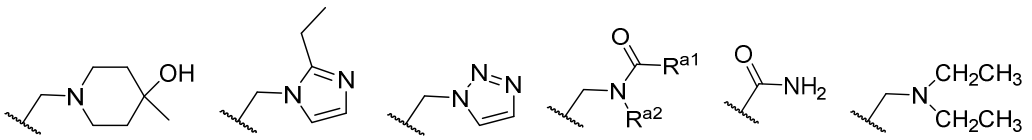
Q is selected from the group consisting of -N(H)C(=O)OR, -N(R)C(=O)OR, -N(H)C(=O)R, -N(H)C(O)NR_2, , -OR, and -OC(=O)R;

each R is independently C_1-C_4 alkyl or C_1-C_4 haloalkyl;

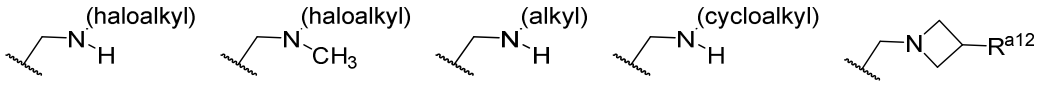
G is selected from the group consisting of:



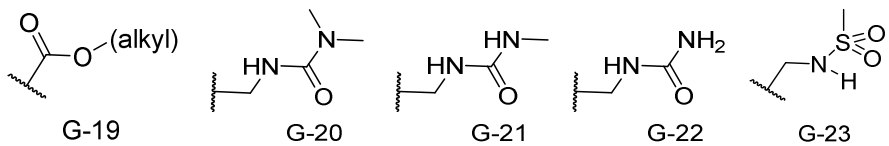
G-1, G-2, G-3, G-4, G-5, G-6, G-7,



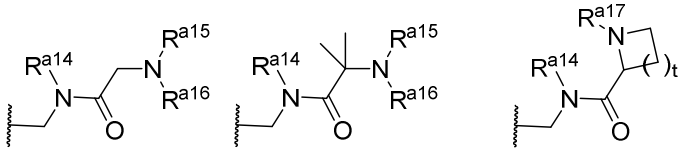
G-8, G-9, G-10, G-11, G-12, G-13,



G-14, G-15, G-16, G-17, G-18,



G-19, G-20, G-21, G-22, G-23,



G-24, G-25, and G-26;

R^{a1} is selected from the group consisting of C_1-C_4 alkyl and C_1-C_4 alkoxy;

R^{a2} is selected from the group consisting of hydrogen and C_1-C_4 alkyl; or

R^{a1} and R^{a2} taken together with the atoms to which they are attached form an optionally substituted 5- or 6-membered heterocyclo;

R^{a12} is CN, $C(O)OR^{a13}$, $C(O)N(R^{a13})_2$, C_1-C_4 alkyl, OH, C_1-C_4 alkoxy, or F;

each R^{a13} is independently C_1-C_4 alkyl;

R^{a14} is H or C_1-C_4 alkyl;

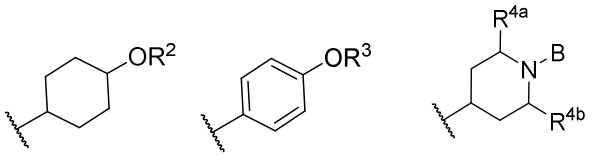
R^{a15} and R^{a16} are each independently H or C_1-C_4 alkyl, or R^{a14} and R^{a15} together with the nitrogen atom to which they are attached form an optionally substituted 4- to 6-membered heterocyclo;

R^{a17} is H or C_1-C_4 alkyl;

t is 1, 2, or 3;

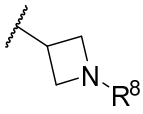
R^{1a}, R^{1b}, and R^{1c} are each independently selected from the group consisting of hydrogen and halo;

E is selected from the group consisting of:



E-1 , E-2 and E-3 ;

R^2 is selected from the group consisting of C_1-C_6 alkyl and $-(CR^{5a}R^{5b})_pOR^{6a}$;

R^3 is selected from the group consisting of hydrogen, $-(CR^{5a}R^{5b})_pOR^{6b}$, $-CH_2C{\equiv}CR^7$, and 

;

each R^{5a} and R^{5b} is independently selected from the group consisting of hydrogen and C_1-C_4 alkyl;

p is 2, 3, or 4;

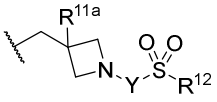
R^{6a} is optionally substituted phenyl;

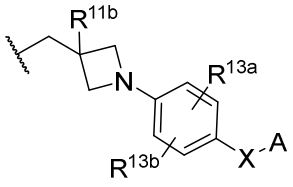
R^{6b} is selected from the group consisting of C_1-C_6 alkyl and optionally substituted phenyl;

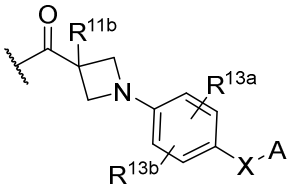
R^7 is optionally substituted phenyl;

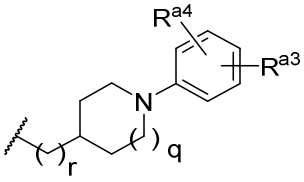
R^8 is optionally substituted phenyl;

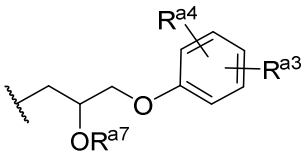
R^{4a} and R^{4b} are independently selected from the group consisting of hydrogen, halo, and C_1-C_4 alkyl;

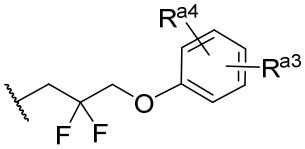
B is selected from the group consisting of C_1-C_6 alkyl, aralkyl, $-C(=O)R^9$, $-(CR^{5c}R^{5d})_mOR^{10}$, 

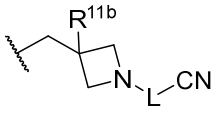
B-1, 

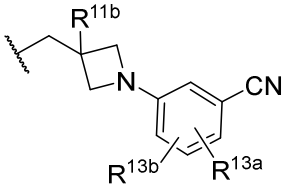
B-2, 

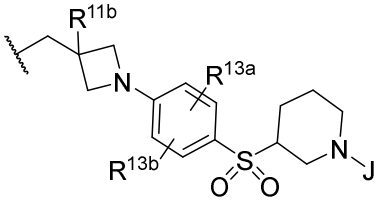
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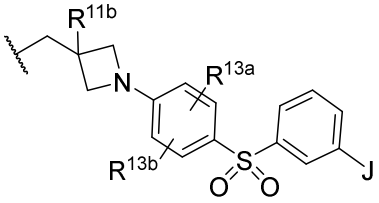
B-4, 

B-5, 

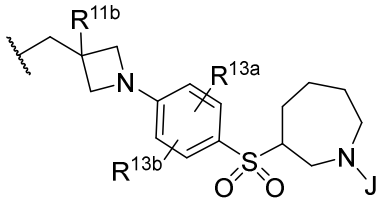
B-6, 

B-7, 

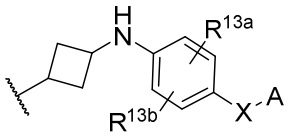
B-8, 

B-9, 

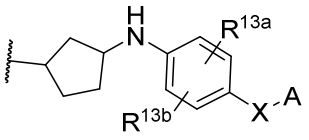
B-10,



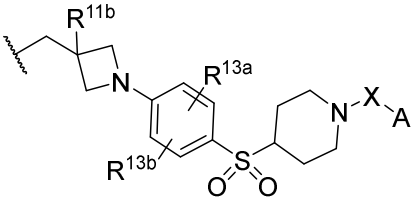
B-11 ,



B-12 ,

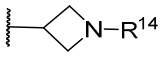


B-13 ,



B-14

and ;

R^9 is selected from the group consisting of C_1-C_6 alkyl, aralkyl, heteroaralkyl, and 

;

R^{14} is optionally substituted phenyl;

each R^{5c} and R^{5d} is independently selected from the group consisting of hydrogen and C_1-C_4 alkyl;

m is 2, 3, or 4;

R^{10} is optionally substituted phenyl;

R^{11a} is selected from the group consisting of hydrogen, halo, and C_1-C_4 alkyl;

Y is $-(CR^{5e}R^{5f})_o$;

each R^{5e} and R^{5f} is independently selected from the group consisting of hydrogen and C_1-C_4 alkyl;

o is 2, 3, or 4;

R^{12} is optionally substituted phenyl;

R^{11b} is selected from the group consisting of hydrogen, halo, C_1-C_4 alkyl, and R^{a6};

R^{13a} and R^{13b} are independently selected from the group consisting of hydrogen, halo, C_1-C_4 alkyl, and R^{a5};

R^{a3} is selected from the group consisting of cyano, alkylsulfonyl, haloalkylsulfonyl, cycloalkylsulfonyl, arylsulfonyl, heteroarylsulfonyl, heterocyclosulfonyl, and carboxamido;

R^{a4} is selected from the group consisting of hydrogen, halo, C_1-C_4 alkyl, C_1-C_4 alkoxy, and C_1-C_4 haloalkyl;

R^{a5} is selected from the group consisting of (heterocyclo)alkyl, (heteroaryl)alkyl, (amino)alkyl, carboxamido, hydroxyalkyl, heteroaryloxy, heteroaralkyloxy, C_1-C_4 alkoxy, $-OR^{a8}$, and $-CH_2NR^{a9}C(=O)R^{a10}$;

R^{a6} is selected from the group consisting of hydroxy, C_1-C_4 alkoxy, C_1-C_4 haloalkyl, C_1-C_4 hydroxyalkyl, alkoxyalkyl, carboxy, alkoxycarbonyl, and carboxamido;

R^{a7} is selected from the group consisting of hydrogen and C_1-C_4 alkyl;

R^{a8} is selected from the group consisting of heteroaryl, heteroaralkyl, alkoxyalkyl, and (heterocyclo)alkyl;

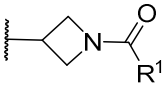
R^{a9} is selected from the group consisting of hydrogen and C_1-C_4 alkyl;

R^{a10} is C_1-C_4 alkyl;

r is 0 or 1;

q is 0, 1, 2, or 3;

L is selected from the group consisting of C_3-C_8 cycloalkylenyl, optionally substituted 5-membered heteroarylenyl, and optionally substituted 6-membered heteroarylenyl;

(1) X is selected from the group consisting of $-S(=O)_2-$ and $-C(=O)-$; and A is selected from the group consisting of optionally substituted C_1-C_6 alkyl, optionally substituted C_3-C_{12} cycloalkyl, optionally substituted 4- to 14-membered heterocyclo, optionally substituted C_6-C_{10} aryl, optionally substituted 5- to 14-membered heteroaryl, $-NR^{15a}R^{15b}$, , and R^{a11}; or

(2) X is absent; and A is selected from the group consisting of cyano, C(=O)OH, C_1-C_4 alkyl, C_1-C_4 alkoxy, and C_1-C_4 haloalkyl;

J is carboxamido or $C(O)CH_2CN$;

R^{a11} is selected from the group consisting of hydroxyalkyl and (heterocyclo)alkyl;

R^{15a} and R^{15b} are independently selected from the group consisting of hydrogen, optionally substituted C_1-C_6 alkyl, optionally substituted C_3-C_{12} cycloalkyl, optionally

substituted 4- to 14-membered heterocyclo, optionally substituted C_6-C_{10} aryl, and optionally substituted 5- to 14-membered heteroaryl; and

R^{16} is selected from the group consisting of (amino)alkyl and (heterocyclo)alkyl,

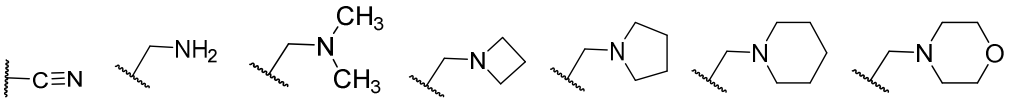
or a pharmaceutically acceptable salt or solvate thereof.

2. The compound of claim 1, wherein:

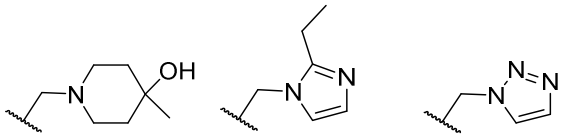
Q is selected from the group consisting of -N(H)C(=O)OR, -OR, and -OC(=O)R;

R is a C_1-C_4 alkyl;

G is selected from the group consisting of:

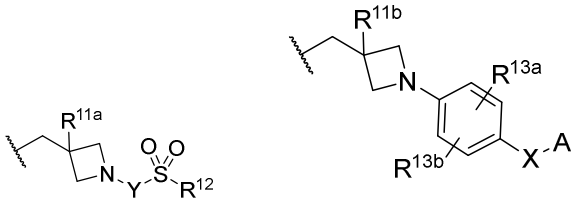


G-1, G-2, G-3, G-4, G-5, G-6, G-7,



G-8, G-9 and G-10,

B is selected from the group consisting of C_1-C_6 alkyl,

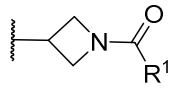


aralkyl, $-C(=O)R^9$, $-(CR^{5c}R^{5d})_mOR^{10}$, B-1, and B-2;

R^{11b} is selected from the group consisting of hydrogen, halo, and C_1-C_4 alkyl;

R^{13a} and R^{13b} are independently selected from the group consisting of hydrogen, halo, and C_1-C_4 alkyl; and

(1) X is selected from the group consisting of $-S(=O)_2-$ and -C(=O)-; and A is selected from the group consisting of optionally substituted C_1-C_6 alkyl, optionally substituted C_3-C_{12} cycloalkyl, optionally substituted 4- to 14-membered heterocyclo,

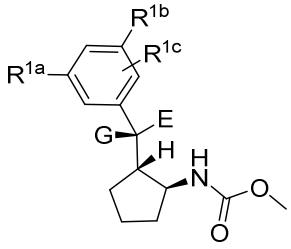
optionally substituted C_6-C_{10} aryl, optionally substituted 5- to 14-membered heteroaryl, $-NR^{15a}R^{15b}$, and  ; or

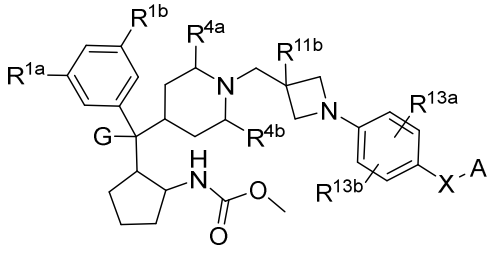
(2) X is absent; and A is selected from the group consisting of cyano and -C(=O)OH;

or a pharmaceutically acceptable salt or solvate thereof.

3. The compound of claims 1 or 2, wherein B is C_1-C_6 alkyl, aralkyl, $-C(=O)R^9$, or $-(CH_2)_mOR^{10}$, or a pharmaceutically acceptable salt or solvate thereof.

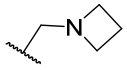
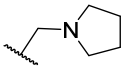
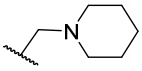
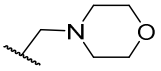
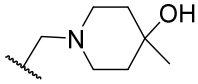
4. The compound of claim 1 or 2 of Formula **II, III, IV, V, VI**:

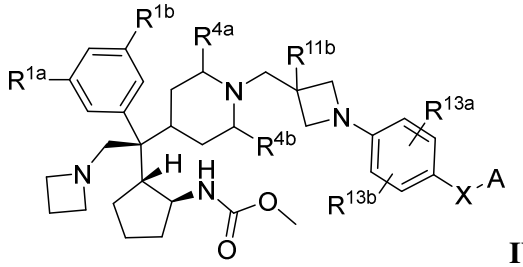
(i)  **II**,

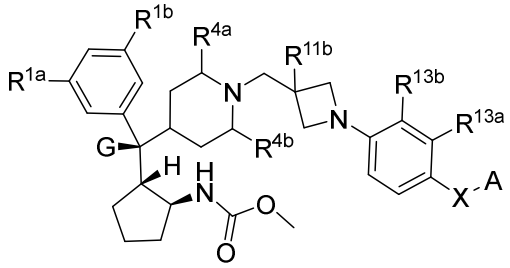
(ii)  **III**,

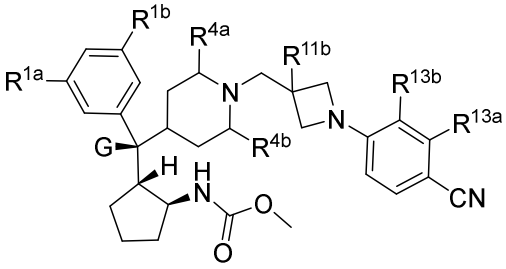
wherein:

G is selected from the group consisting of:

 ,  ,  ,  and  ;

(iii)  **IV**,

(iv)  **V**, or

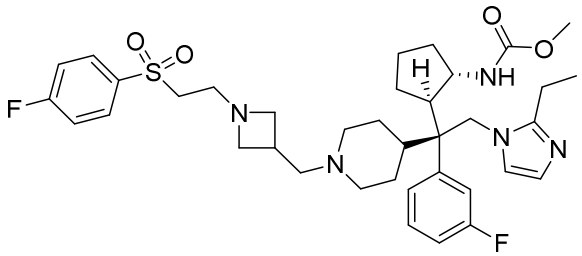
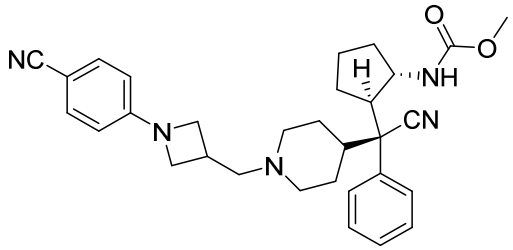
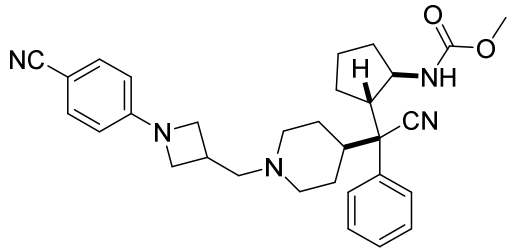
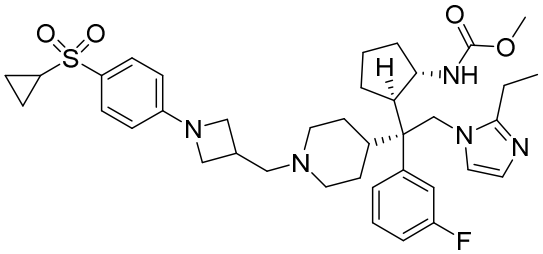
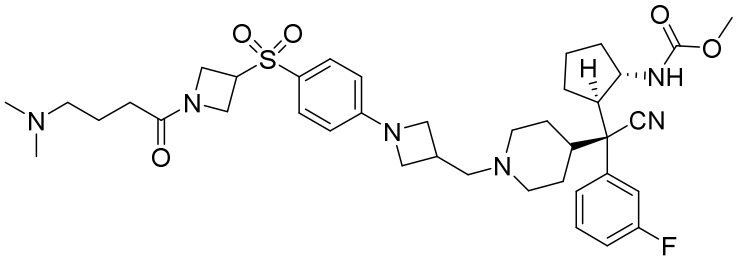
(v)  **VI**,

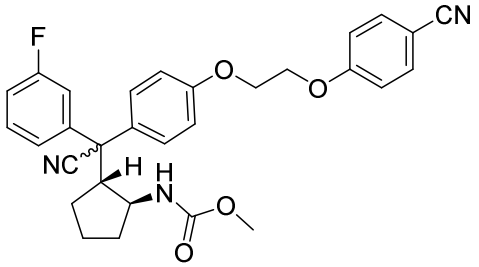
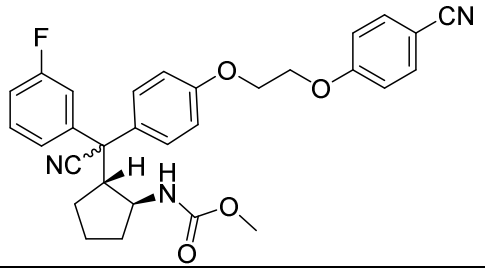
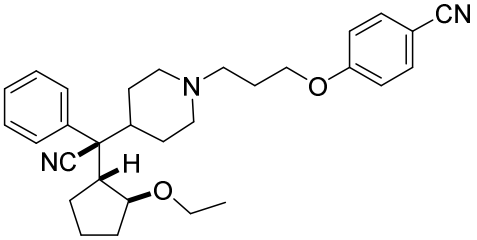
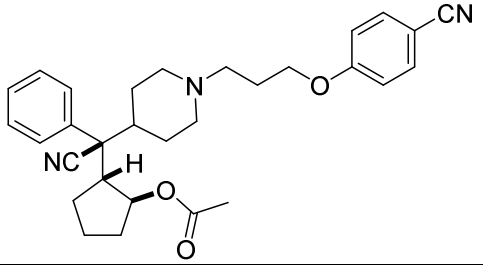
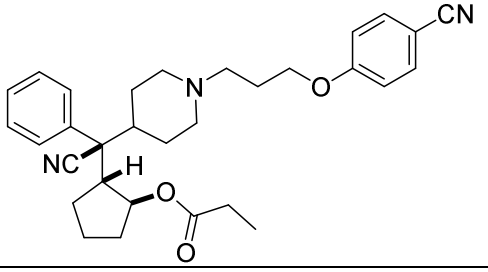
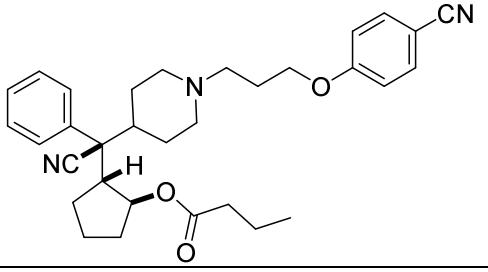
or a pharmaceutically acceptable salt or solvate thereof.

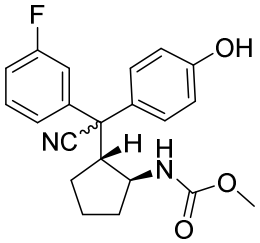
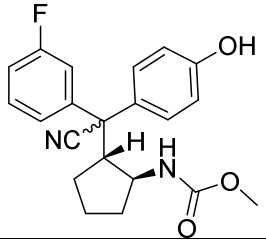
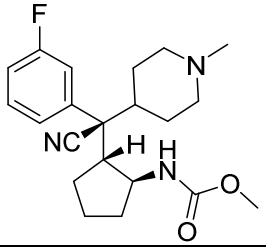
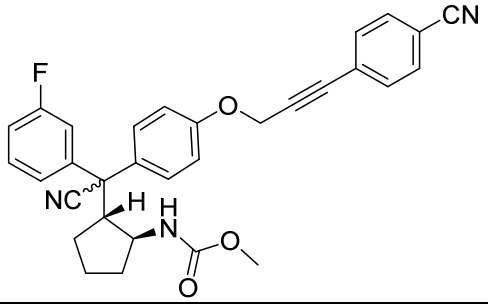
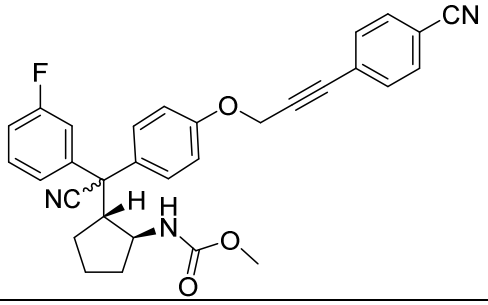
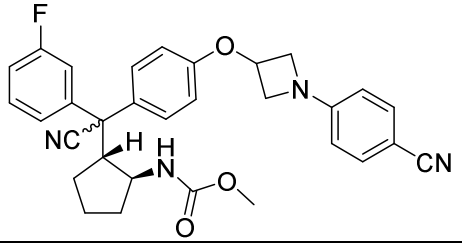
5. The compound of claim 4, wherein A is optionally substituted C_3-C_{12} cycloalkyl, or optionally substituted 4- to 14-membered heterocyclo, or a pharmaceutically acceptable salt or solvate thereof.

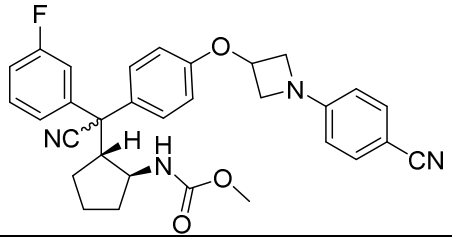
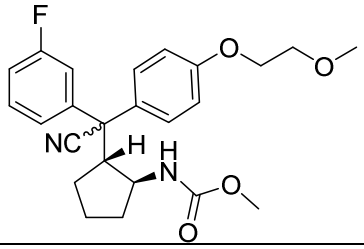
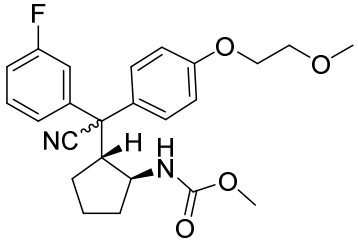
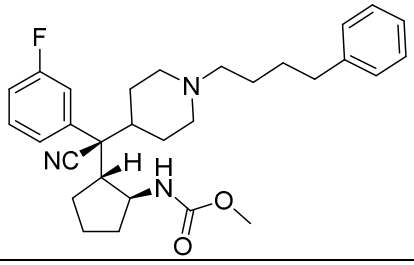
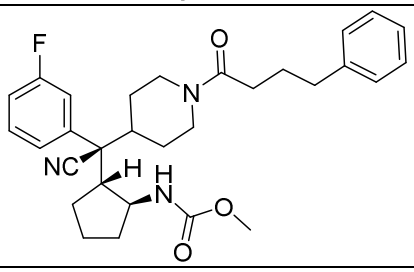
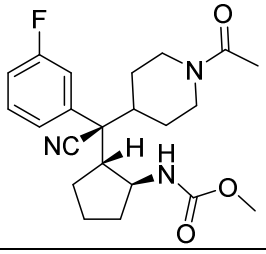
6. The compound of claim 4, wherein X is absent and A is cyano, or a pharmaceutically acceptable salt or solvate thereof.

