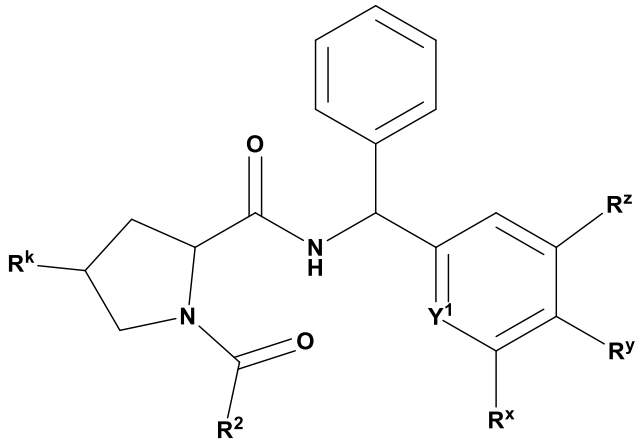
CLAIMS

What is claimed is:

1. A compound of formula (I-A), or a stereoisomer or tautomer thereof, or a pharmaceutically acceptable salt of any of the foregoing:



(I-A),

wherein

Y^1 is CH or N;

R^x and R^z are independently H, halo, C_{1-6}alkyl, or -NH_2, wherein, when Y^1 is CH, the C_{1-6}alkyl of R^x or R^z may be optionally substituted with one or more halo;

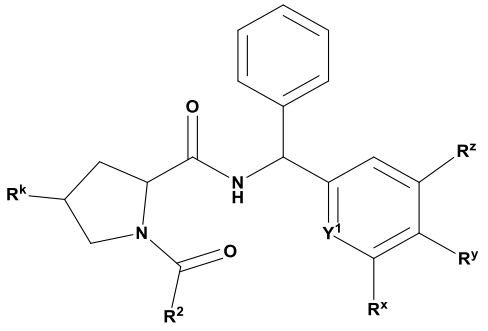
R^y is (i) C_{1-6}alkyl, or (ii) C_{3-10}cycloalkyl, wherein the C_{3-10}cycloalkyl is optionally substituted with one or more halo or C_{1-6}alkyl;

R^k is H, halo, -OH, -NH_2, or -NH-C(O)C_{1-6}alkyl;

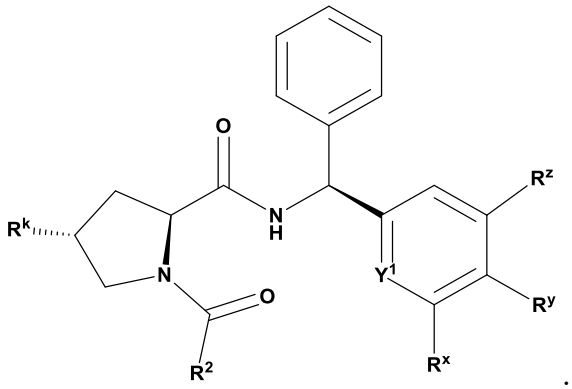
R^2 is C_{1-6}alkyl, wherein the C_{1-6}alkyl of R^2 is substituted with one or more R^a, wherein R^a is -OH or 5-20 membered heteroaryl, wherein the 5-20 membered heteroaryl of R^a is optionally substituted with one or more R^b; and
R^b is halo, C_{1-6}alkyl, C_{1-6}alkoxy, -NH_2, -NH(C_{1-6}alkyl), -N