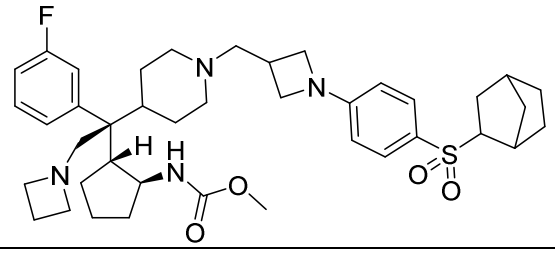
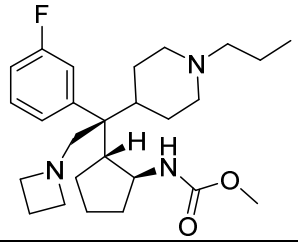
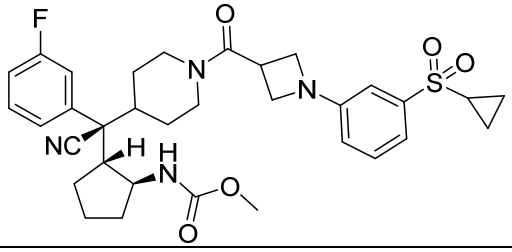
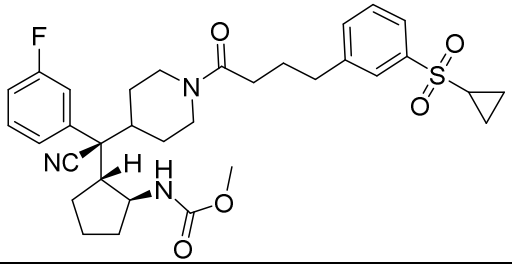
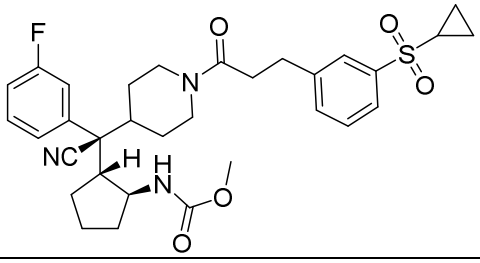
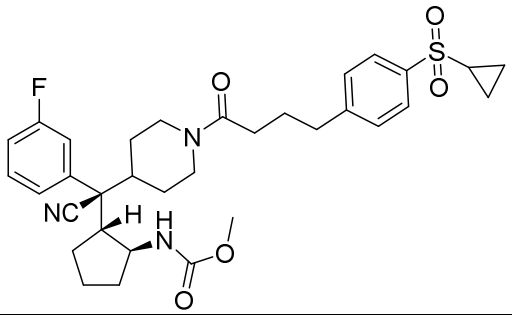
7. The compound of claim 1 selected from the group consisting of

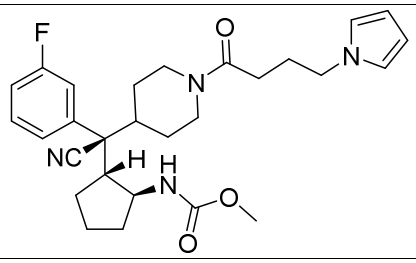
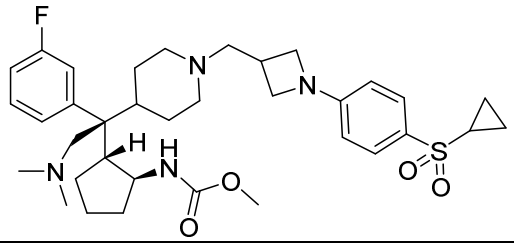
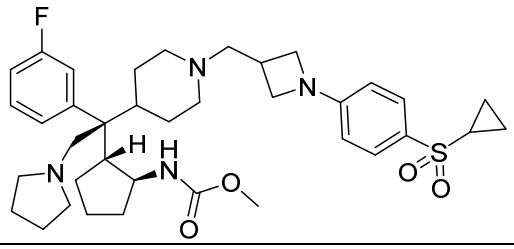
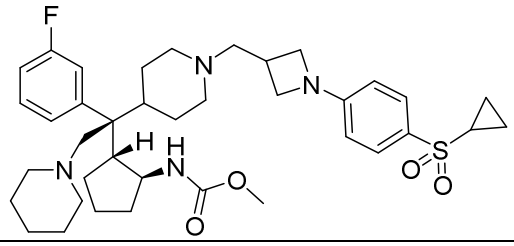
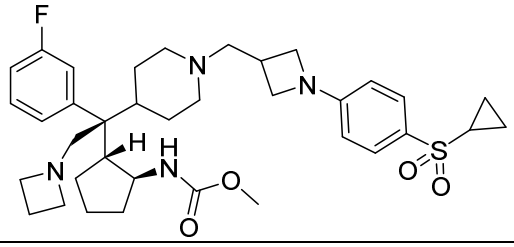
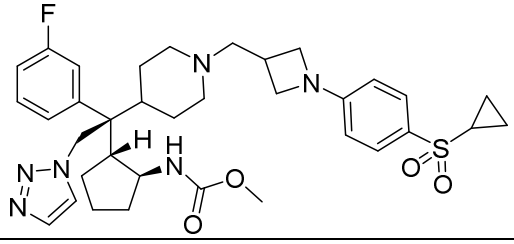
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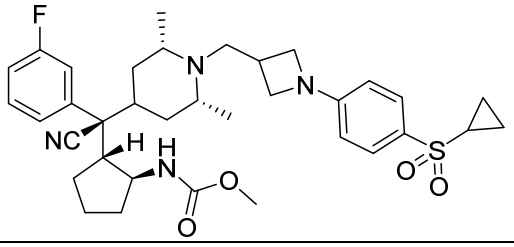
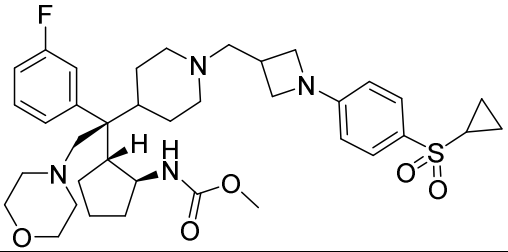
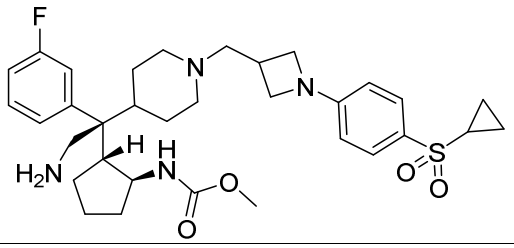
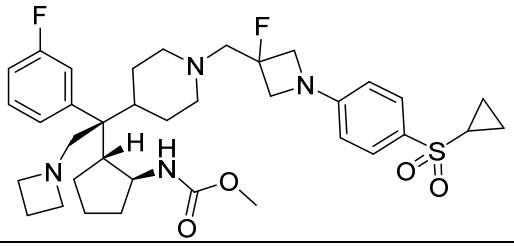
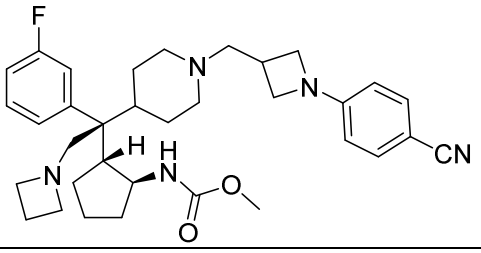
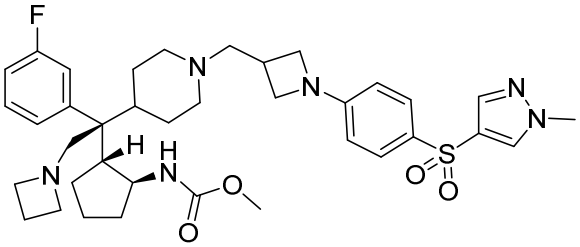
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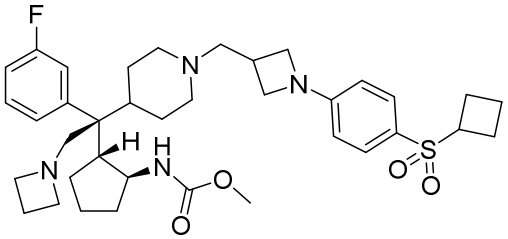
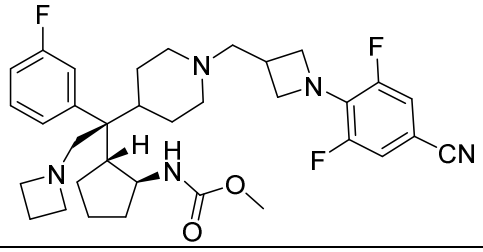
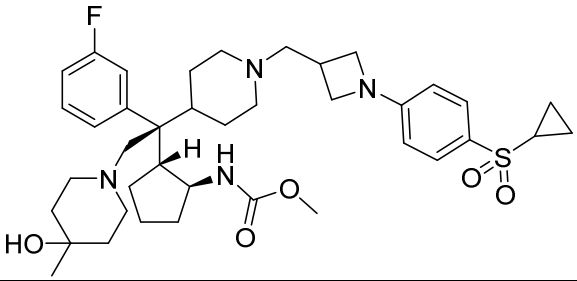
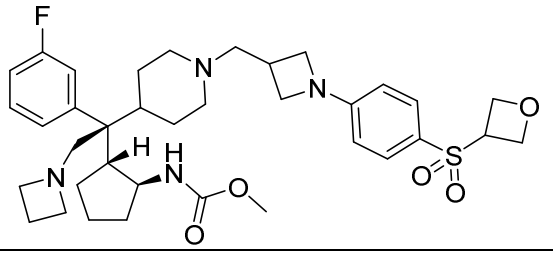
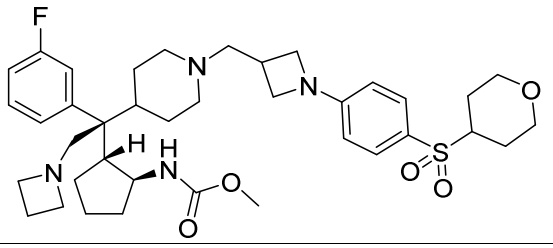
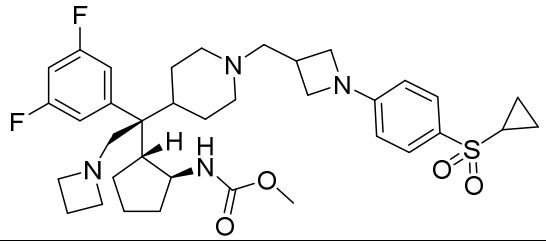
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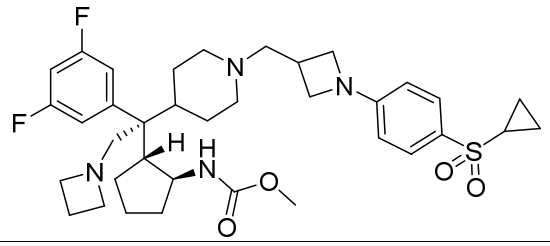
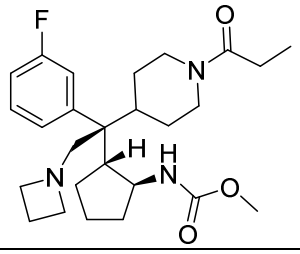
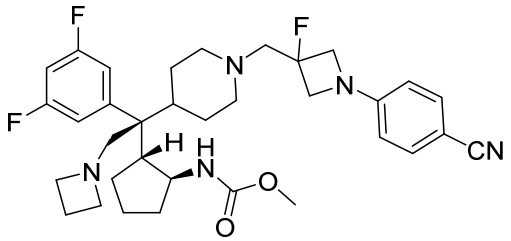
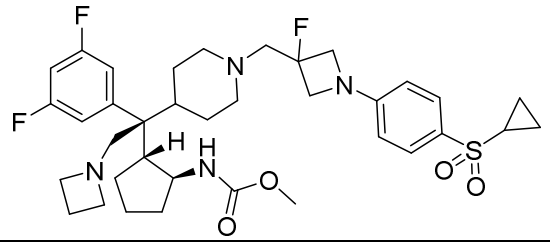
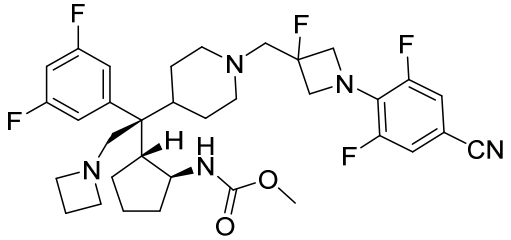
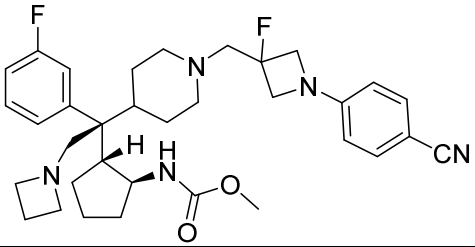
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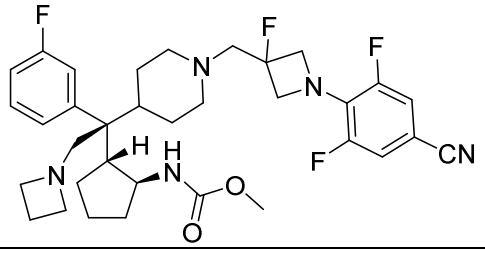
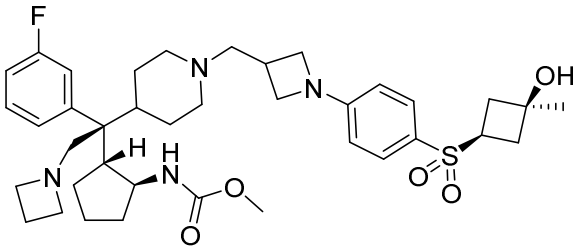
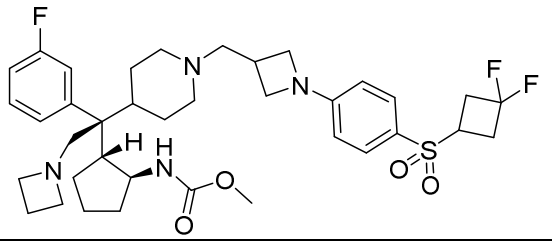
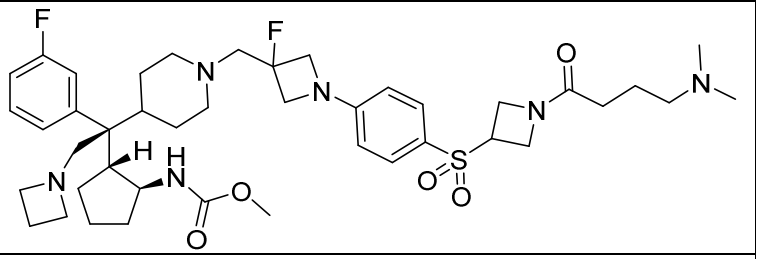
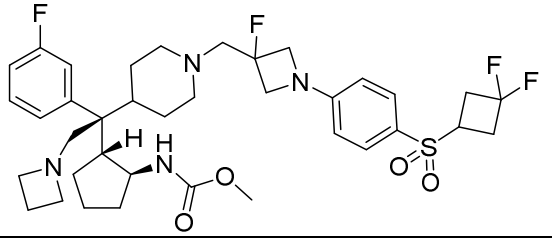
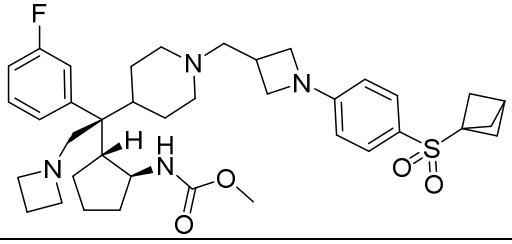
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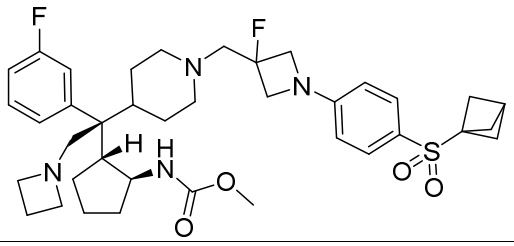
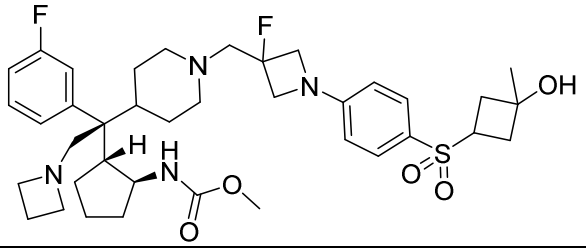
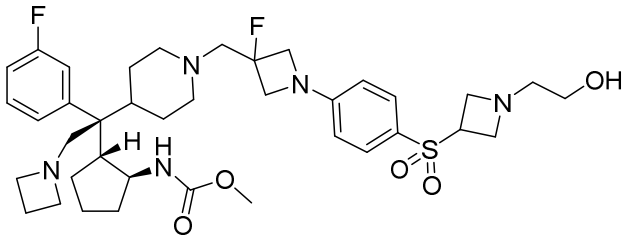
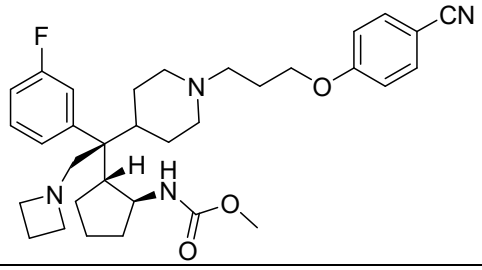
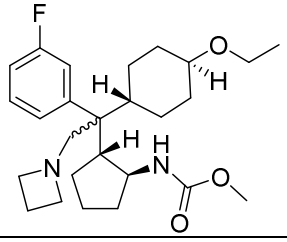
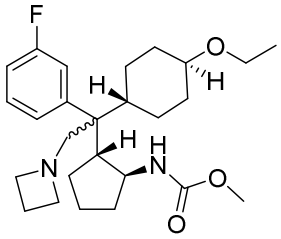
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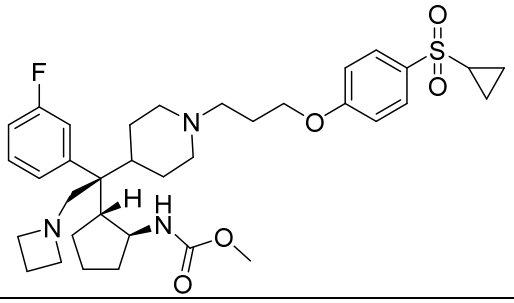
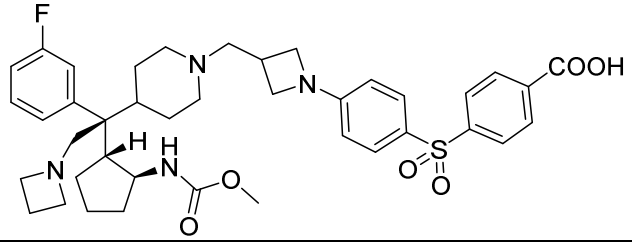
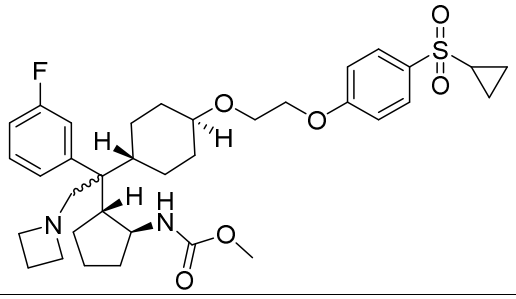
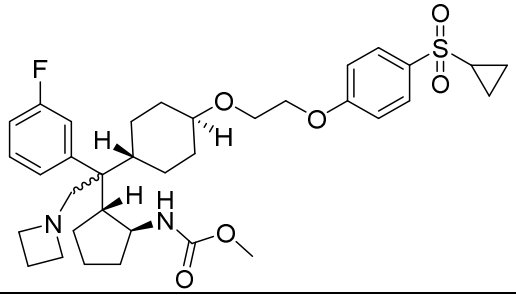
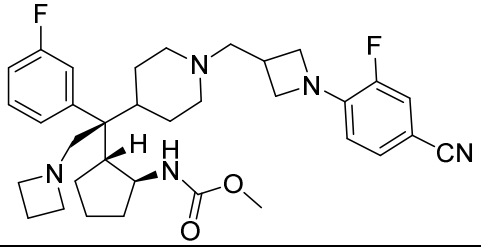
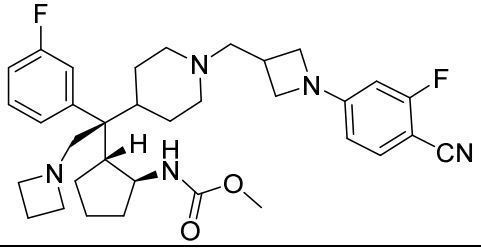
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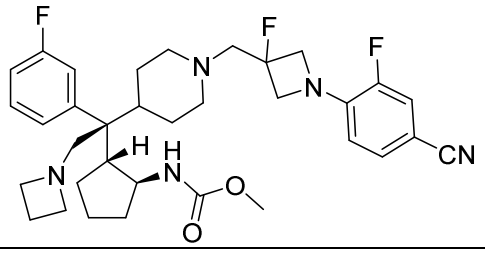
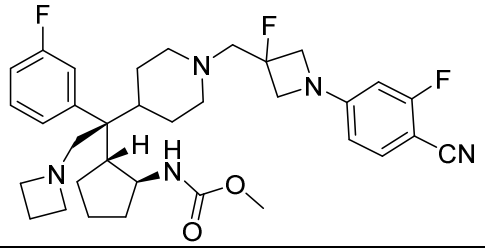
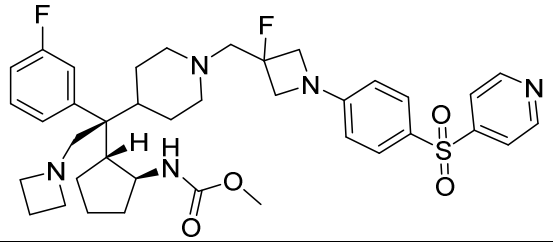
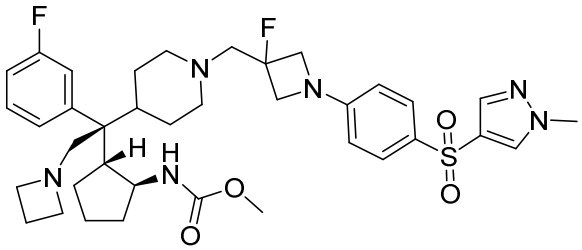
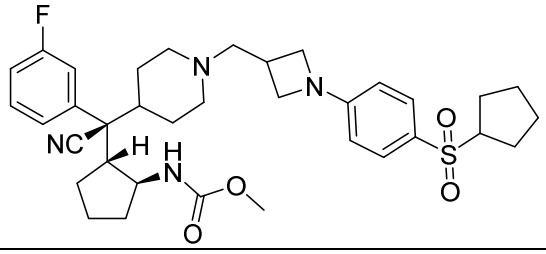
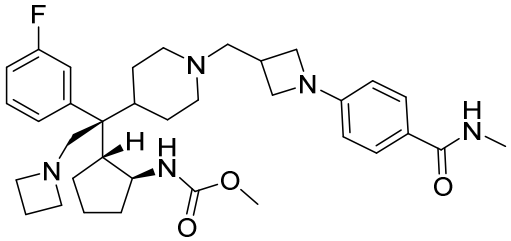
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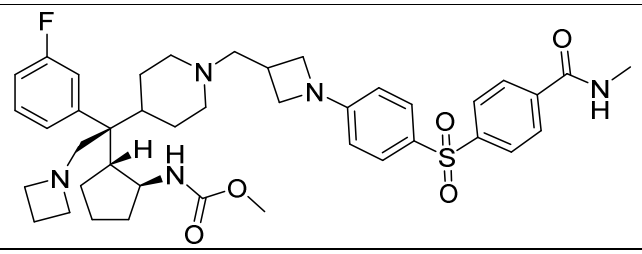
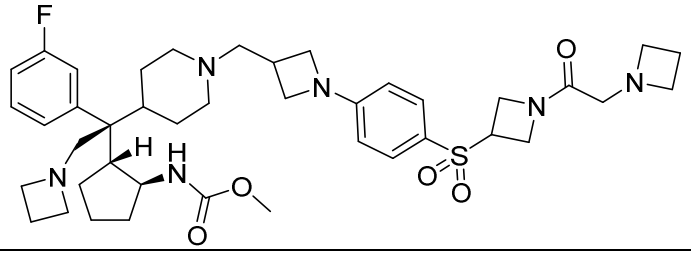
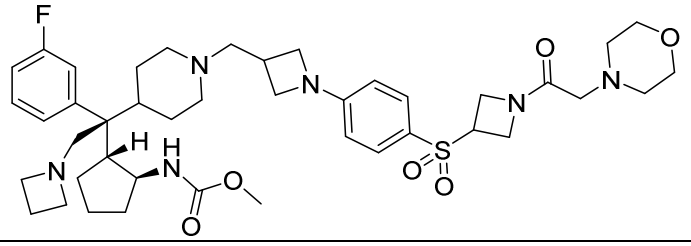
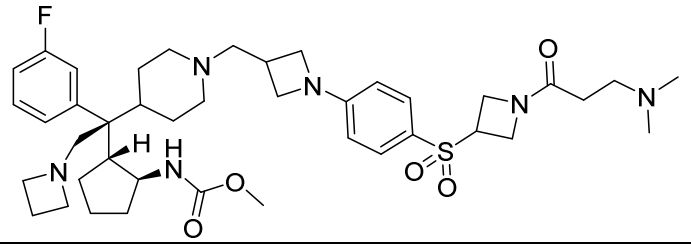
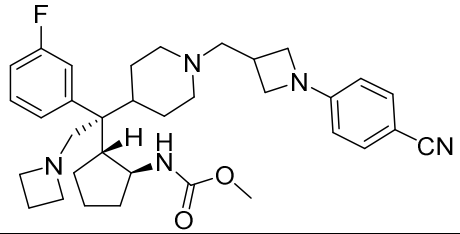
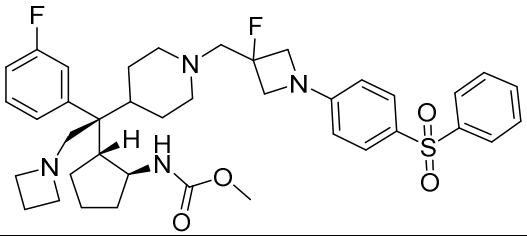
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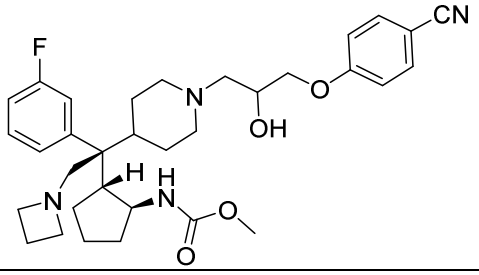
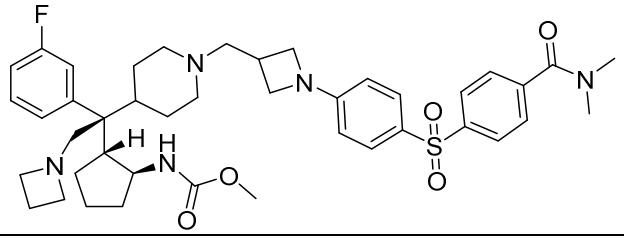
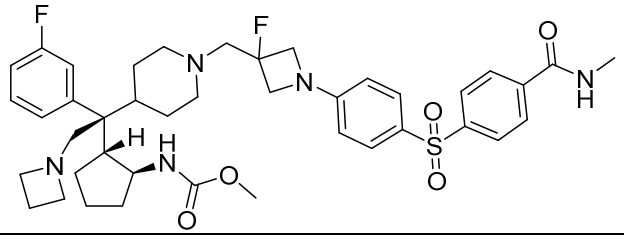
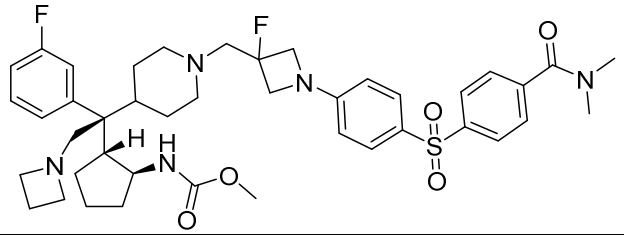
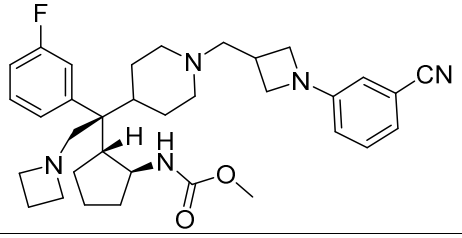
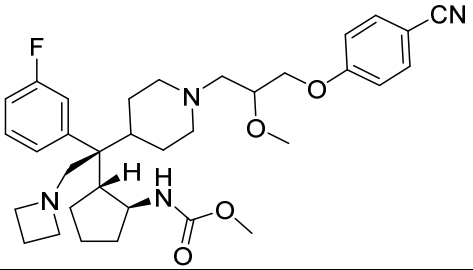
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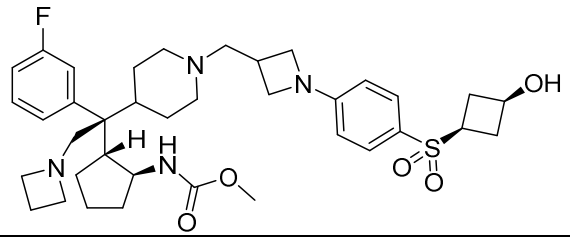
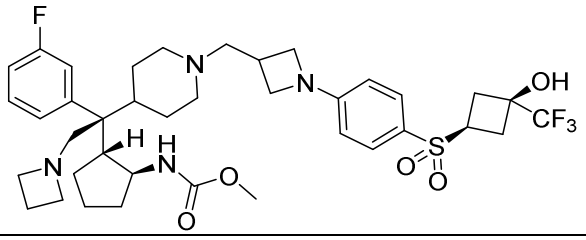
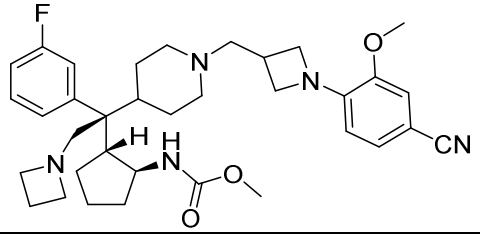
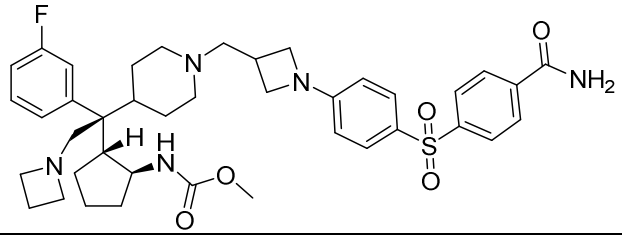
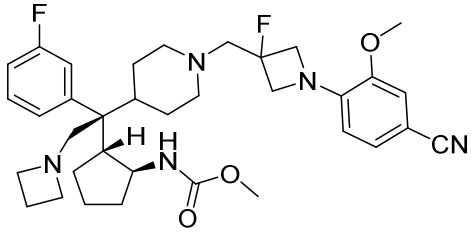
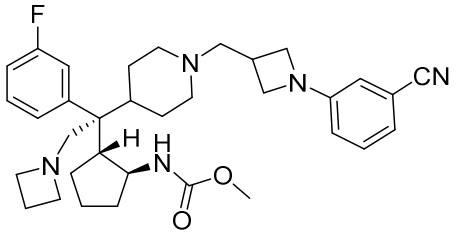
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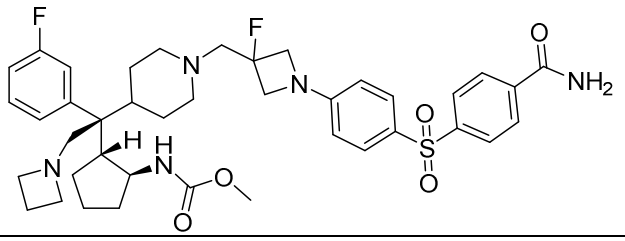
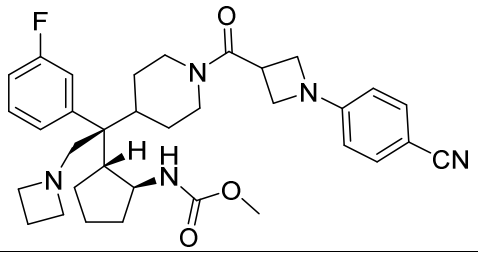
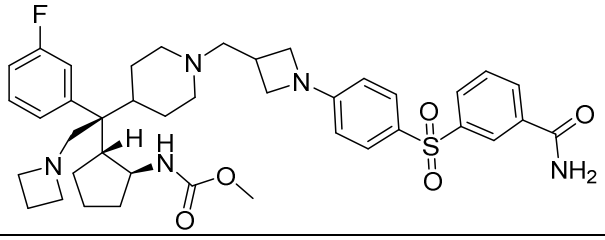
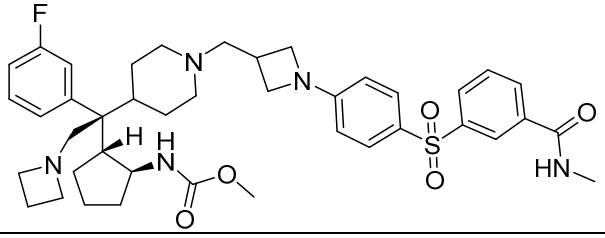
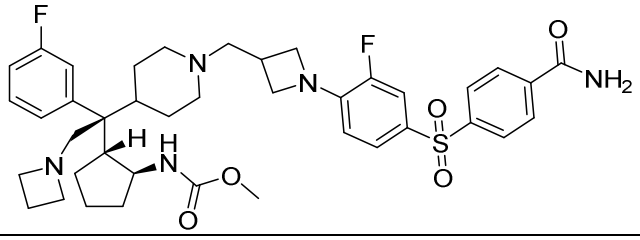
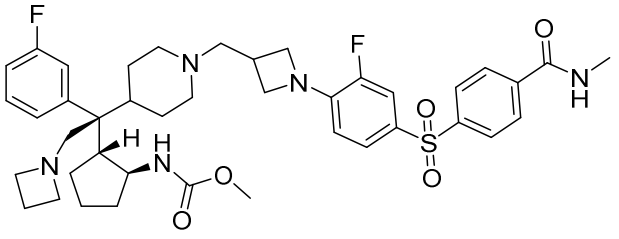
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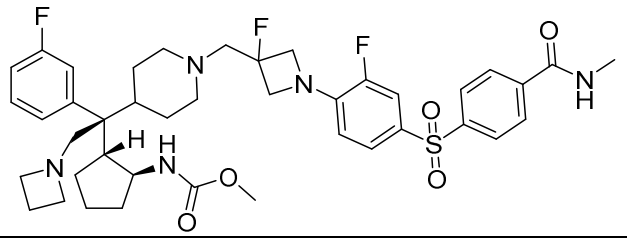
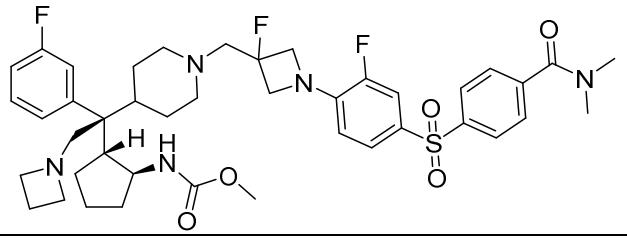
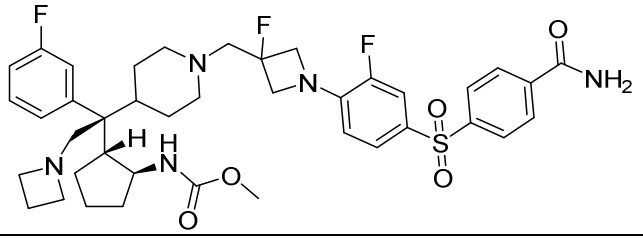
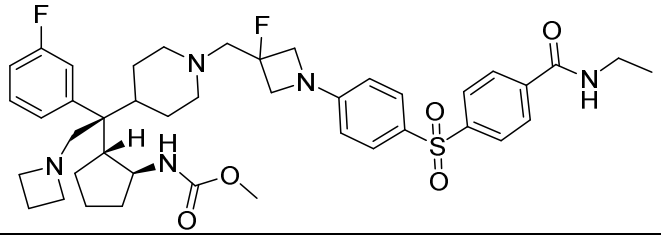
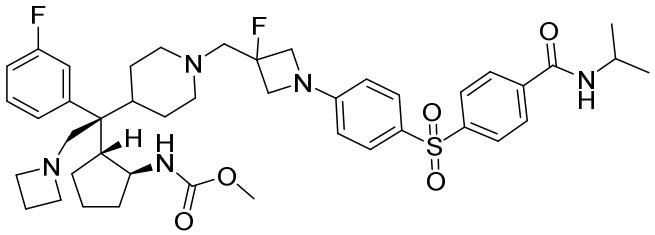
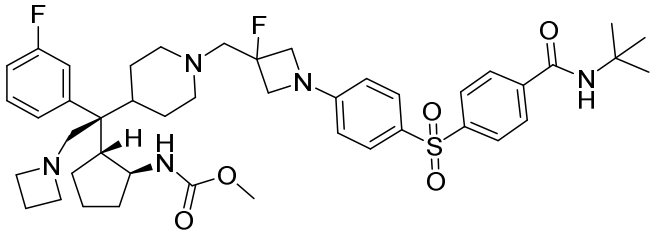
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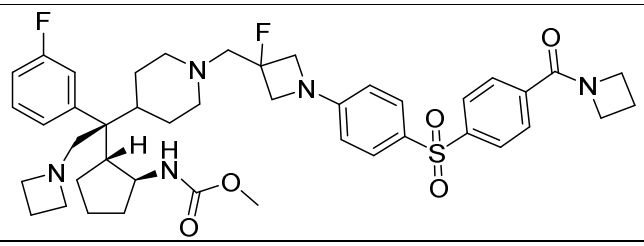
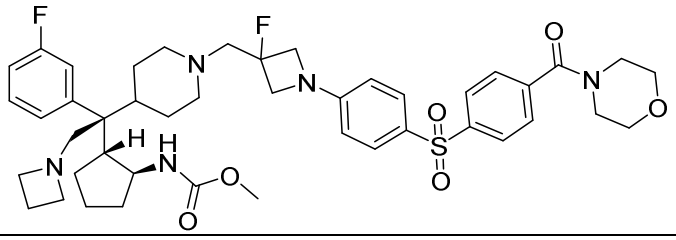
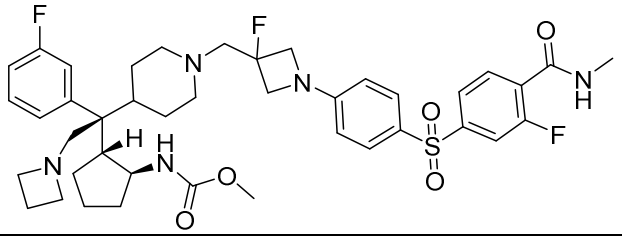
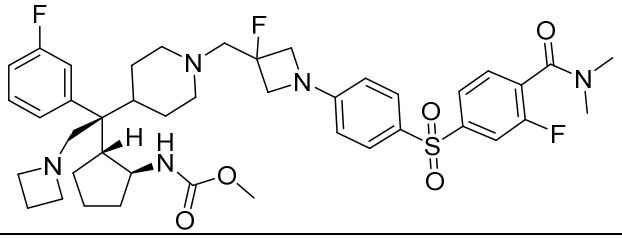
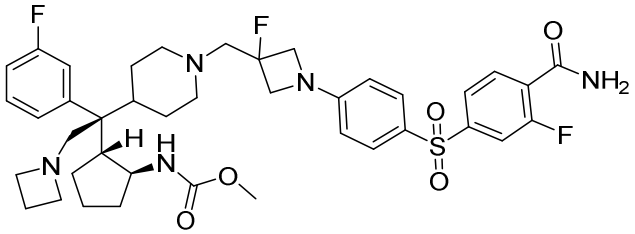
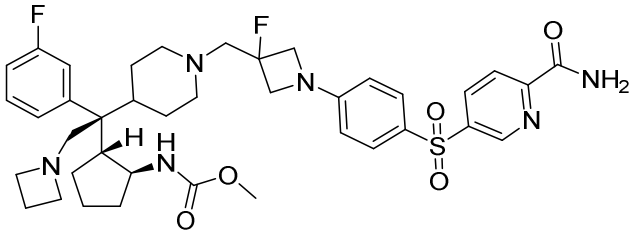
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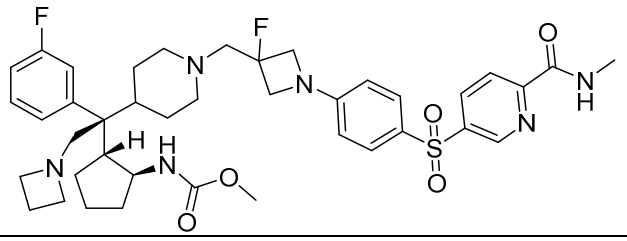
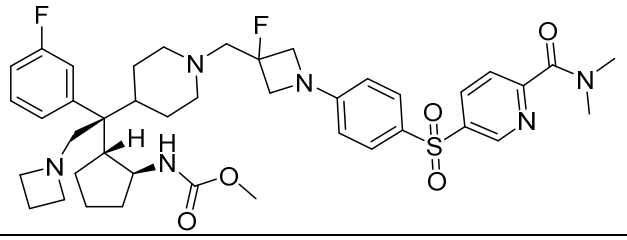
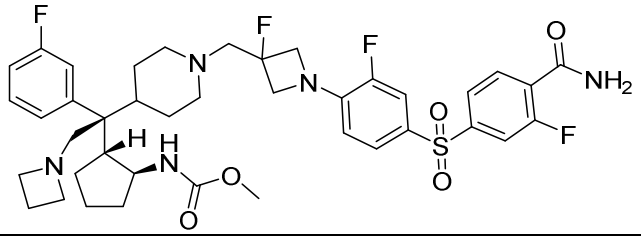
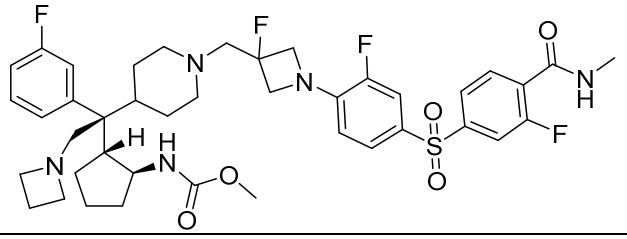
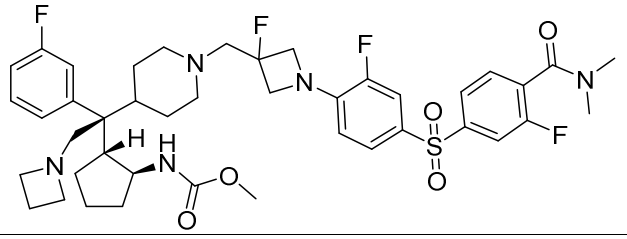
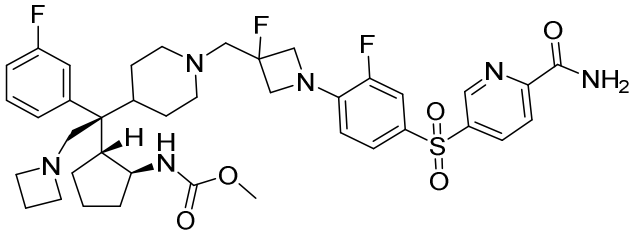
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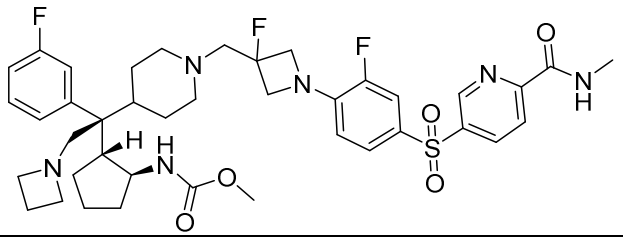
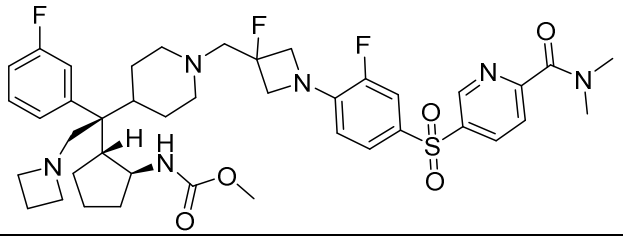
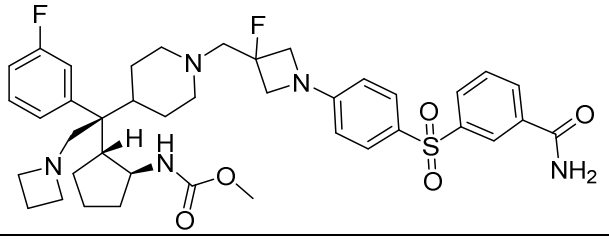
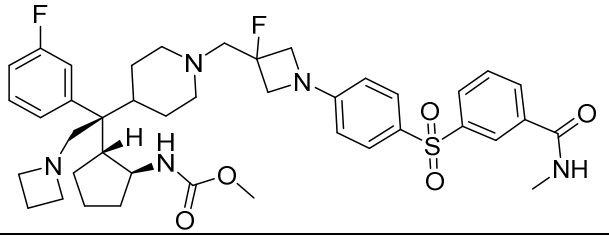
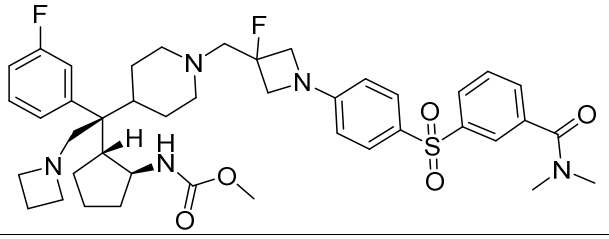
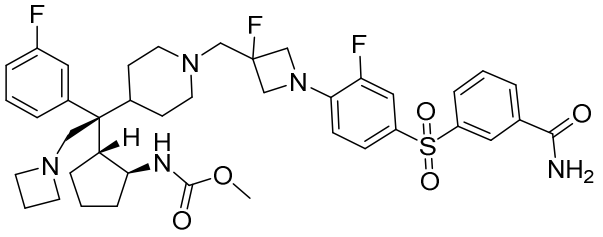
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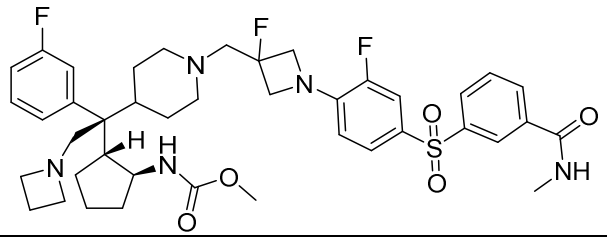
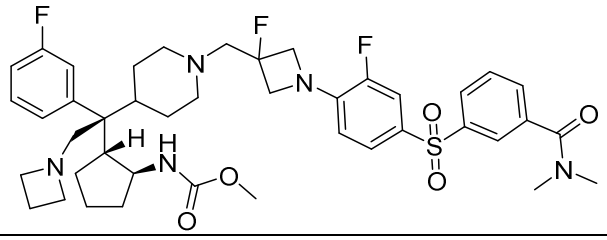
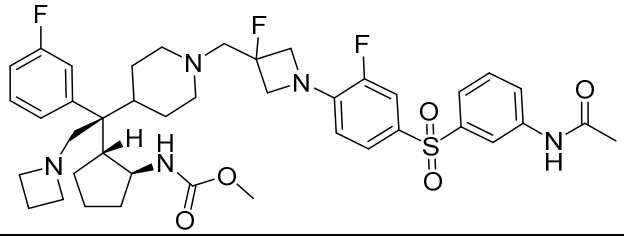
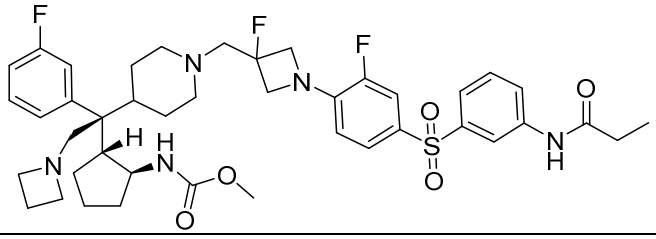
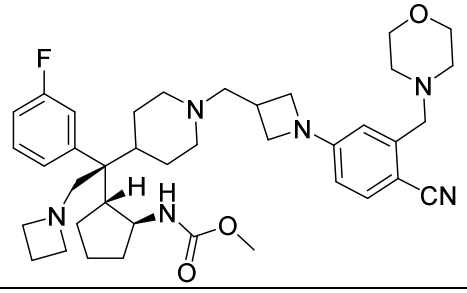
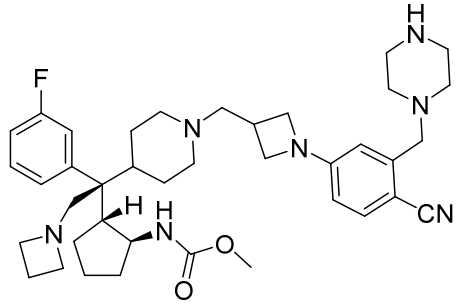
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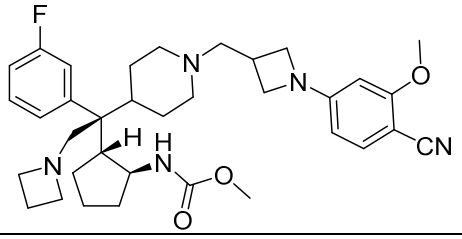
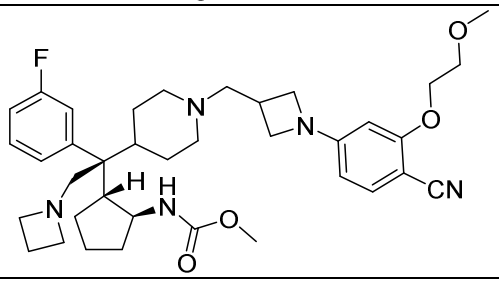
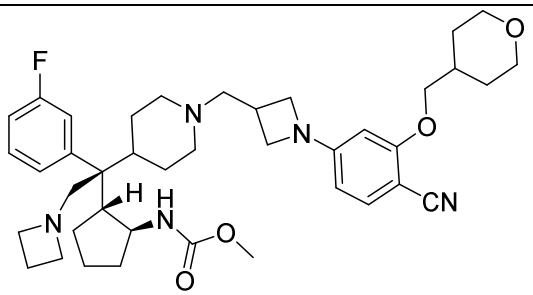
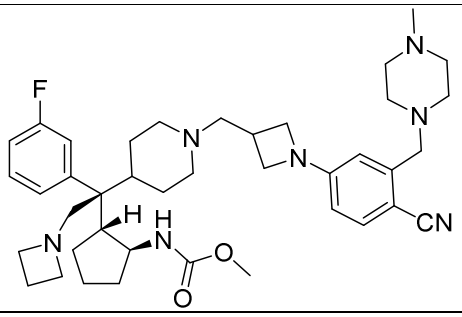
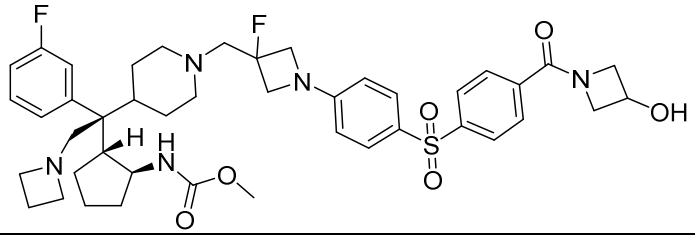
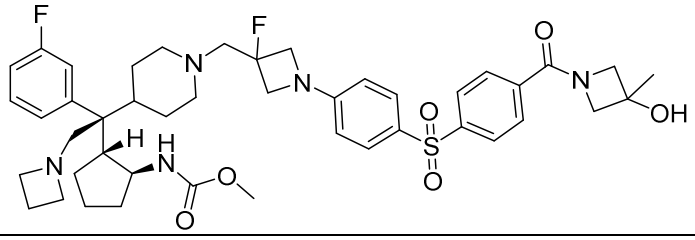
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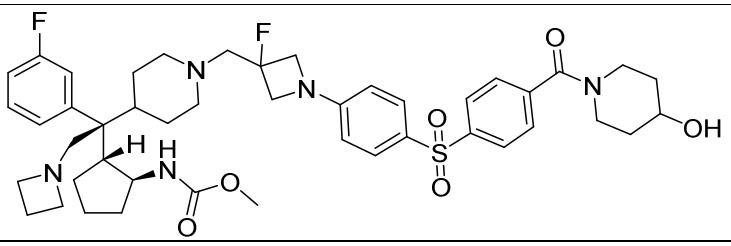
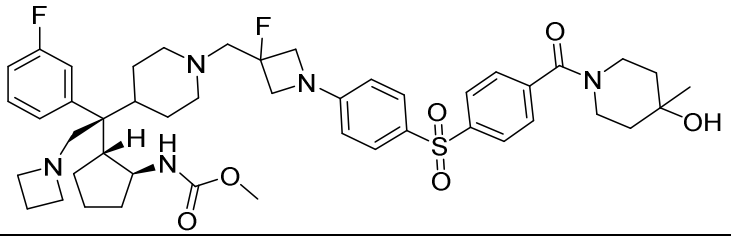
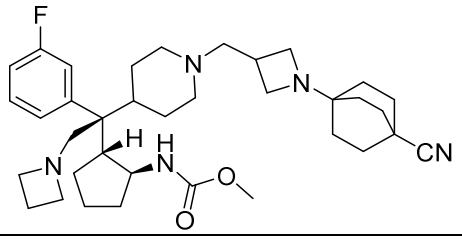
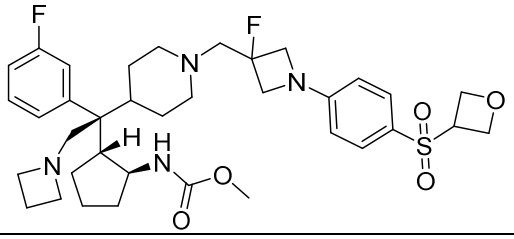
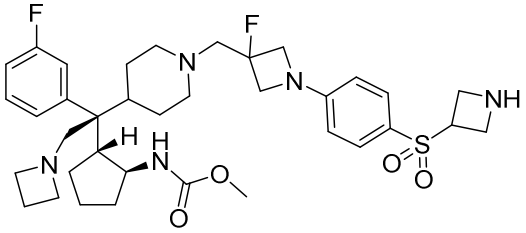
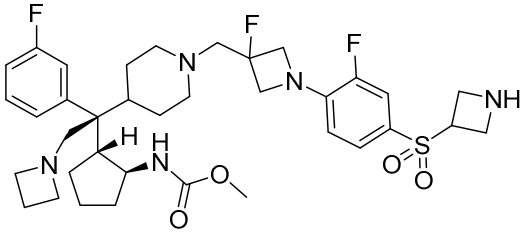
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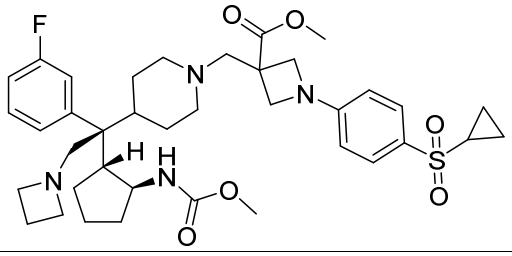
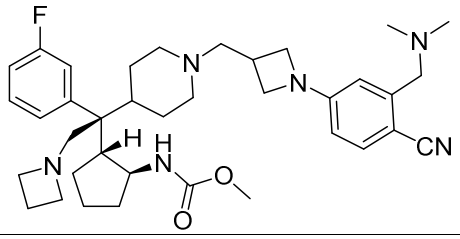
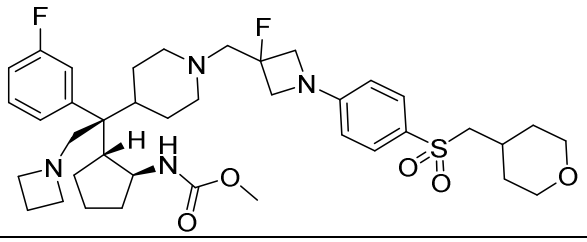
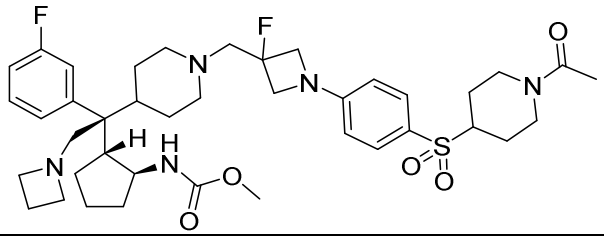
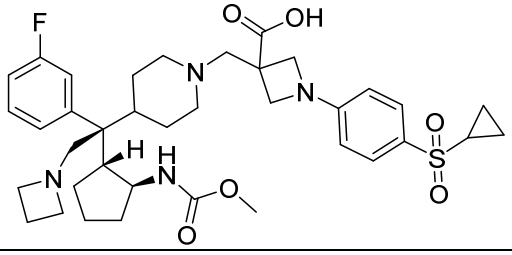
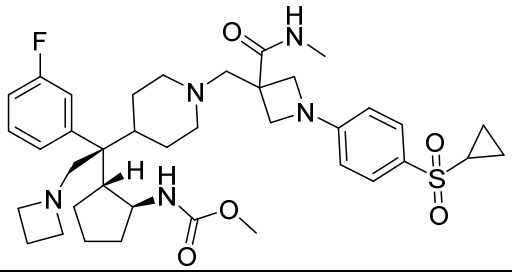
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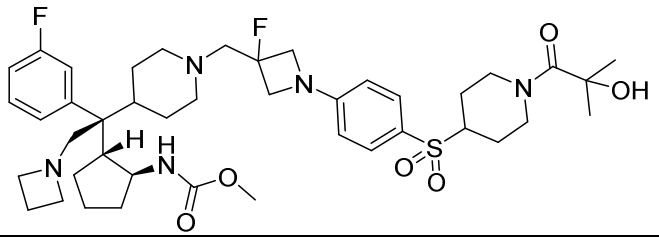
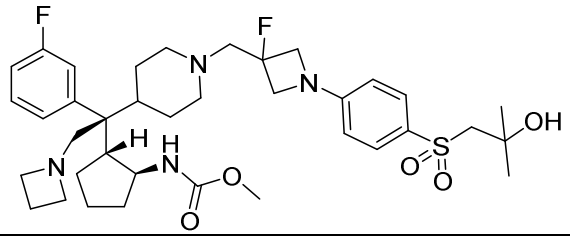
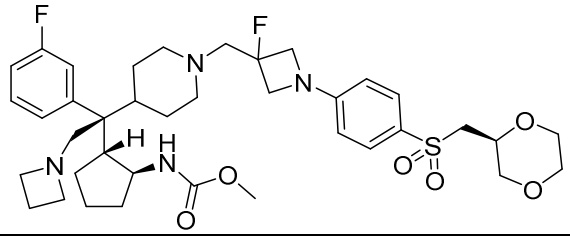
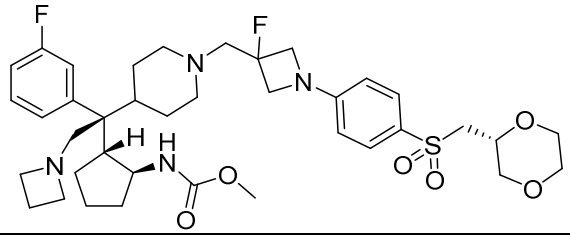
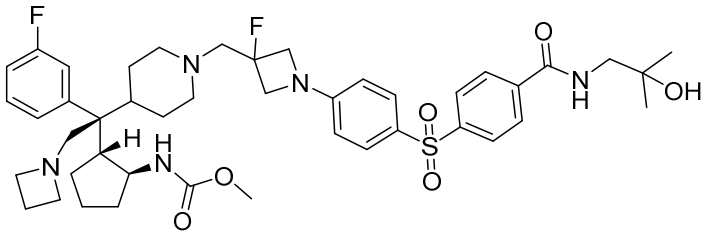
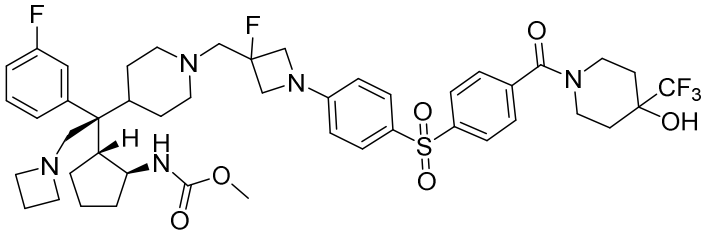
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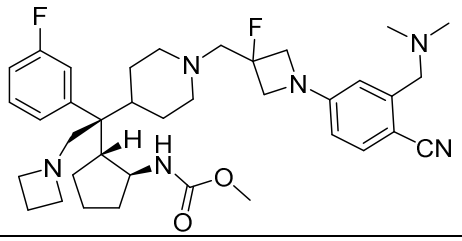
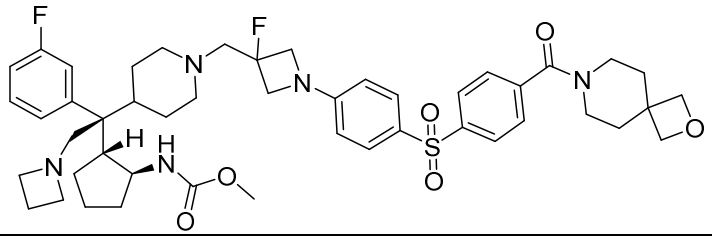
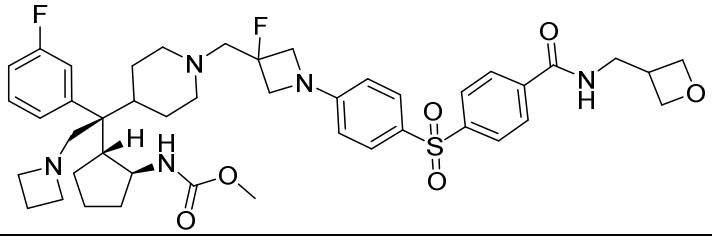
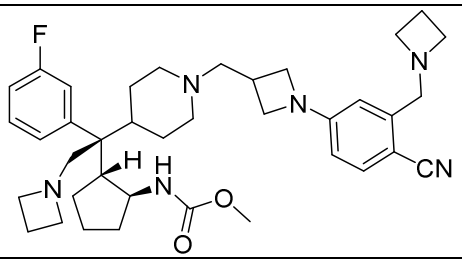
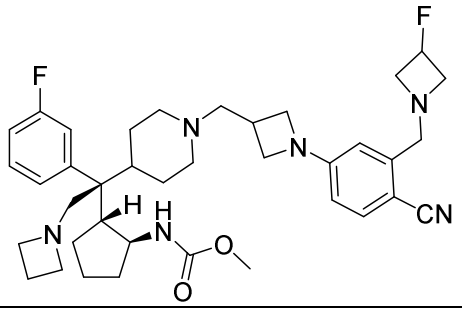
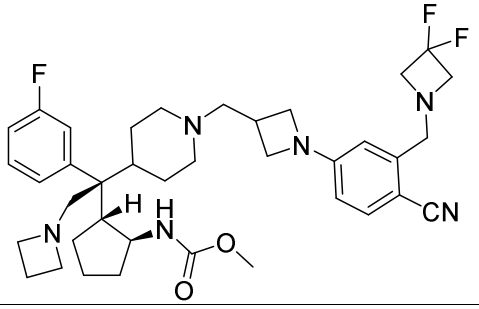
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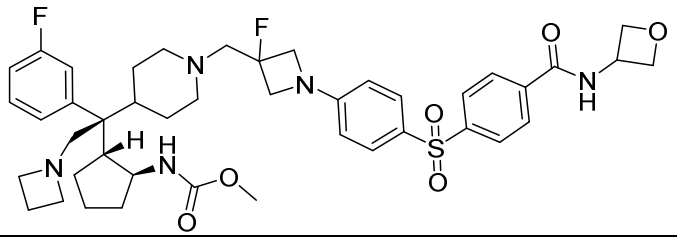
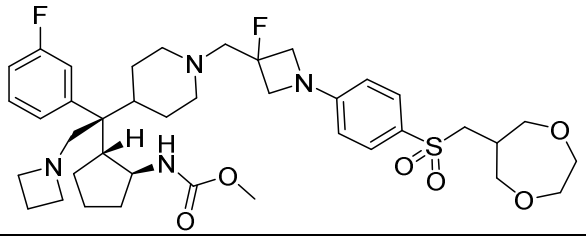
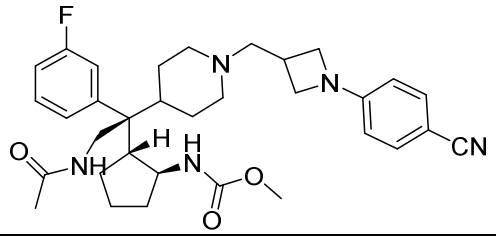
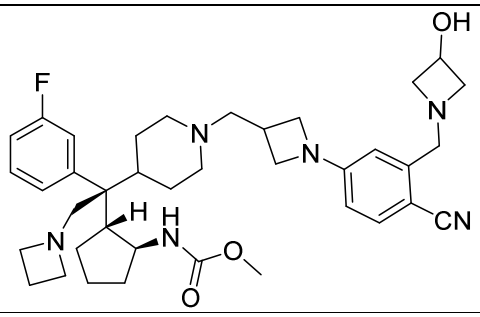
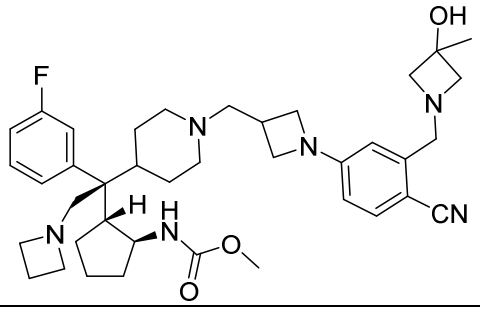
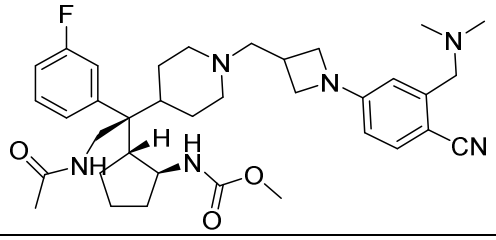
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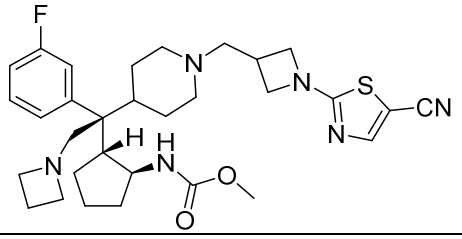
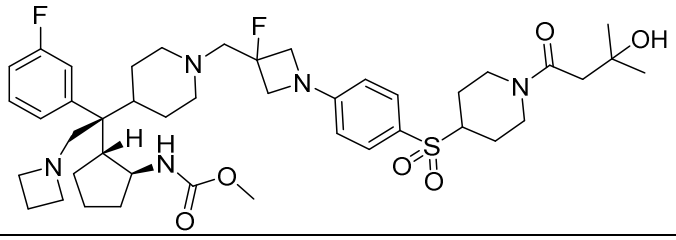
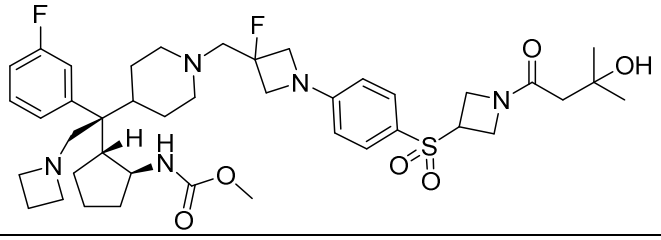
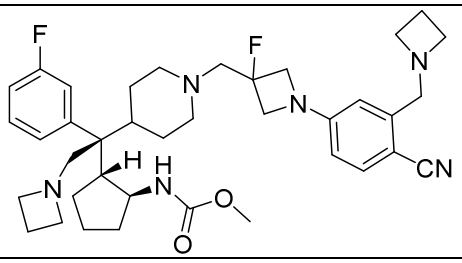
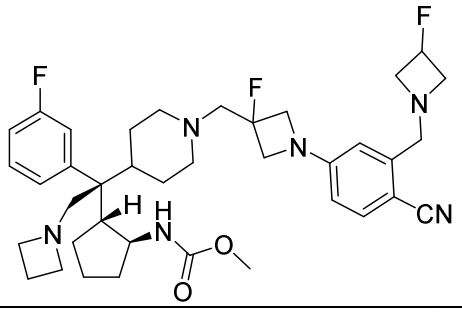
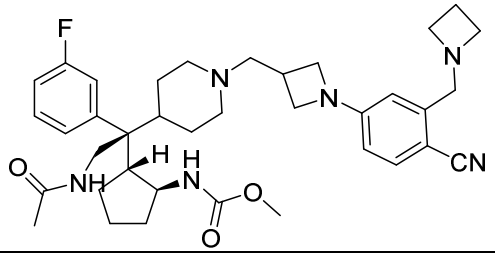
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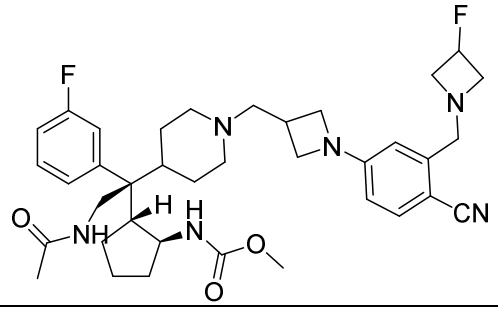
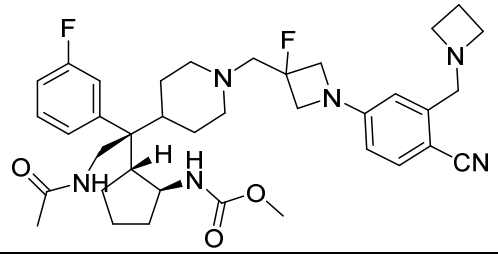
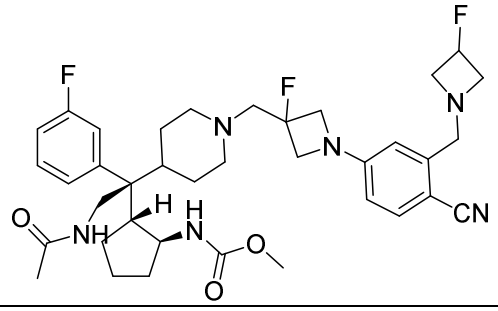
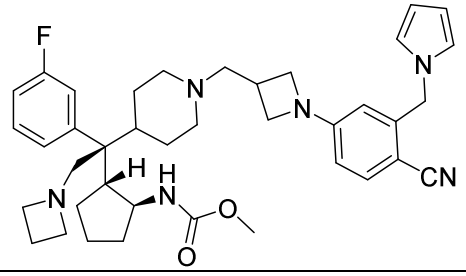
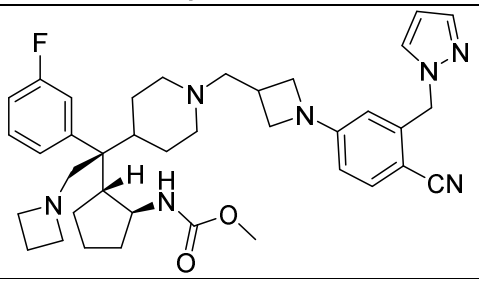
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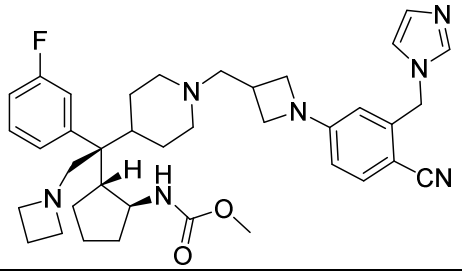
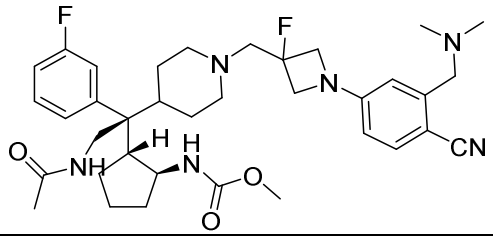
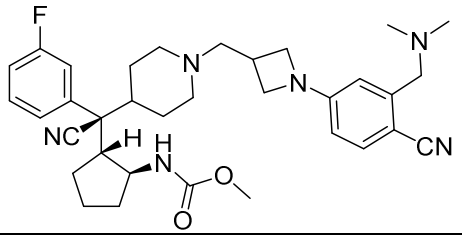
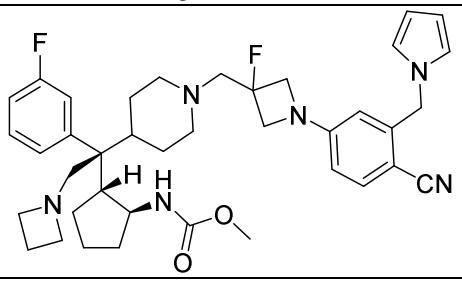
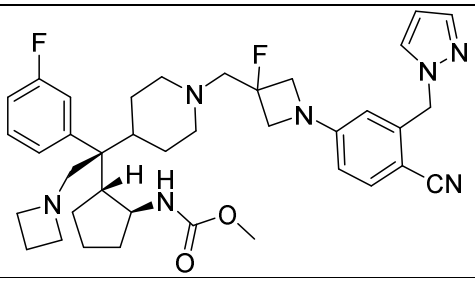
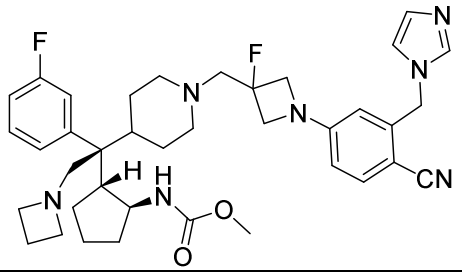
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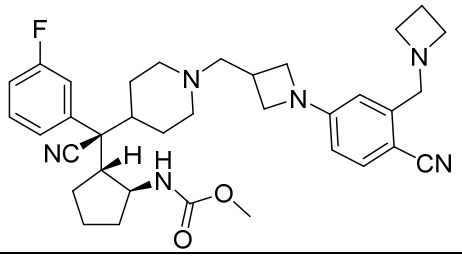
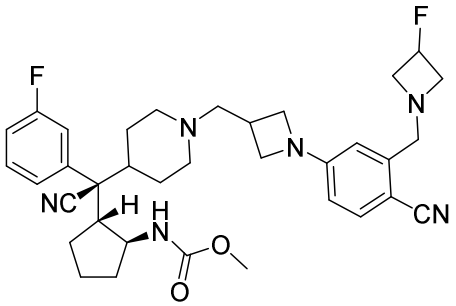
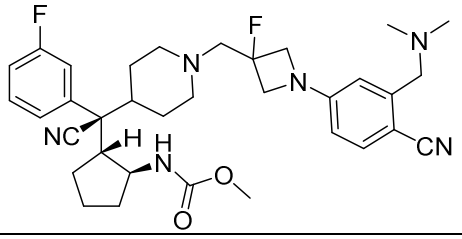
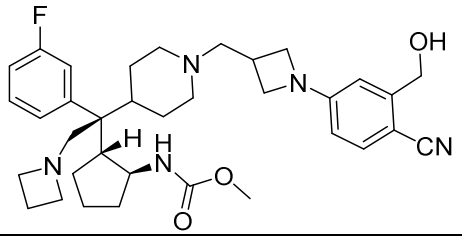
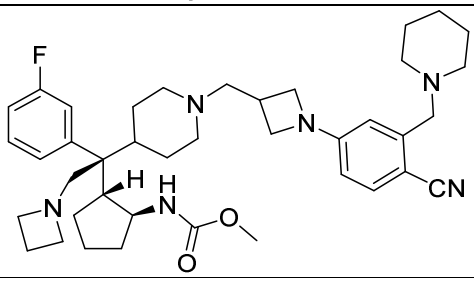
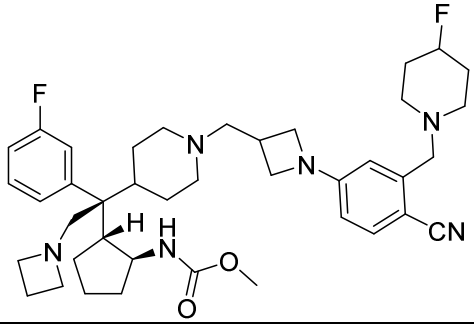
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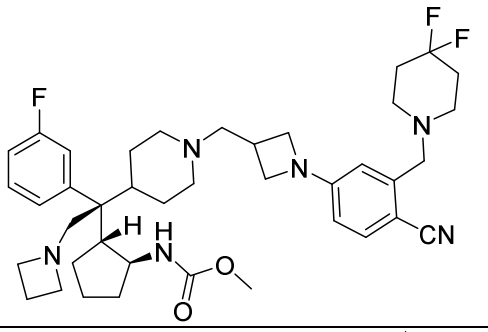
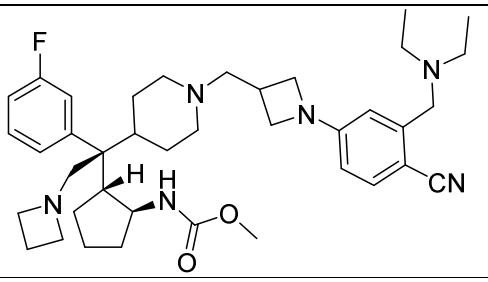
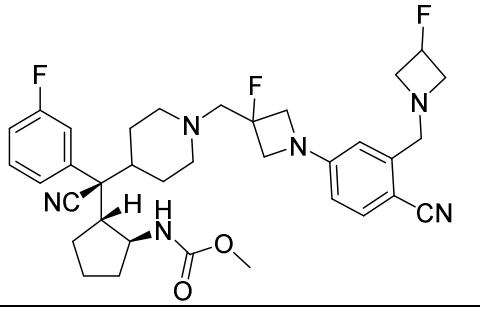
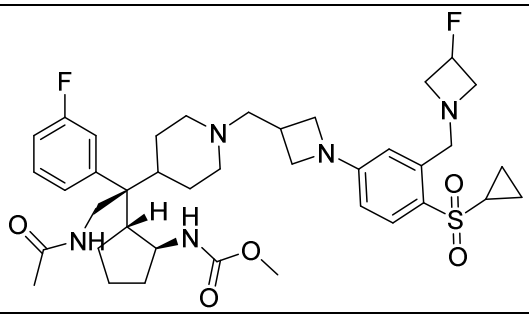
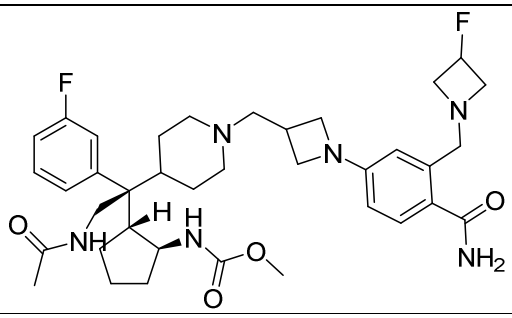
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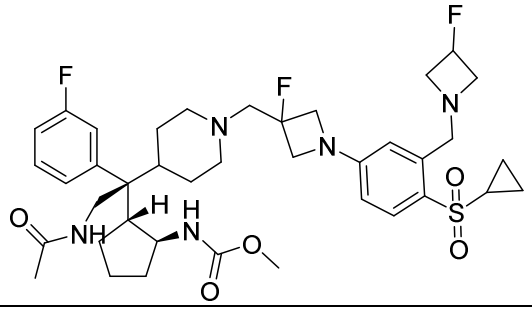
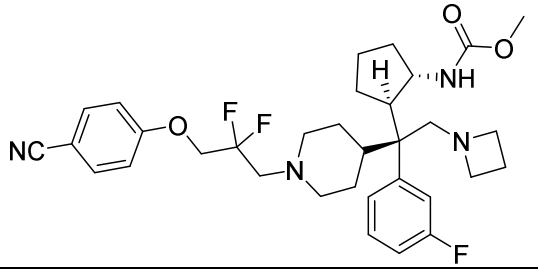
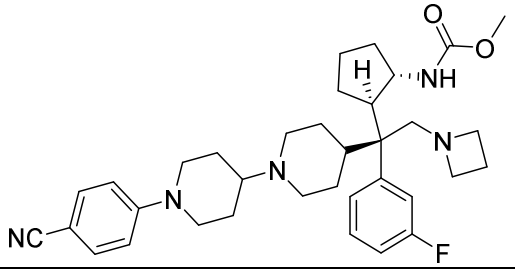
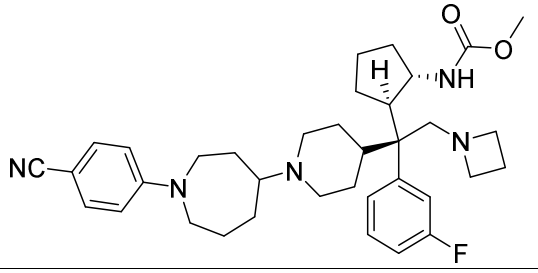
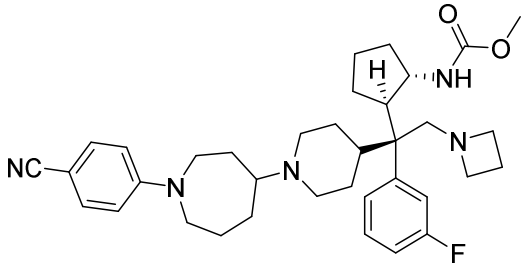
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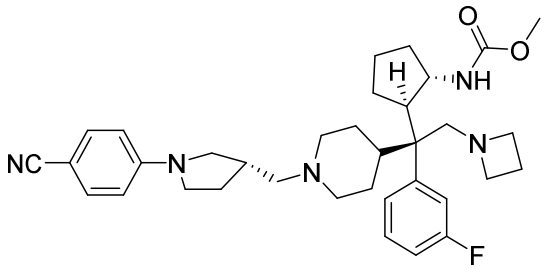
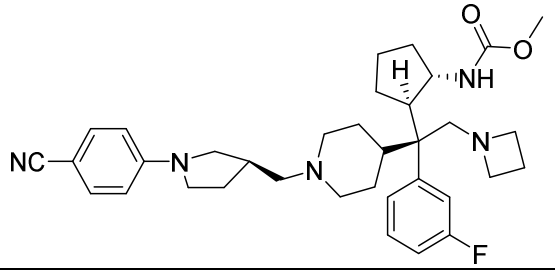
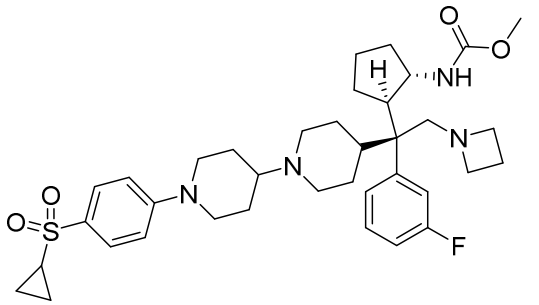
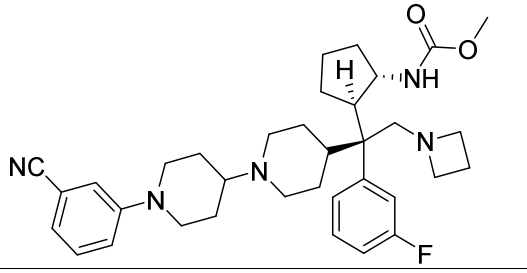
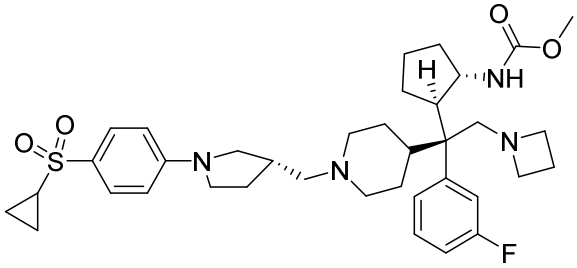
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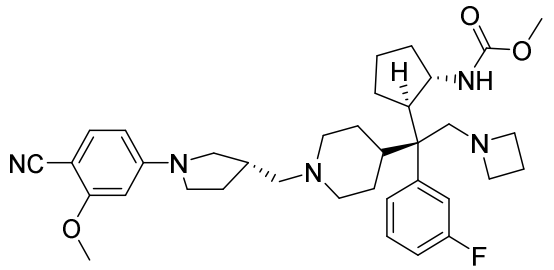
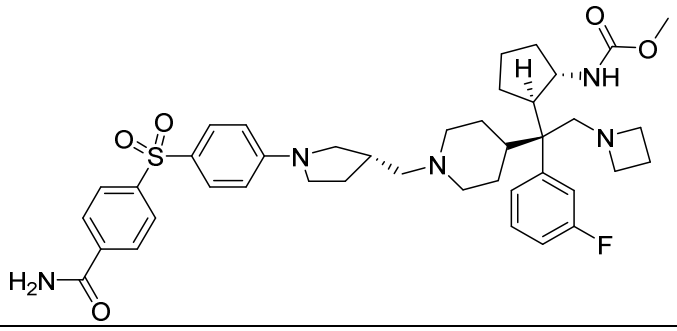
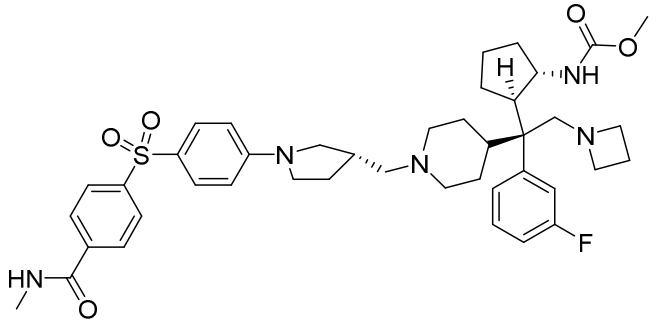
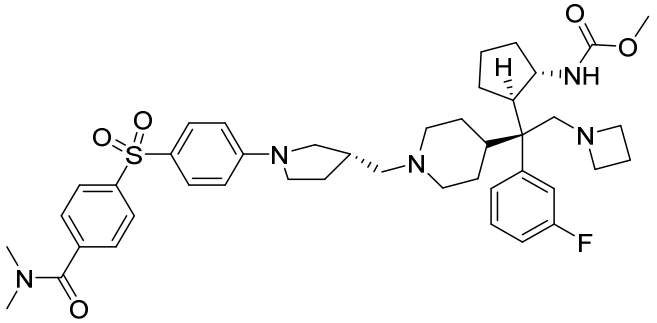
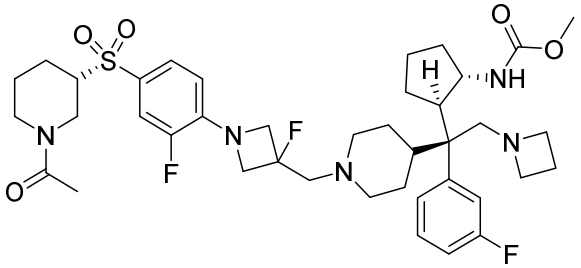
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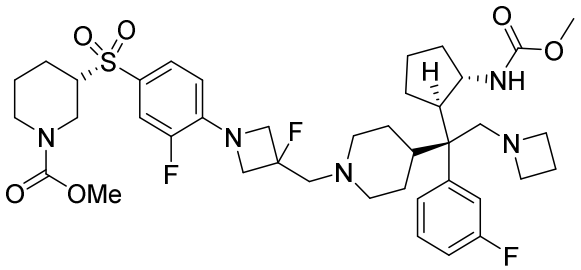
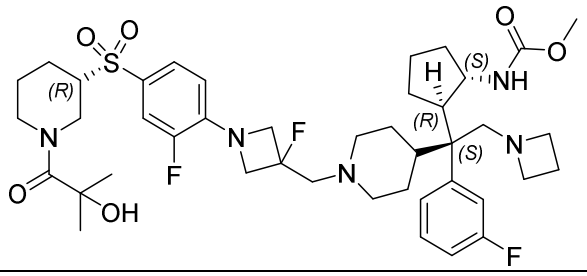
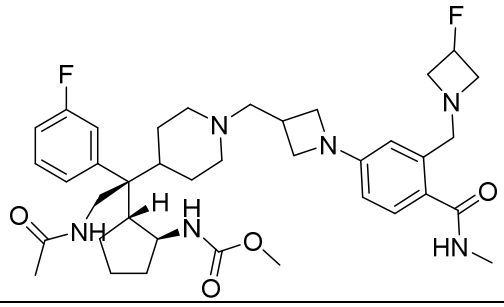
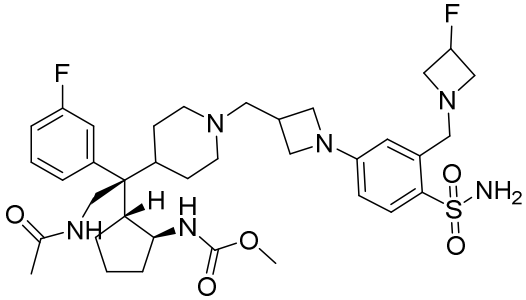
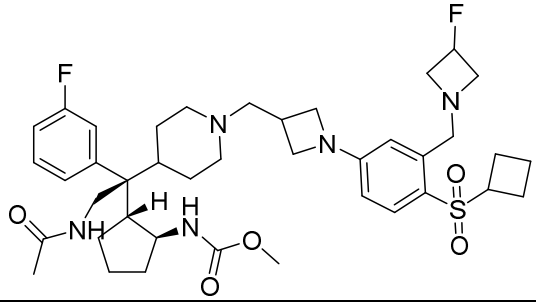
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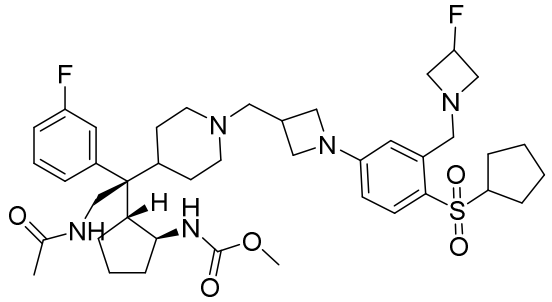
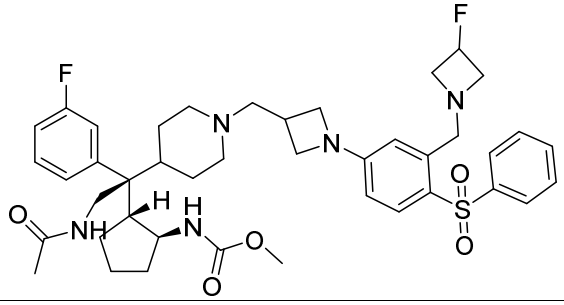
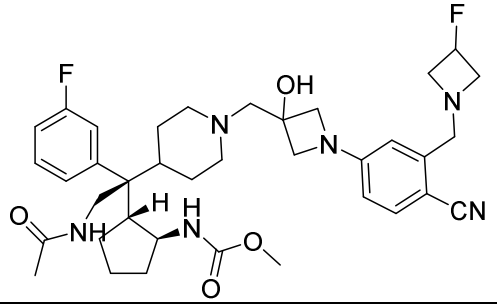
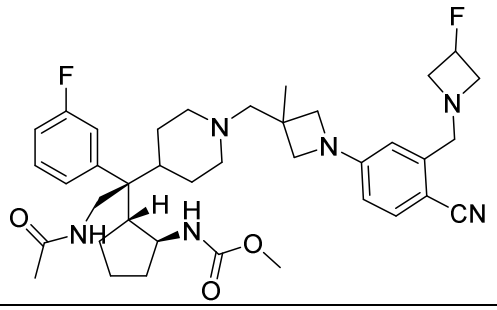
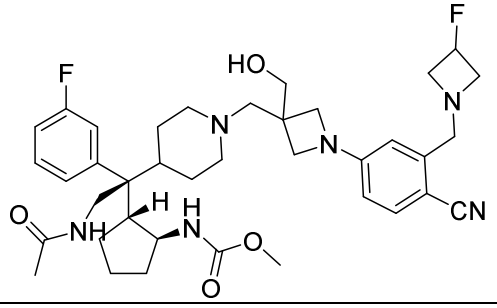
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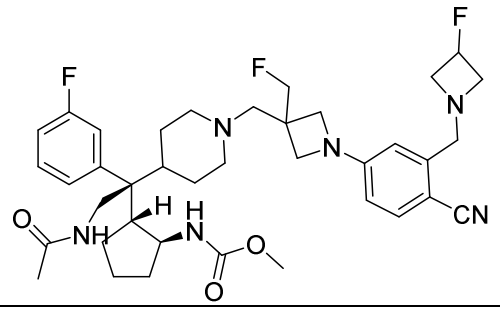
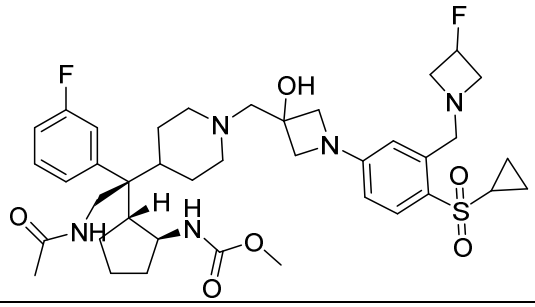
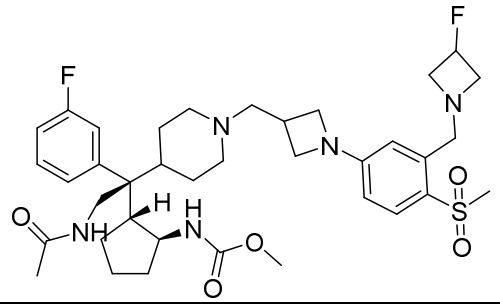
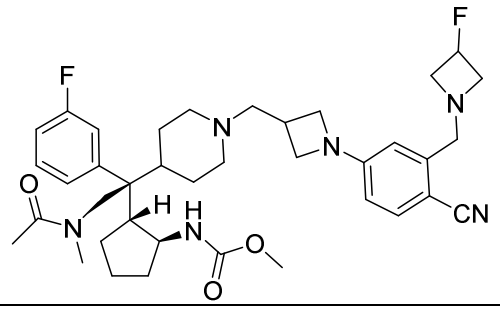
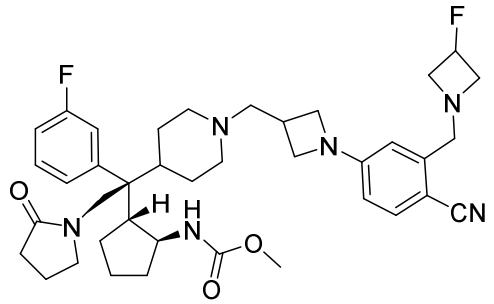
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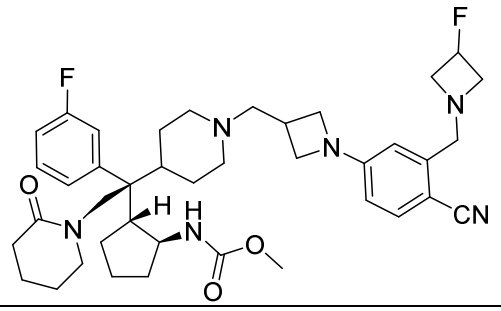
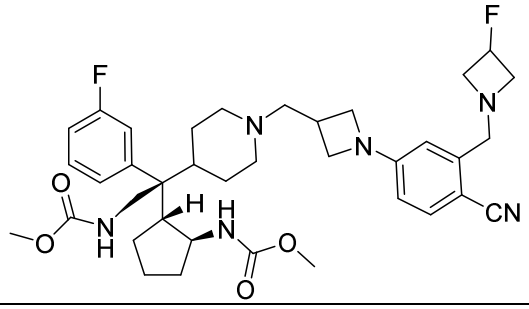
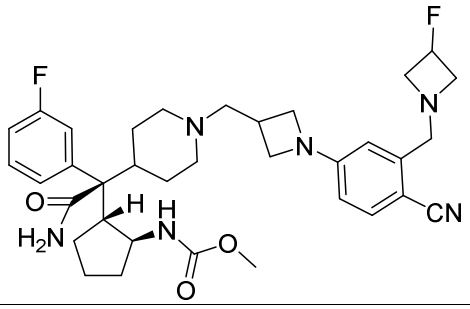
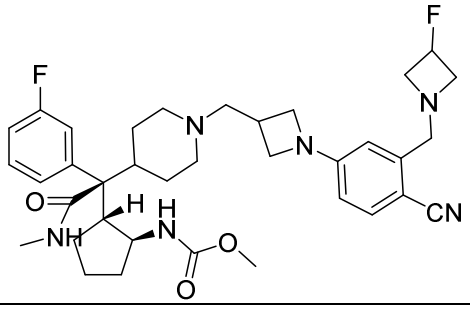
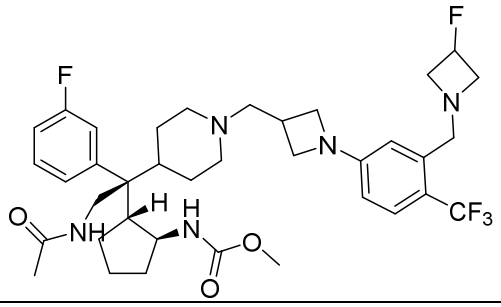
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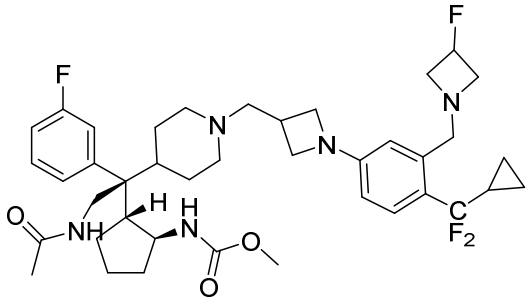
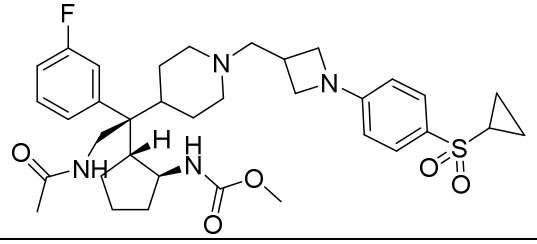
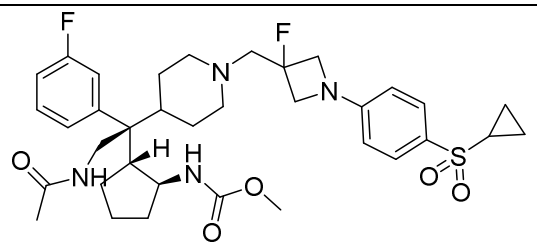
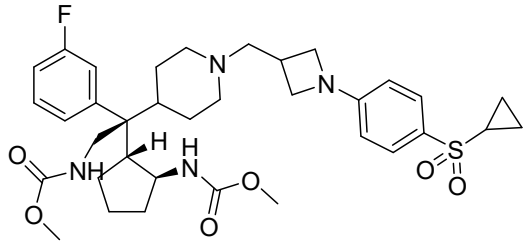
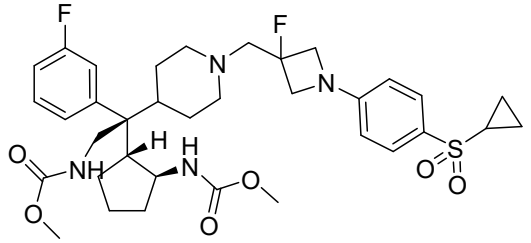
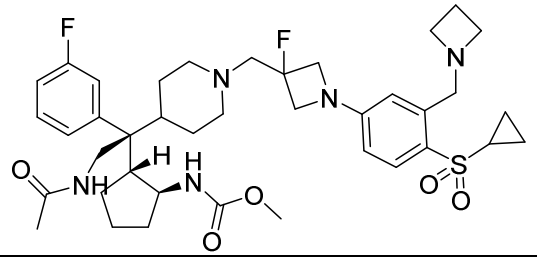
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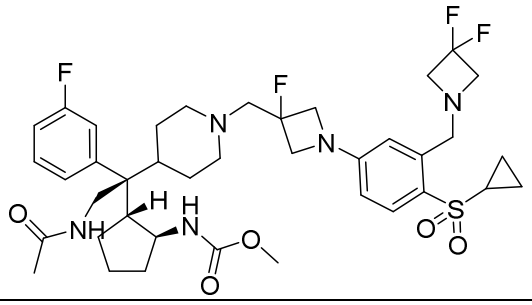
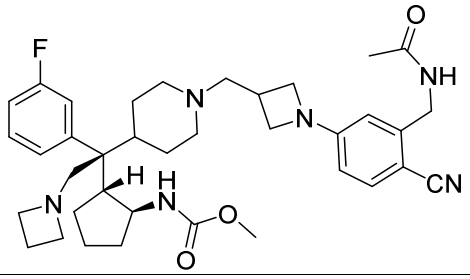
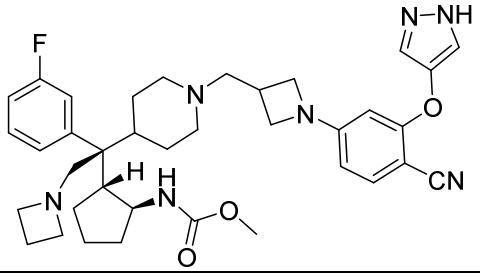
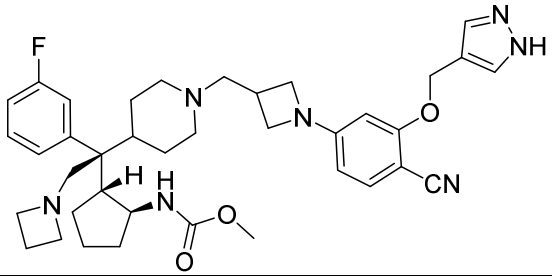
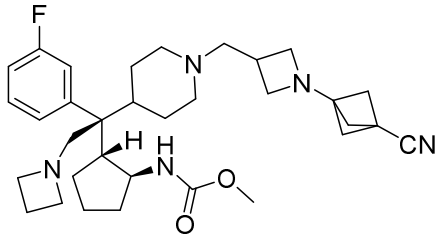
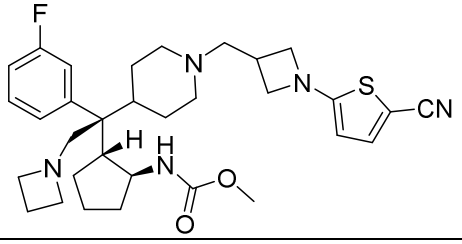
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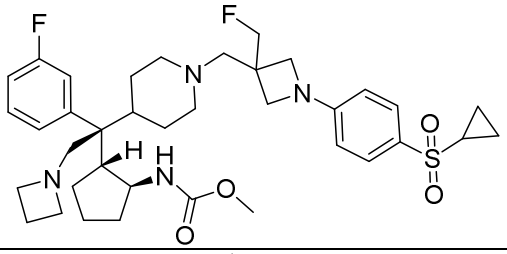
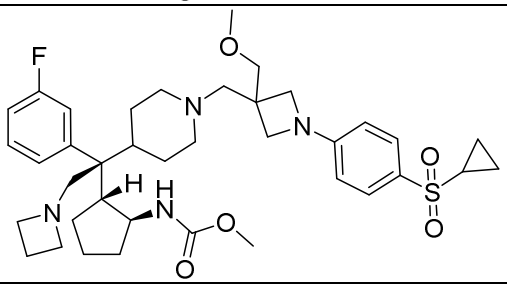
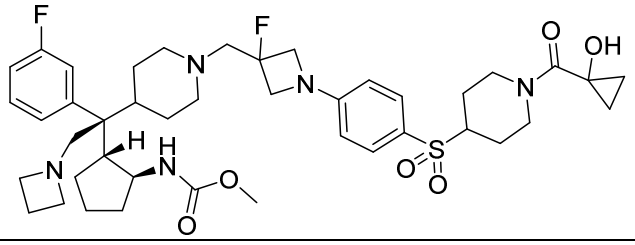
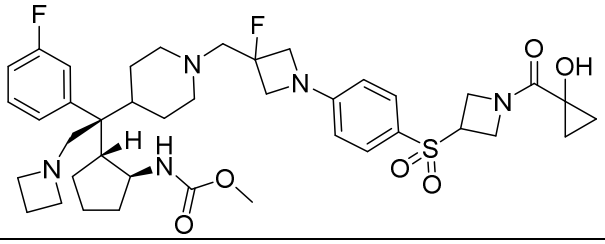
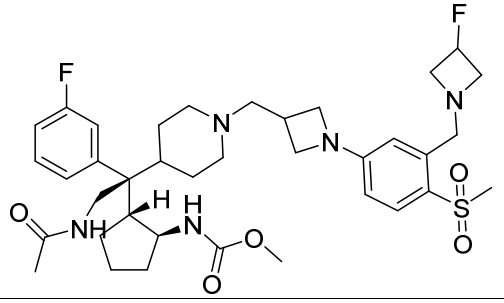
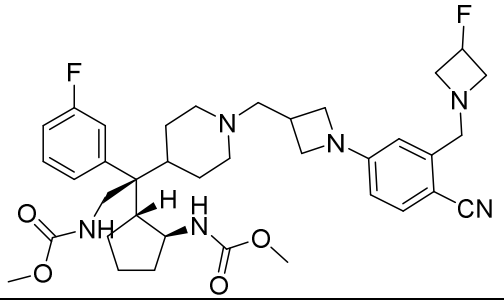
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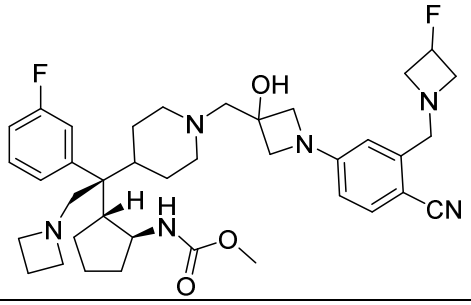
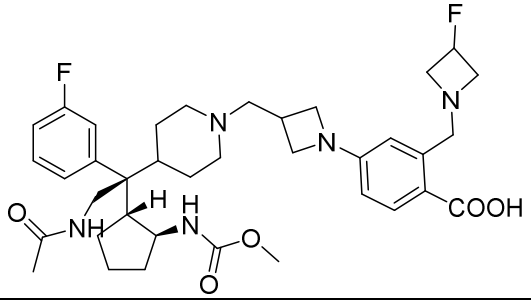
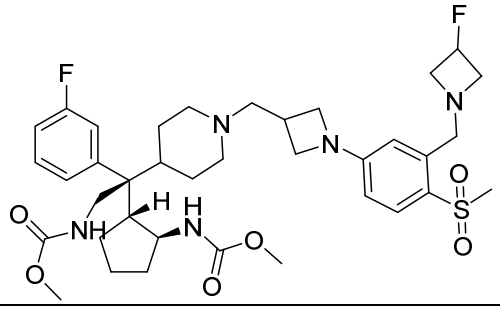
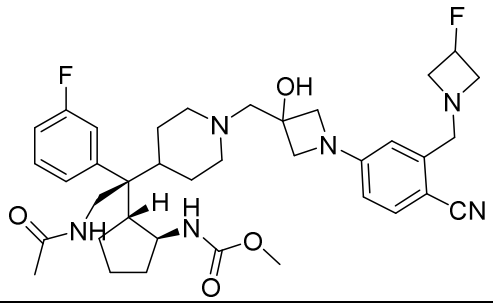
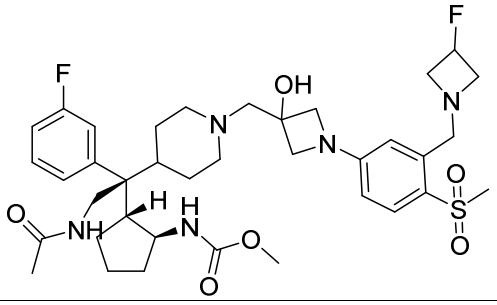
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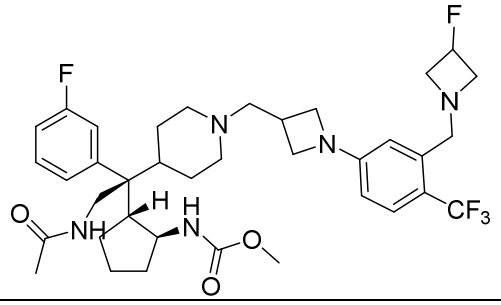
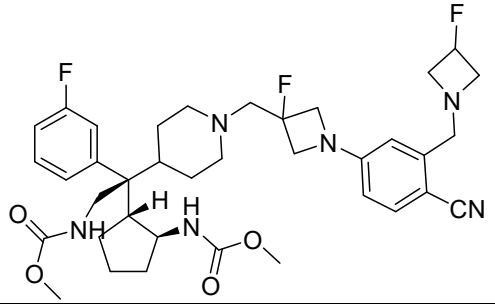
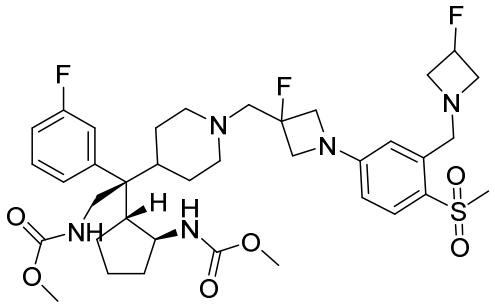
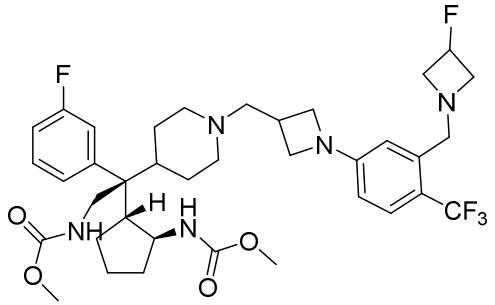
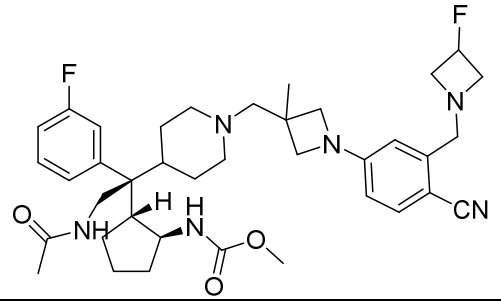
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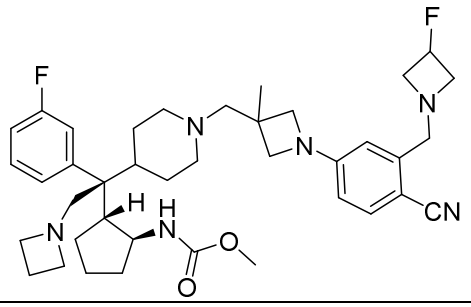
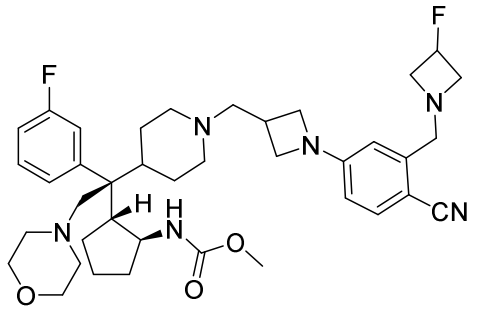
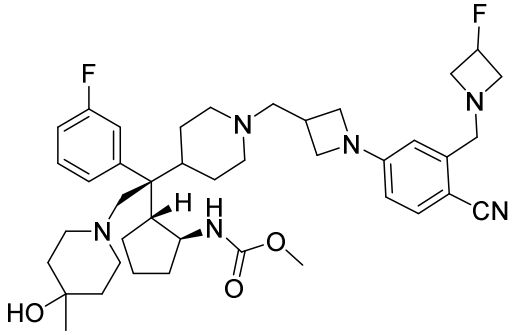
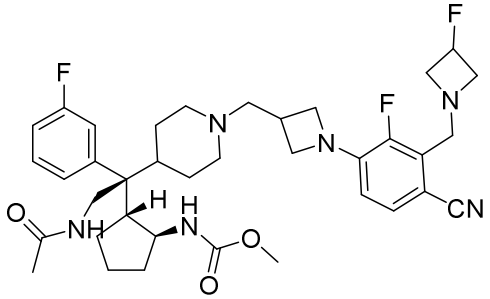
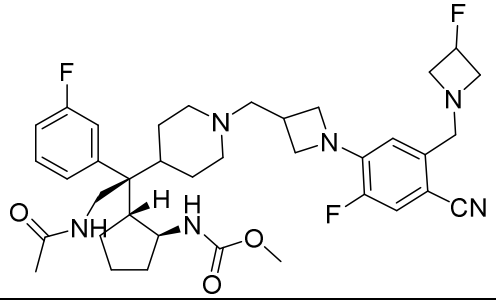
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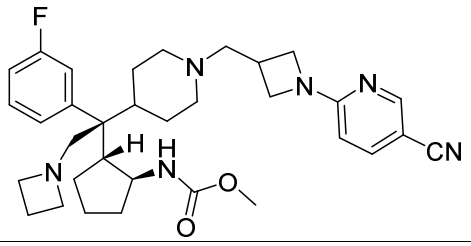
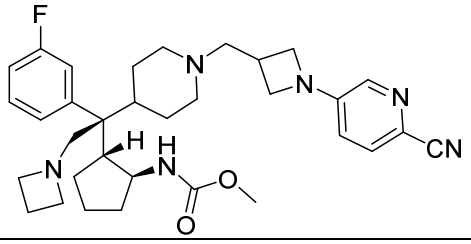
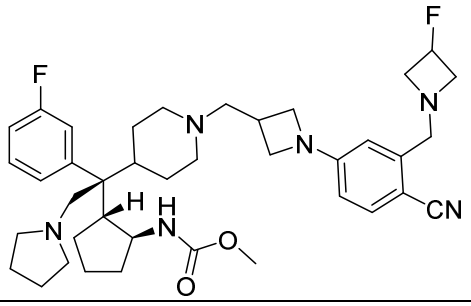
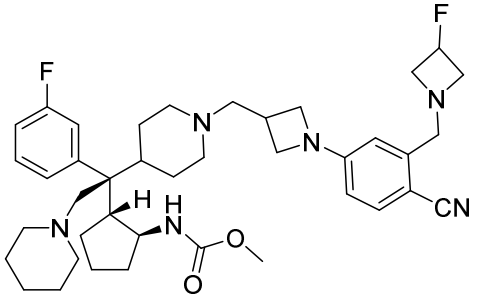
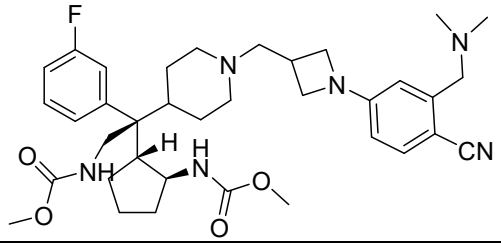
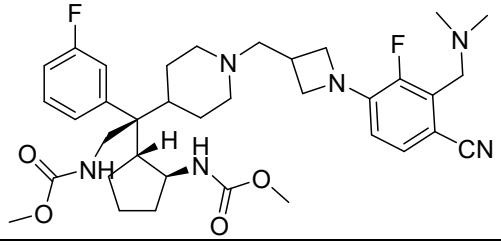
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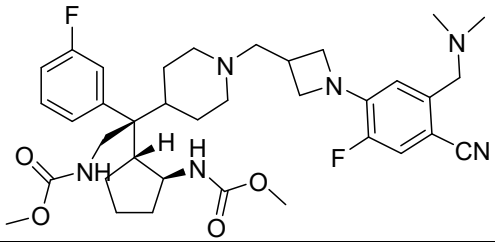
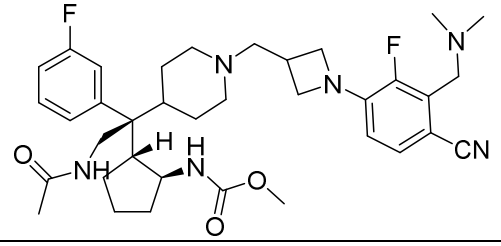
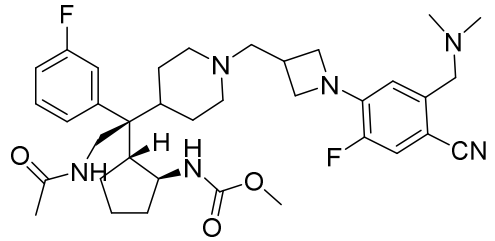
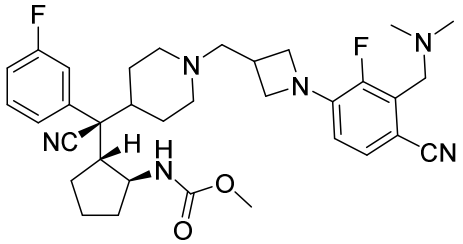
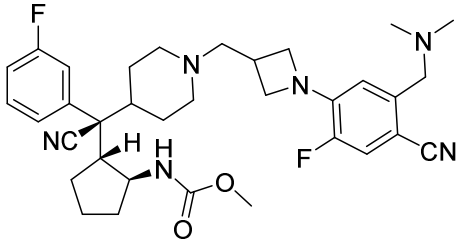
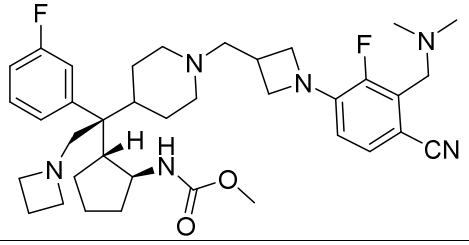
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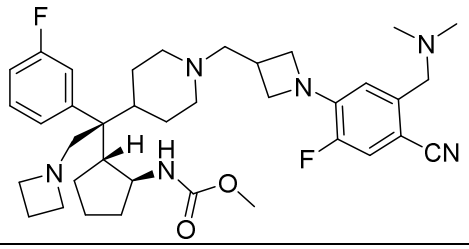
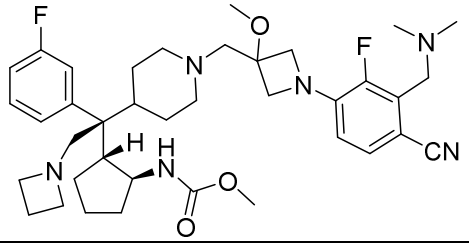
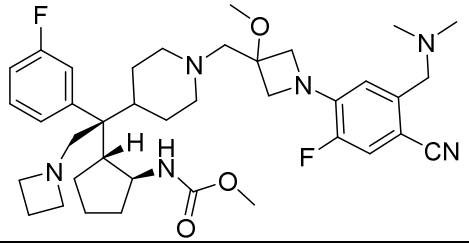
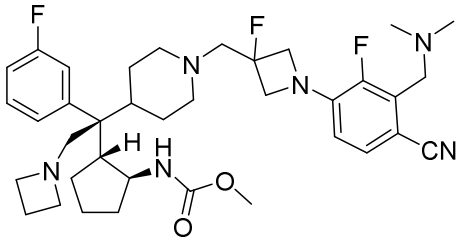
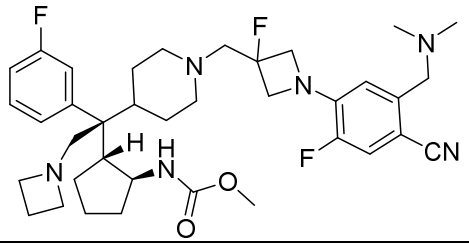
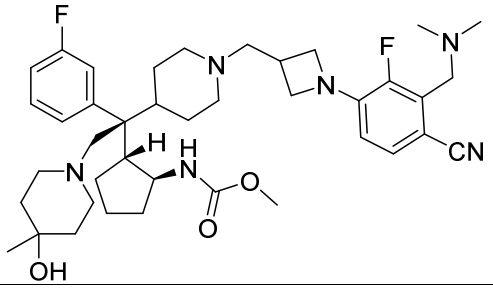
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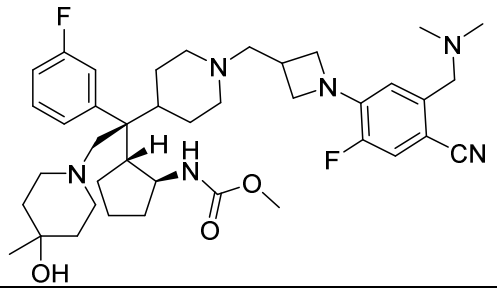
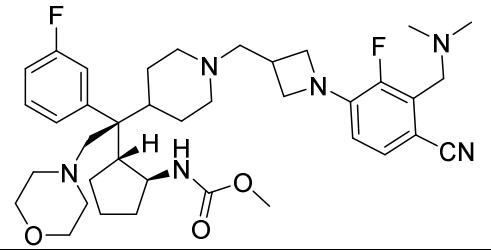
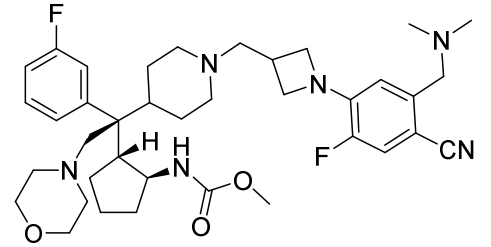
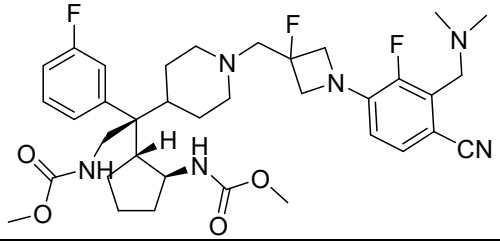
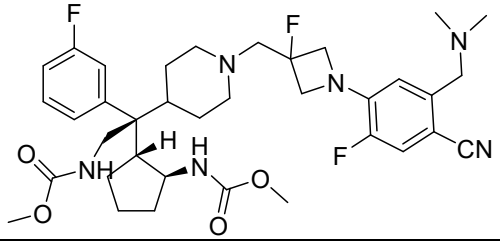
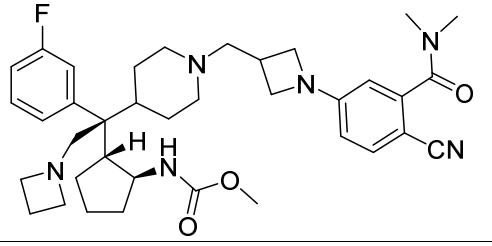
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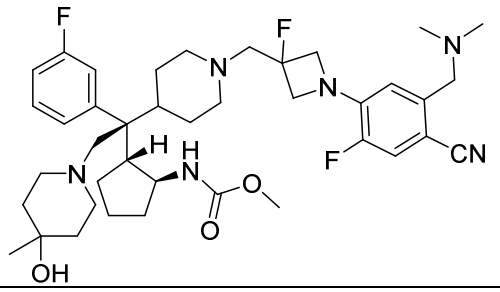
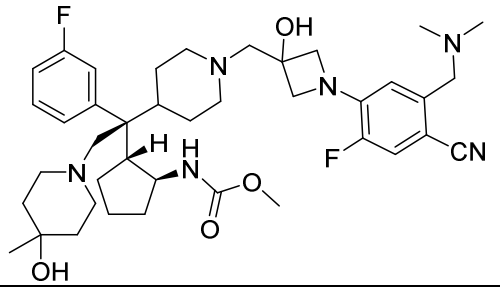
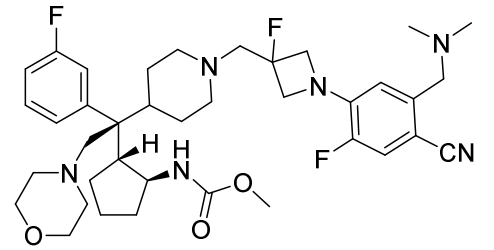
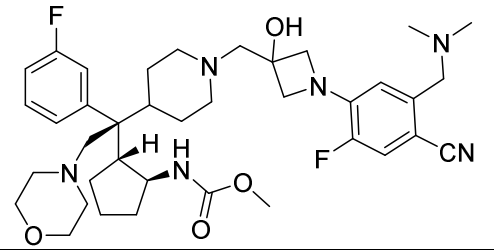
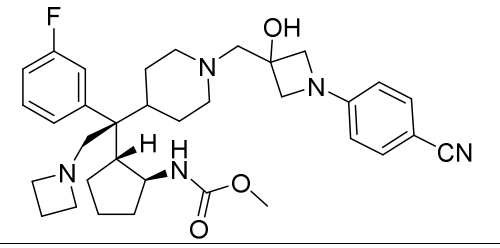
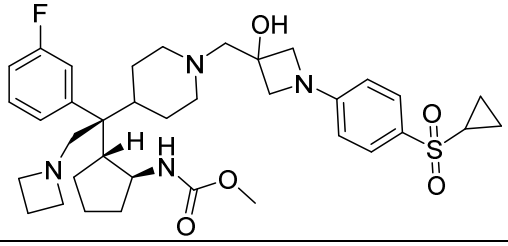
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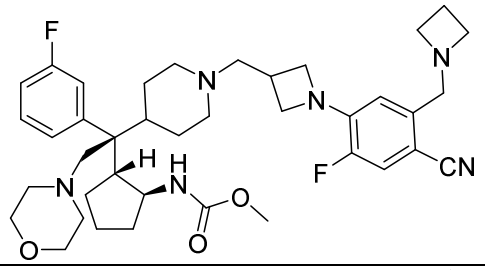
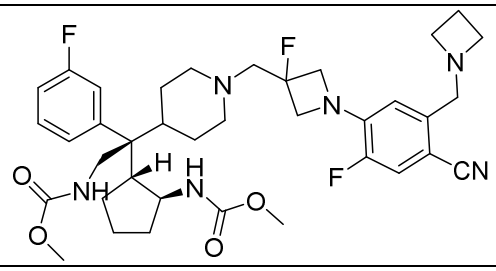
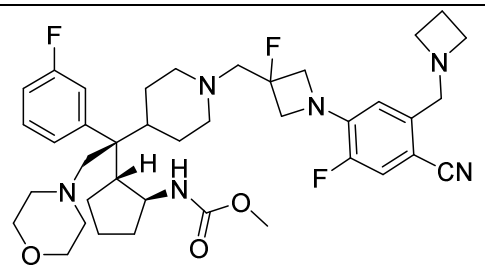
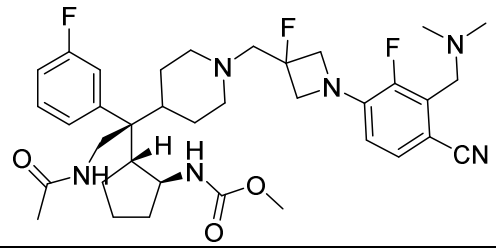
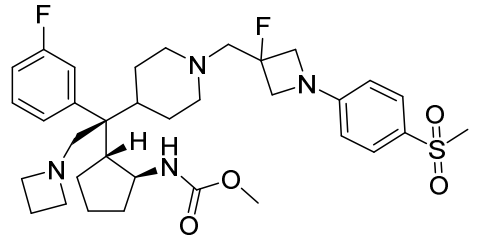
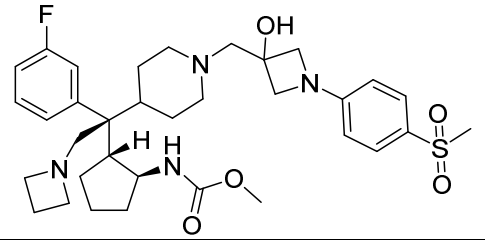
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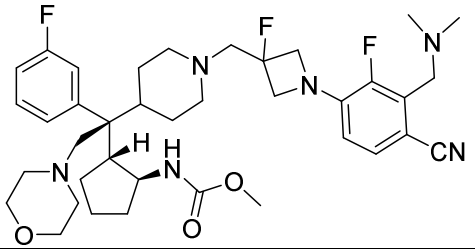
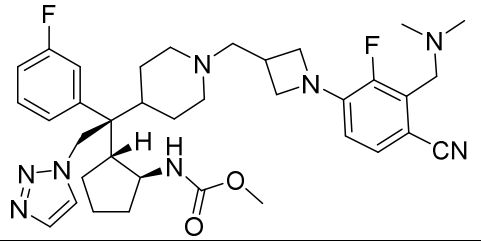
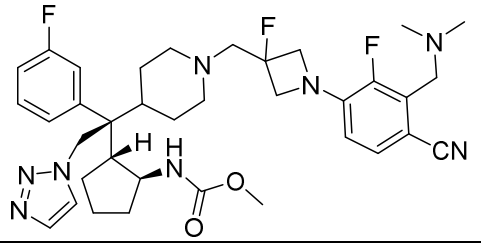
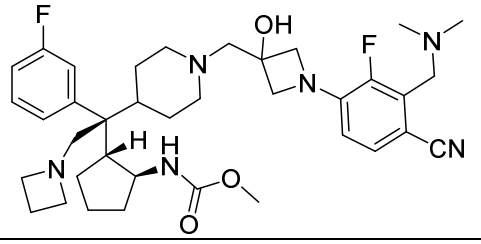
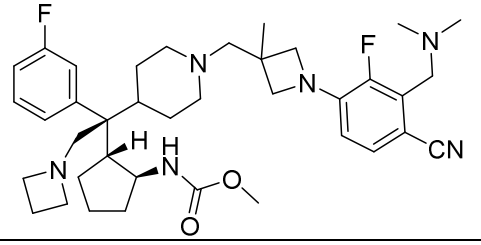
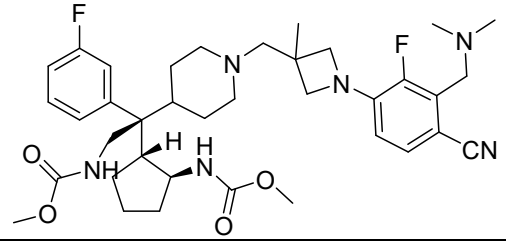
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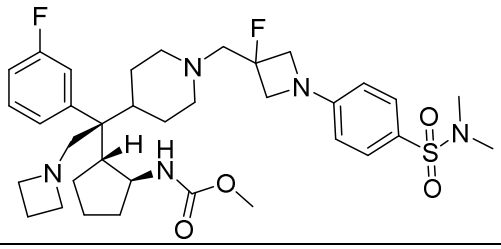
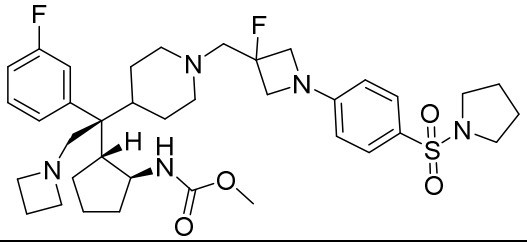
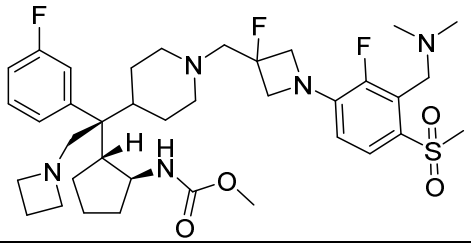
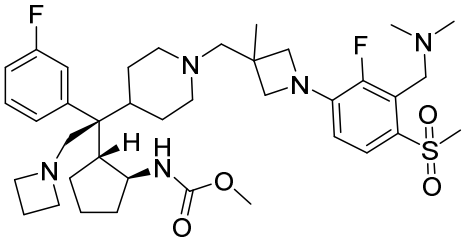
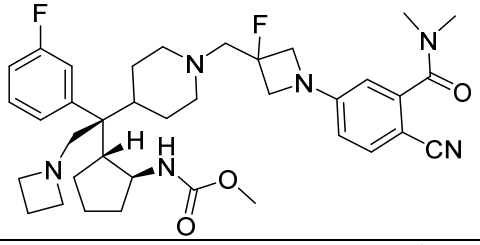
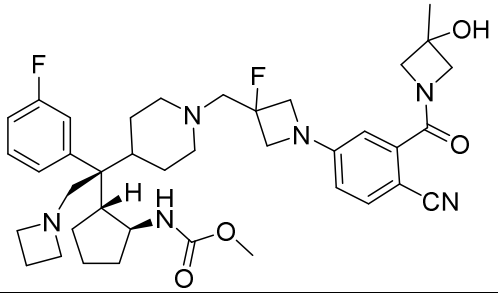
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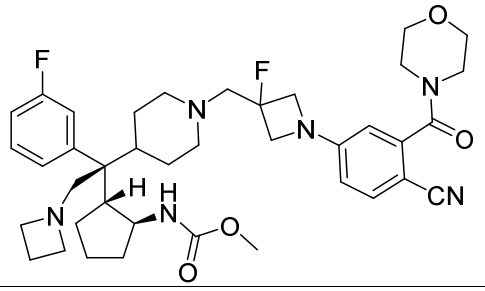
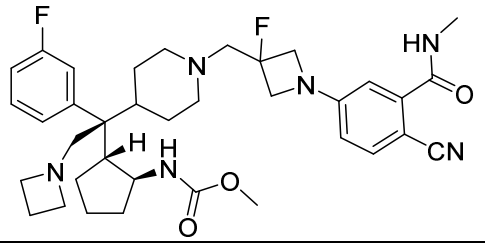
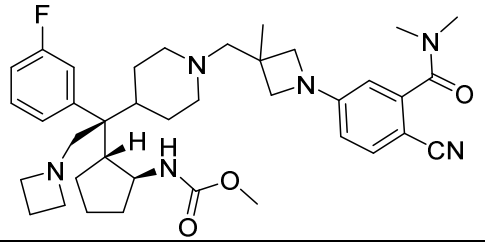
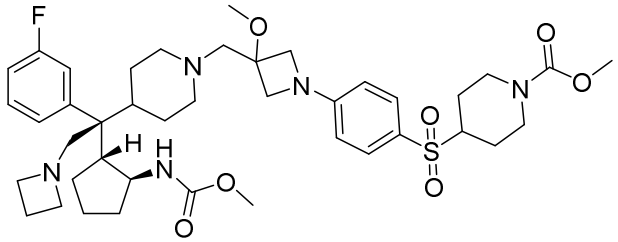
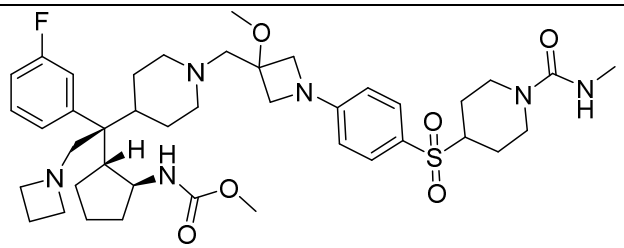
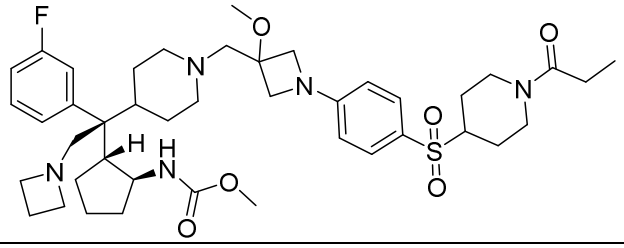
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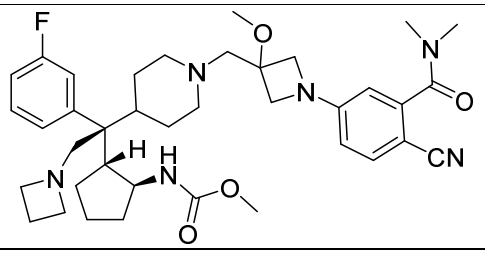
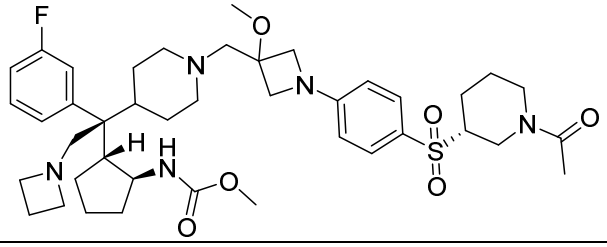
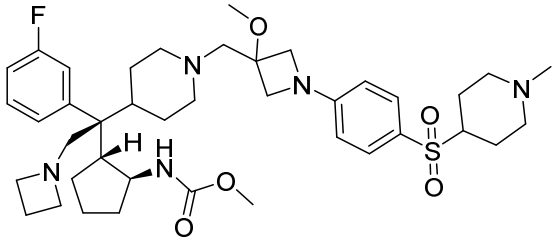
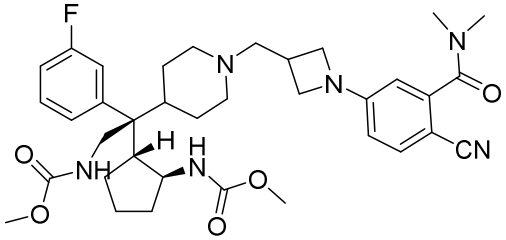
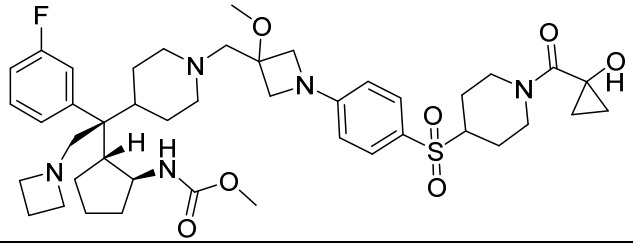
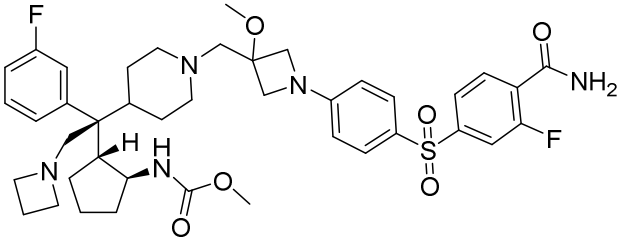
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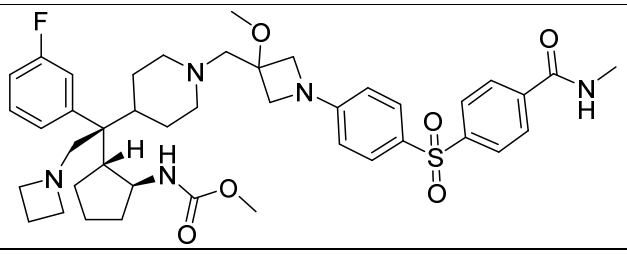
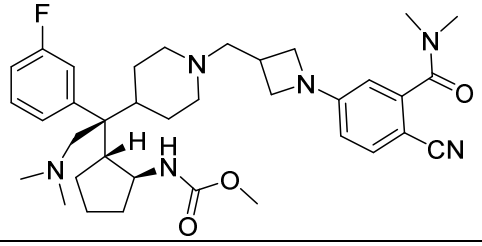
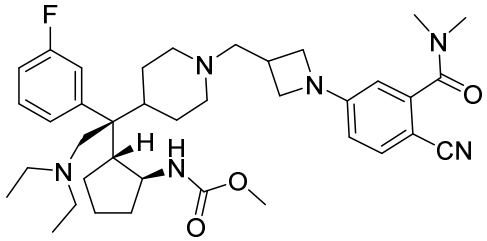
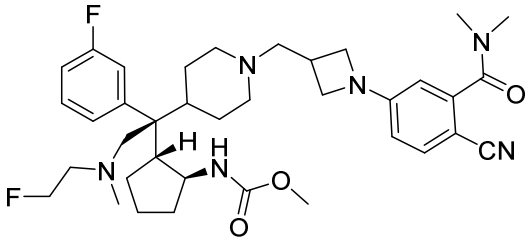
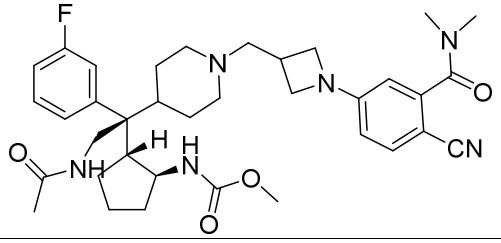
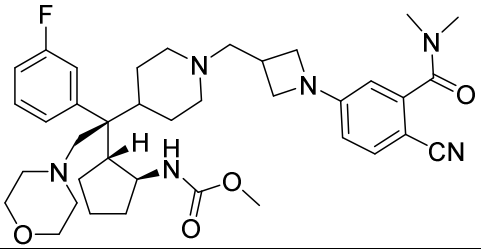
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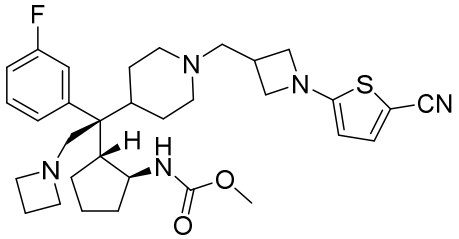
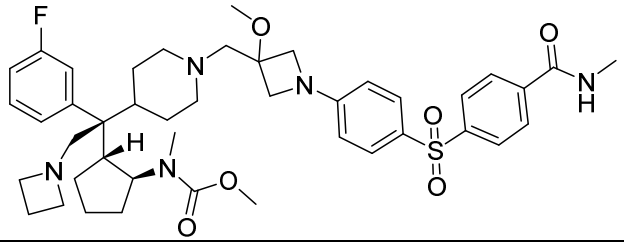
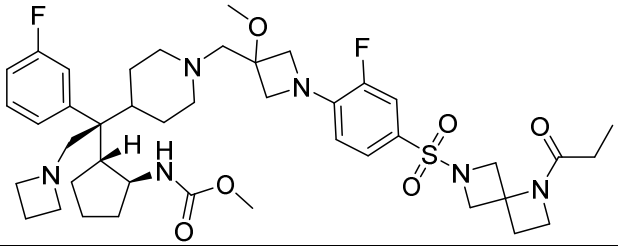
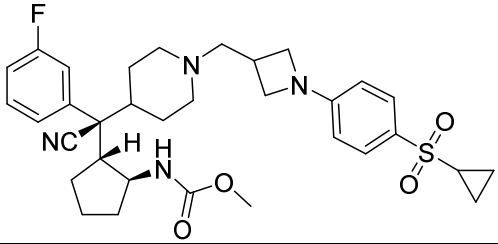
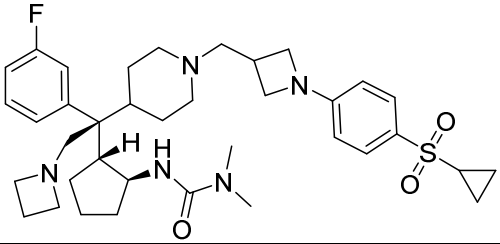
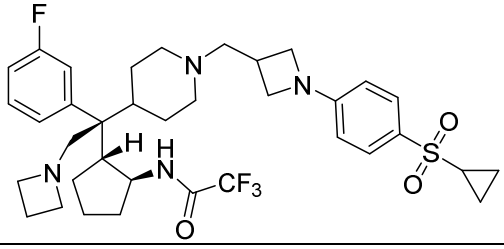
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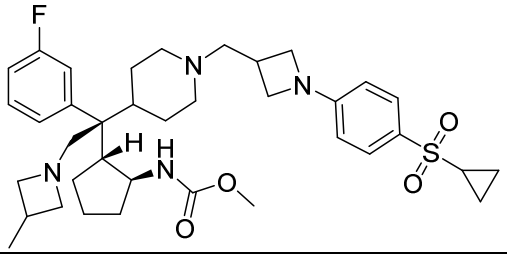
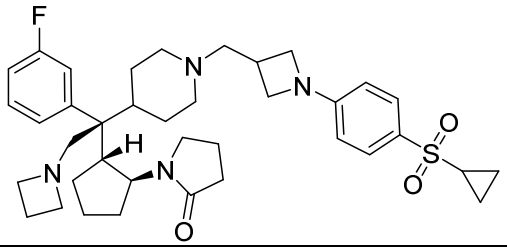
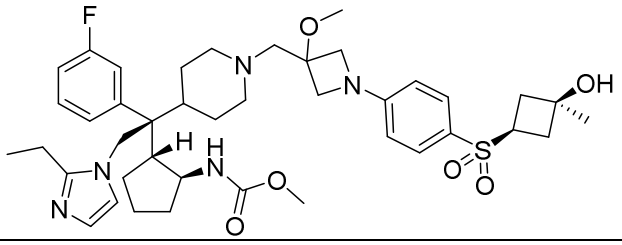
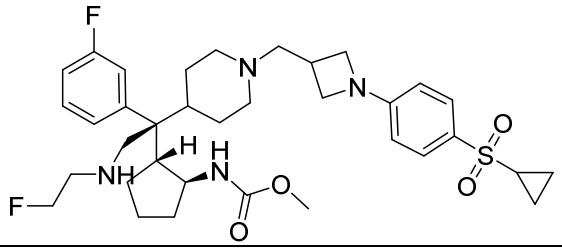
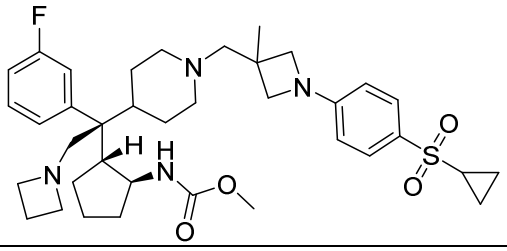
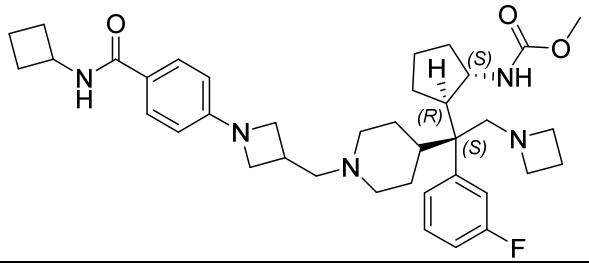
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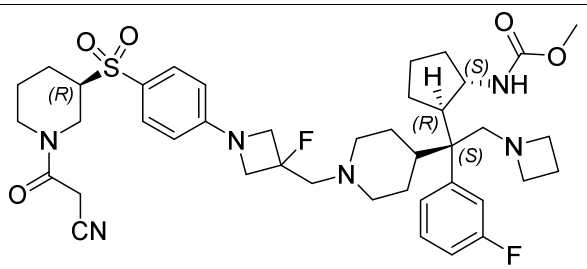
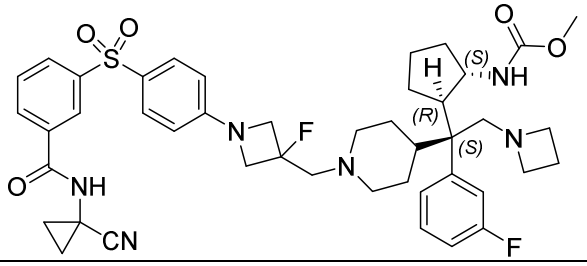
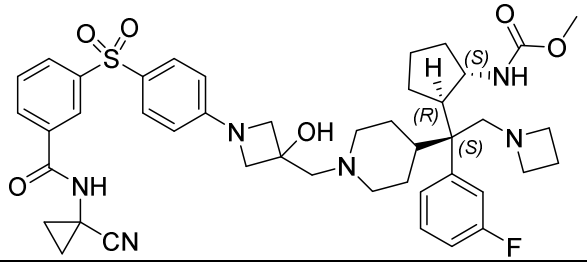
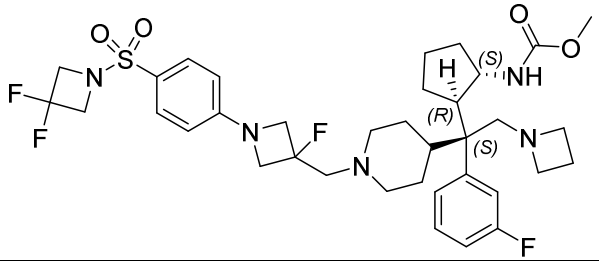
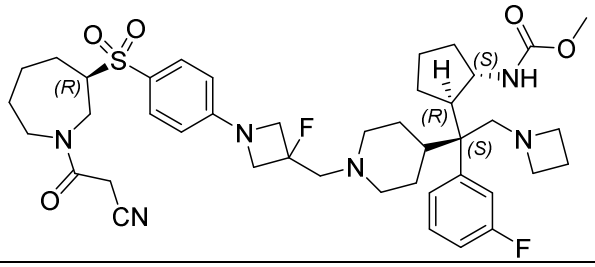
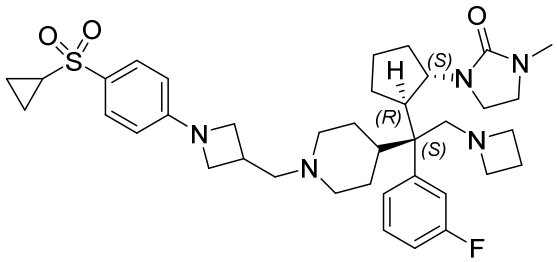
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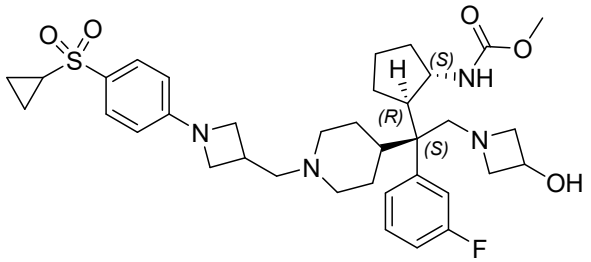
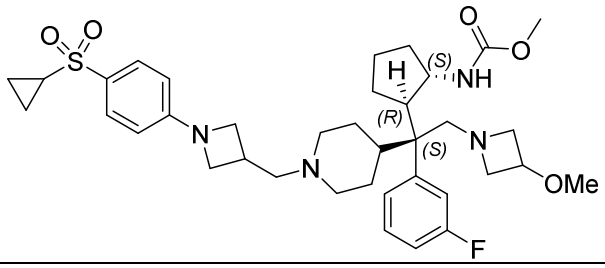
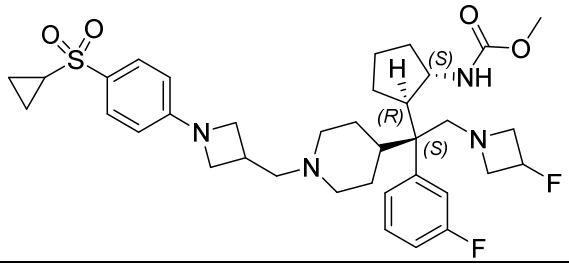
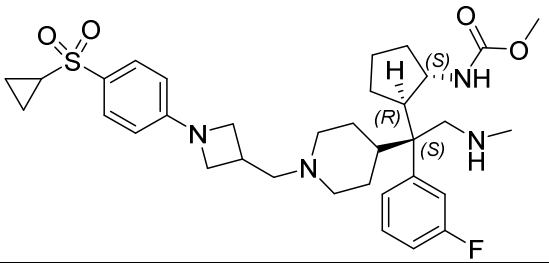
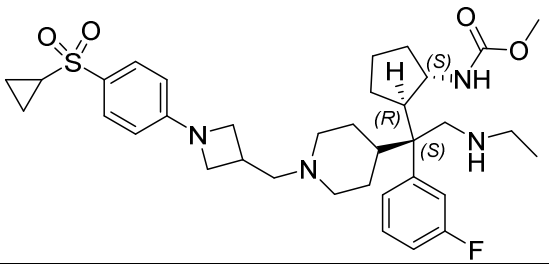
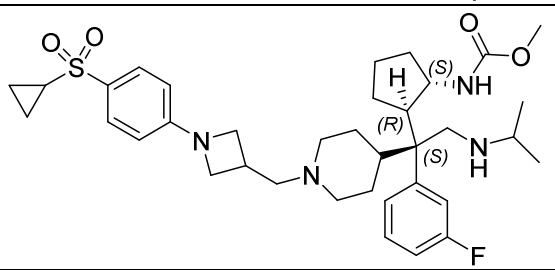
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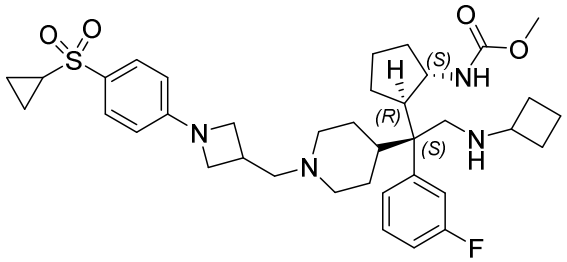
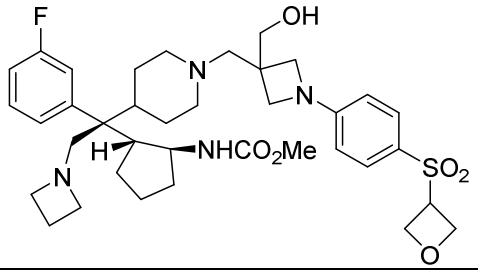
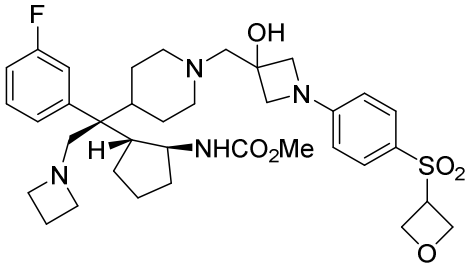
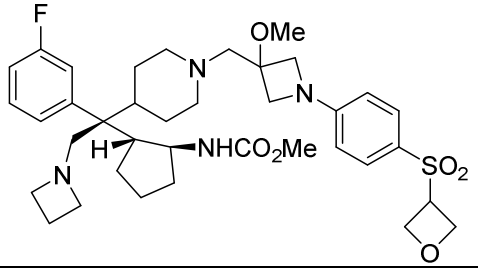
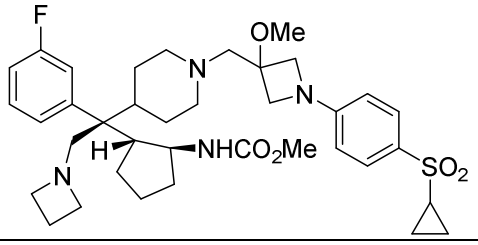
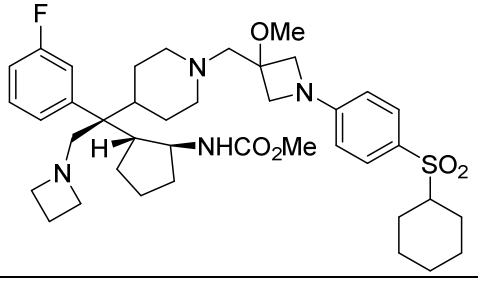
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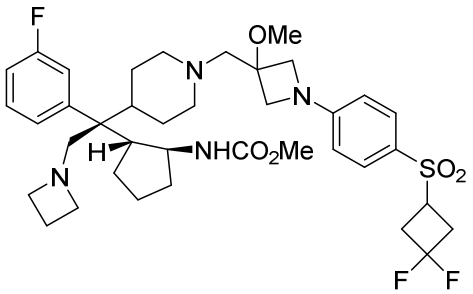
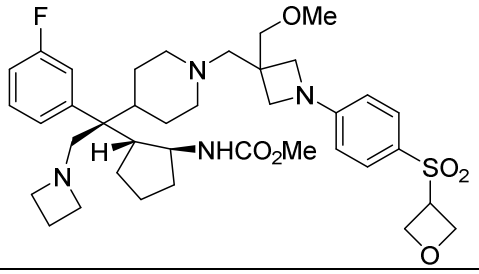
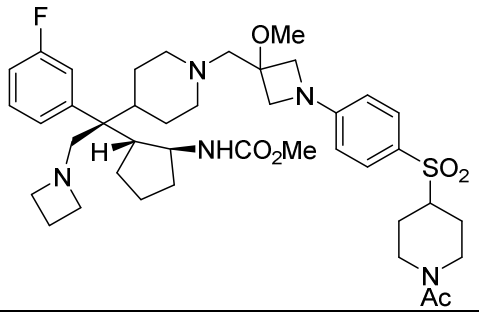
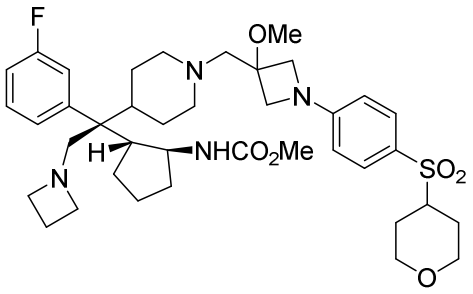
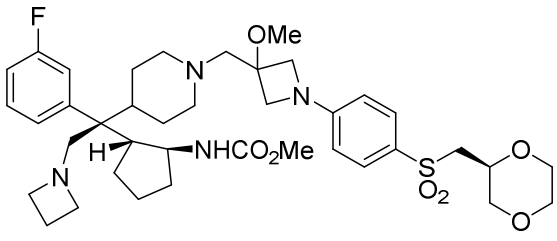
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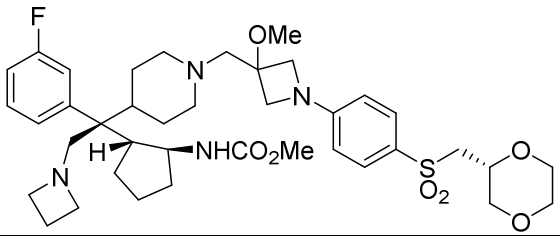
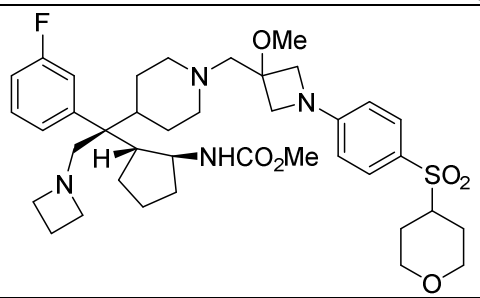
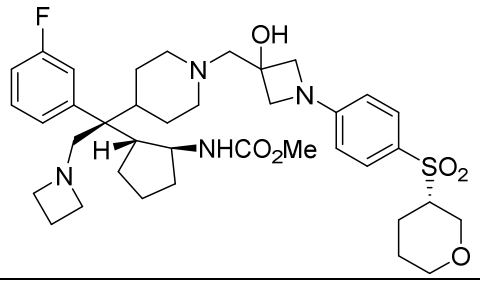
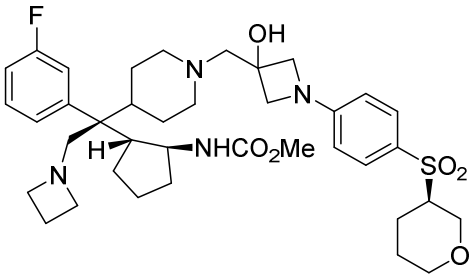
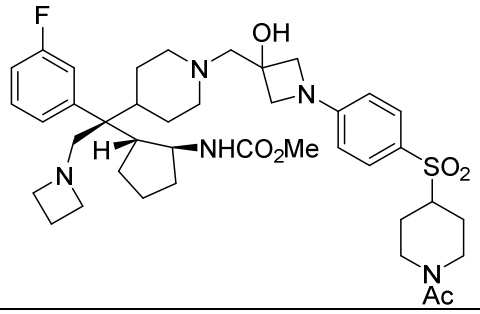
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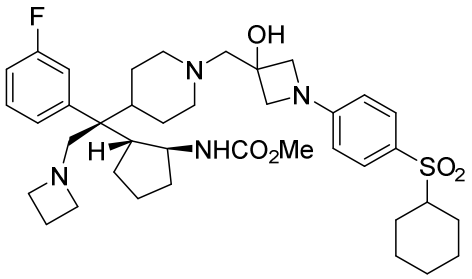
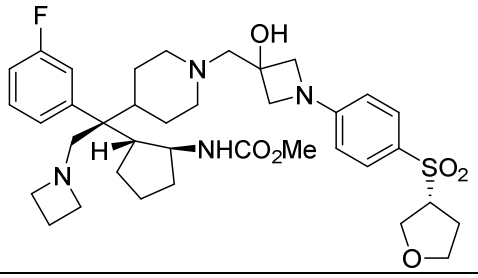
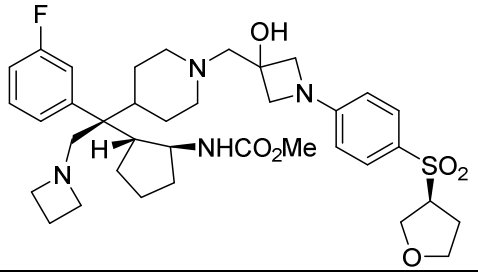
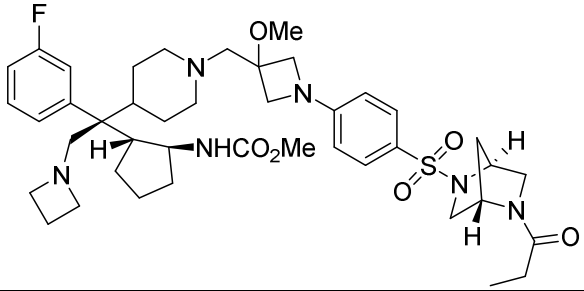
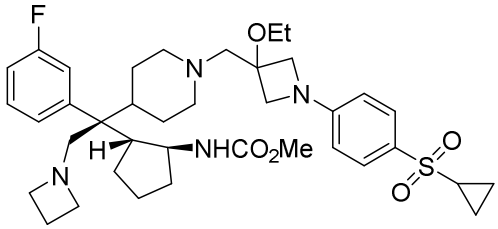
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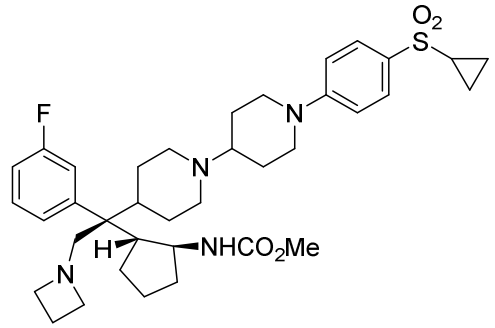
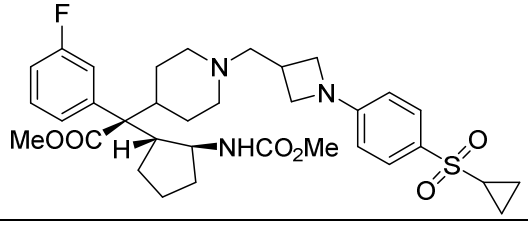
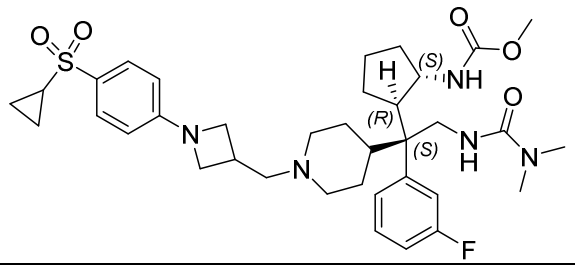
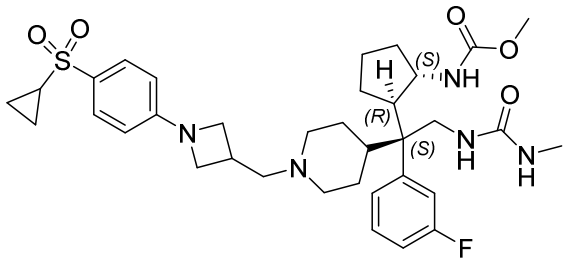
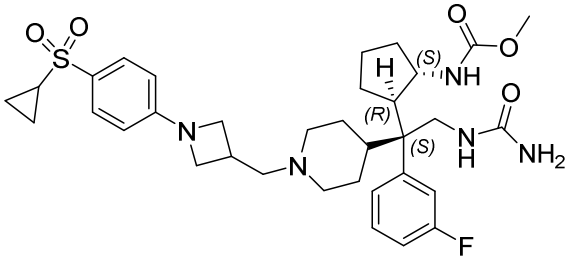
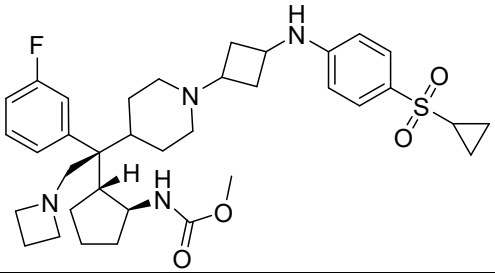
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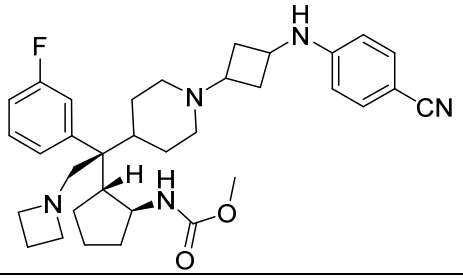
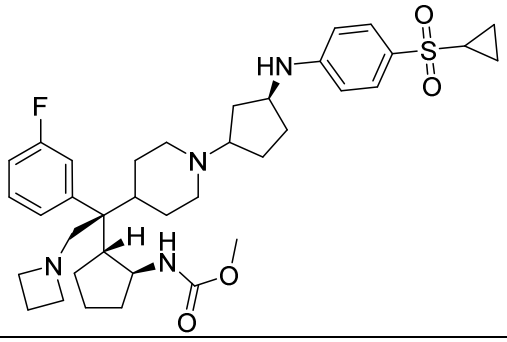
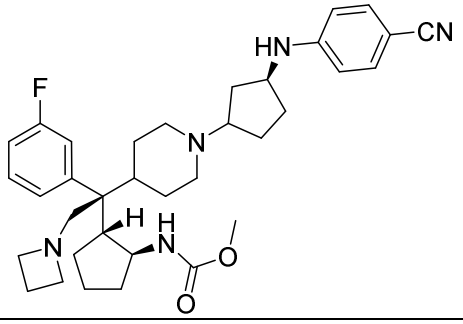
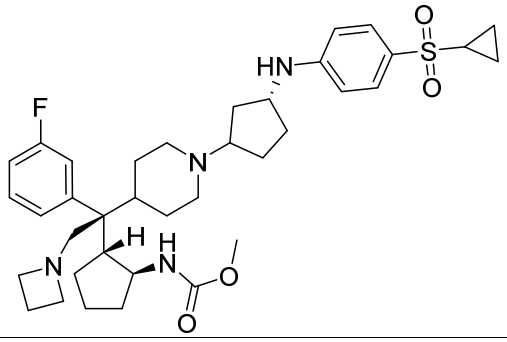
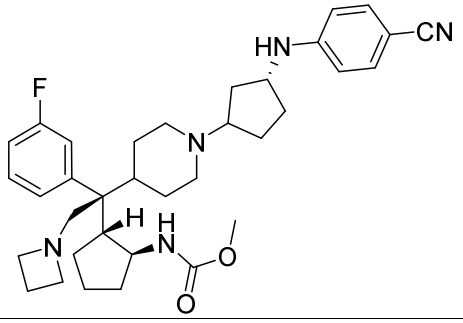
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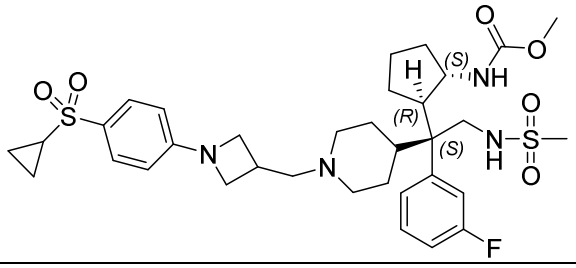
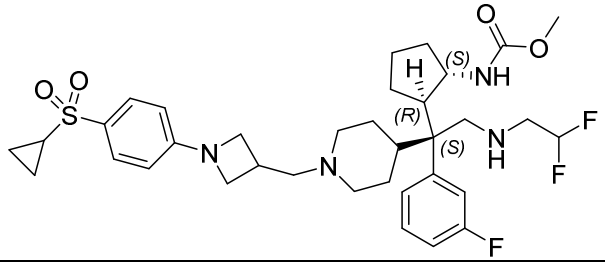
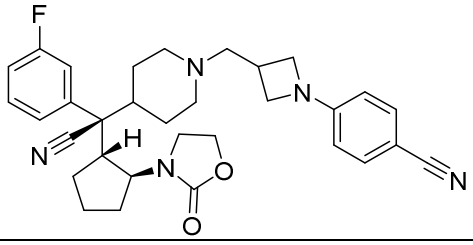
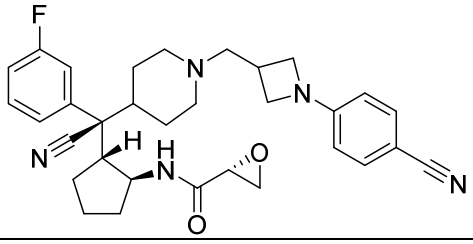
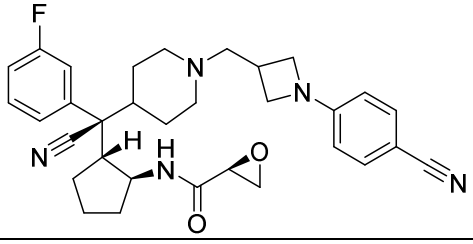
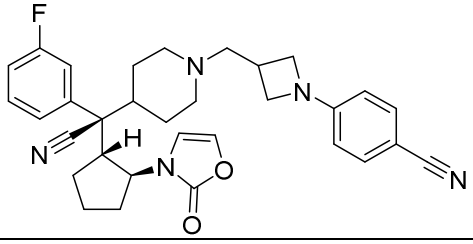
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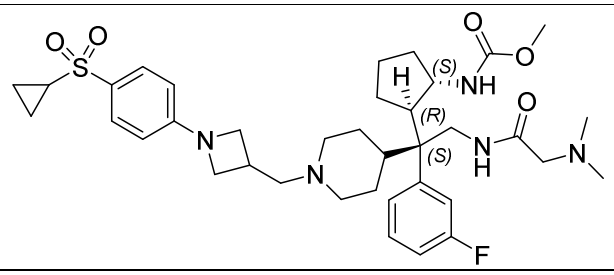
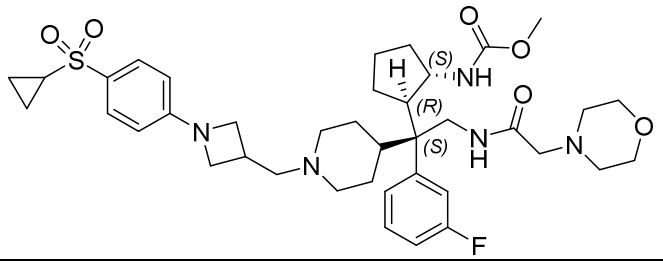
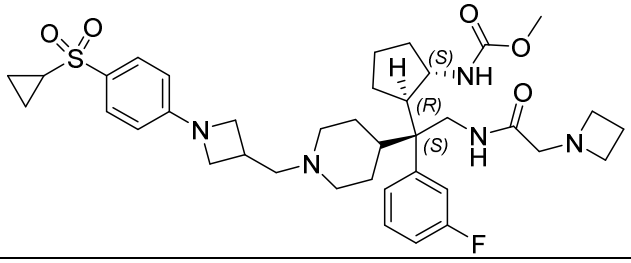
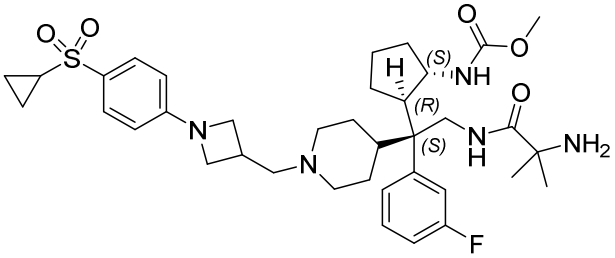
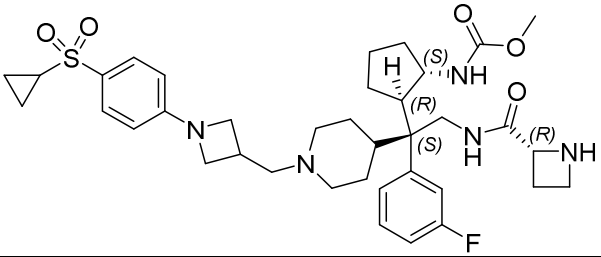
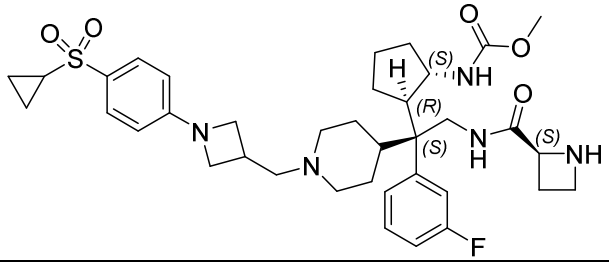
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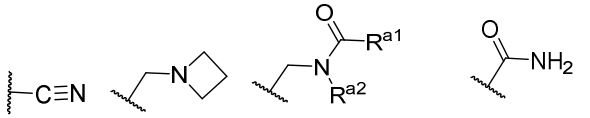
, or a pharmaceutically acceptable salt thereof.

8. The compound of claim 1, wherein:

Q is selected from the group consisting of -N(H)C(=O)OR and -N(H)C(=O)R;

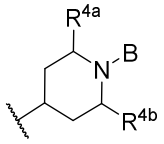
R is a C_1-C_4 alkyl;

G is selected from the group consisting of:



G-1 , G-4 , G-11 and G-12 ;

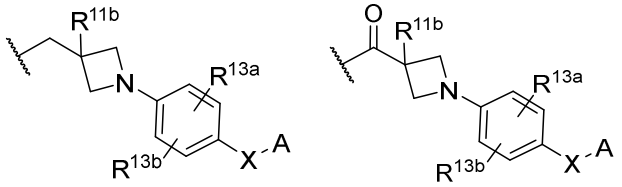
E is:



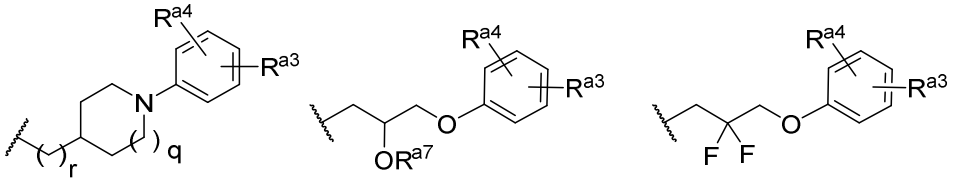
E-3 ;

R^{4a} and R^{4b} are independently selected from the group consisting of hydrogen, halo, and C_1-C_4 alkyl;

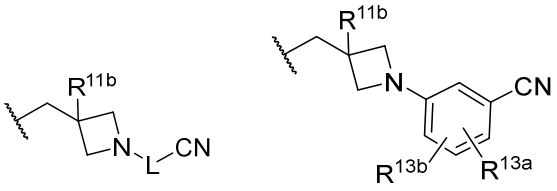
B is selected from the group consisting of:



B-2 , B-3 ,



B-4 B-5 , B-6 ,

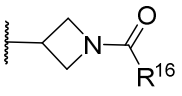


B-7 and B-8 ; and

R^{11b} is selected from the group consisting of hydrogen, halo, C_1-C_4 alkyl, and R^{a6};

R^{a5} is selected from the group consisting of (heterocyclo)alkyl, (heteroaryl)alkyl, (amino)alkyl, hydroxyalkyl, heteroaryloxy, heteroaralkyloxy, C_1-C_4 alkoxy, $-OR^{a8}$, and $-CH_2NR^{a9}C(=O)R^{a10}$;

R^{a6} is selected from the group consisting of hydroxy, C_1-C_4 haloalkyl, alkoxyalkyl, carboxy, alkoxycarbonyl, and carboxamido;

(1) X is selected from the group consisting of $-S(=O)_2-$ and -C(=O)-; and A is selected from the group consisting of optionally substituted C_1-C_6 alkyl, optionally substituted C_3-C_{12} cycloalkyl, optionally substituted 4- to 14-membered heterocyclo, optionally substituted C_6-C_{10} aryl, optionally substituted 5- to 14-membered heteroaryl, $-NR^{15a}R^{15b}$,  , and R^{a11}; or

(2) X is absent; and A is selected from the group consisting of cyano and -C(=O)OH;

or a pharmaceutically acceptable salt or solvate thereof.

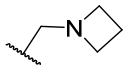
9. The compound of claim 4, wherein B is B-3 and:

A is selected from the group consisting of phenyl substituted with 1 or 2 substituents independently selected from the group consisting of halo and carboxamido, and 5- or 6-membered heteroaryl substituted with 1 or 2 substituents independently selected from the group consisting of halo and carboxamido.

10. The compound of claim 4, wherein B is B-3 and:

A is selected from the group consisting of unsubstituted C_3-C_6 cycloalkyl, C_3-C_6 cycloalkyl substituted with 1 or 2 substituents independently selected from the group consisting of halo, hydroxy, C_1-C_4 alkyl, and C_1-C_4 haloalkyl, unsubstituted 4- to 6-membered heterocyclo, and 4- to 6-membered heterocyclo substituted with 1 or 2 substituents independently selected from the group consisting of halo, hydroxy, C_1-C_4 alkyl, and C_1-C_4 haloalkyl, alkylcarbonyl, hydroxyalkylcarbonyl, and alkoxycarbonyl.

11. The compound of claim 1 or 8-10, wherein G is G-1,.

G-4, or G-11, CN, or  or a pharmaceutically acceptable salt or solvate thereof.

12. The compound of claim 4, wherein the compound is of Formula III and R^{13b} is selected from the group consisting of hydrogen, or a pharmaceutically acceptable salt or solvate thereof.

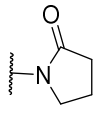
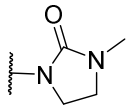
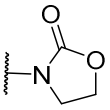
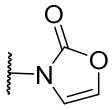
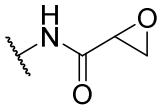
13. The compound of any one of claims 1, 4 and 8-12, wherein R^{4a} and R^{4b} are hydrogen, or a pharmaceutically acceptable salt or solvate thereof.

14. The compound of any one of claims 1, 4, 8 and 12, wherein R^{11b} is selected from the group consisting of hydrogen or fluoro, or a pharmaceutically acceptable salt or solvate thereof.

15. The compound of any one of claims 1, 3-6, 12 and 15, wherein R^{13a} and R^{13b} are independently selected from the group consisting of hydrogen and fluoro, or a pharmaceutically acceptable salt or solvate thereof.

17. The compound of any one of claims 1, 3-6, 12 and 16, wherein R^{13a} is selected from the group consisting of (heterocyclo)alkyl, (heteroaryl)alkyl, (amino)alkyl, hydroxyalkyl, heteroaryloxy, heteroaralkyloxy, C_1-C_4 alkoxy, $-OR^{a8}$, and $-CH_2NR^{a9}C(=O)R^{a10}$, or a pharmaceutically acceptable salt or solvate thereof.

18. The compound of any one of claims 1 and 24-48, wherein R^{1a} and R^{1b} are independently selected from the group consisting of hydrogen and fluoro, or a pharmaceutically acceptable salt or solvate thereof.

19. The compound of claim 1, wherein Q is selected from the group consisting of -N(R)C(=O)OR including N(H)C(=O)OR, -N(H)C(O)NR_2, , , , , and , or a pharmaceutically acceptable salt or solvate thereof.

20. The compound of any one of claims 1 and 19, wherein E is E-3, and/or B is B-2, or a pharmaceutically acceptable salt or solvate thereof.

21. The compound of claim 19 or 20, wherein R^{a5} and/ or R^{a6} is selected from the group consisting of C_1-C_4 alkoxy and C_1-C_4 hydroxyalkyl, or a pharmaceutically acceptable salt or solvate thereof.

22. The compound of any one of claims 1 and 19-21, wherein X is absent; and A is C_1-C_4 haloalkyl, or a pharmaceutically acceptable salt or solvate thereof.

23. A pharmaceutical composition comprising the compound of any one of claims 1-22, or a pharmaceutically acceptable salt thereof, and a pharmaceutically acceptable carrier.

24. Use of a compound of any one of claims 1-22, or a pharmaceutically acceptable salt or solvate thereof, or pharmaceutical composition of claim 23 in the preparation of a medicament for treating cancer.

25. The use of claim 24, wherein the cancer is one or more of adrenal cancer, acinic cell carcinoma, acoustic neuroma, acral lentiginous melanoma, acrospiroma, acute eosinophilic leukemia, acute erythroid leukemia, acute lymphoblastic leukemia, acute megakaryoblastic leukemia, acute monocytic leukemia, acute promyelocytic leukemia, adenocarcinoma, adenoid cystic carcinoma, adenoma, adenomatoid odontogenic tumor, adenosquamous carcinoma, adipose tissue neoplasm,

adrenocortical carcinoma, adult T cell leukemia/lymphoma, aggressive NK-cell leukemia, AIDS-related lymphoma, alveolar rhabdomyosarcoma, alveolar soft part sarcoma, ameloblastic fibroma, anaplastic large cell lymphoma, anaplastic thyroid cancer, angioimmunoblastic T-cell lymphoma, angiomyolipoma, angiosarcoma, astrocytoma, atypical teratoid rhabdoid tumor, B-cell chronic lymphocytic leukemia, B-cell prolymphocytic leukemia, B-cell lymphoma, basal cell carcinoma, biliary tract cancer, bladder cancer, blastoma, bone cancer, Brenner tumor, Brown tumor, Burkitt's lymphoma, breast cancer, brain cancer, carcinoma, carcinoma in situ, carcinosarcoma, cartilage tumor, cementoma, myeloid sarcoma, chondroma, chordoma, choriocarcinoma, choroid plexus papilloma, clear-cell sarcoma of the kidney, craniopharyngioma, cutaneous T-cell lymphoma, cervical cancer, colorectal cancer, Degos disease, desmoplastic small round cell tumor, diffuse large B-cell lymphoma, dysembryoplastic neuroepithelial tumor, dysgerminoma, embryonal carcinoma, endocrine gland neoplasm, endodermal sinus tumor, enteropathy-associated T-cell lymphoma, esophageal cancer, fetus in fetu, fibroma, fibrosarcoma, follicular lymphoma, follicular thyroid cancer, ganglioneuroma, gastrointestinal cancer, germ cell tumor, gestational choriocarcinoma, giant cell fibroblastoma, giant cell tumor of the bone, glial tumor, glioblastoma multiforme, glioma, gliomatosis cerebri, glucagonoma, gonadoblastoma, granulosa cell tumor, gynandroblastoma, gallbladder cancer, gastric cancer, hairy cell leukemia, hemangioblastoma, head and neck cancer, hemangiopericytoma, hematological cancer, hepatoblastoma, hepatosplenic T-cell lymphoma, Hodgkin's lymphoma, non-Hodgkin's lymphoma, invasive lobular carcinoma, intestinal cancer, kidney cancer, laryngeal cancer, lentigo maligna, lethal midline carcinoma, leukemia, leydig cell tumor, liposarcoma, lung cancer, lymphangioma, lymphangiosarcoma, lymphoepithelioma, lymphoma, acute lymphocytic leukemia, acute myelogenous leukemia, chronic lymphocytic leukemia, liver cancer, small cell lung cancer, non-small cell lung cancer, MALT lymphoma, malignant fibrous histiocytoma, malignant peripheral nerve sheath tumor, malignant triton tumor, mantle cell lymphoma, marginal zone B-cell lymphoma, mast cell leukemia, mediastinal germ cell tumor, medullary carcinoma of the breast, medullary thyroid cancer, medulloblastoma, melanoma, meningioma, merkel cell cancer, mesothelioma, metastatic urothelial carcinoma, mixed Mullerian tumor, mucinous

tumor, multiple myeloma, muscle tissue neoplasm, mycosis fungoides, myxoid liposarcoma, myxoma, myxosarcoma, nasopharyngeal carcinoma, neurinoma, neuroblastoma, neurofibroma, neuroma, nodular melanoma, ocular cancer, oligoastrocytoma, oligodendroglioma, oncocytoma, optic nerve sheath meningioma, optic nerve tumor, oral cancer, osteosarcoma, ovarian cancer, Pancoast tumor, papillary thyroid cancer, paraganglioma, pinealoblastoma, pineocytoma, pituicytoma, pituitary adenoma, pituitary tumor, plasmacytoma, polyembryoma, precursor T-lymphoblastic lymphoma, primary central nervous system lymphoma, primary effusion lymphoma, primary peritoneal cancer, prostate cancer, pancreatic cancer, pharyngeal cancer, pseudomyxoma peritonei, renal cell carcinoma, renal medullary carcinoma, retinoblastoma, rhabdomyoma, rhabdomyosarcoma, Richter's transformation, rectal cancer, sarcoma, Schwannomatosis, Seminoma, Sertoli cell tumor, sex cord-gonadal stromal tumor, signet ring cell carcinoma, skin cancer, small blue round cell tumors, small cell carcinoma, soft tissue sarcoma, somatostatinoma, soot wart, spinal tumor, splenic marginal zone lymphoma, squamous cell carcinoma, synovial sarcoma, Sezary's disease, small intestine cancer, squamous carcinoma, stomach cancer, T-cell lymphoma, testicular cancer, thecoma, thyroid cancer, transitional cell carcinoma, throat cancer, urachal cancer, urogenital cancer, urothelial carcinoma, uveal melanoma, uterine cancer, verrucous carcinoma, visual pathway glioma, vulvar cancer, vaginal cancer, Waldenstrom's macroglobulinemia, Warthin's tumor, or Wilms' tumor.

26. The use of claim 25, wherein the cancer is a hematological cancer including . acute lymphocytic leukemia, acute eosinophilic leukemia, acute myeloid leukemia, acute erythroid leukemia, chronic lymphocytic leukemia, acute lymphoblastic leukemia, small lymphocytic lymphoma, acute megakaryoblastic leukemia, multiple myeloma, acute monocytic leukemia, Hodgkin’s lymphoma, acute promyelocytic leukemia, non-Hodgkin's lymphoma, acute myelogenous leukemia, mantle cell lymphoma, B-cell prolymphocytic leukemia, marginal zone B-cell lymphoma, B-cell lymphoma, splenic marginal zone lymphoma, MALT lymphoma, follicular lymphoma, precursor T-lymphoblastic lymphoma, Waldenstrom's macroglobulinemia, T-cell lymphoma, diffuse large B-cell lymphoma, mast cell leukemia, marginal zone lymphoma, adult T cell leukemia/lymphoma, hairy cell

leukemia, aggressive NK-cell leukemia, Burkitt's lymphoma, angioimmunoblastic T-cell lymphoma, or Richter's transformation.

27. The use of any one of claims 24-26 wherein the medicament further comprises a therapeutically effective amount of a second therapeutic agent useful in the treatment of cancer.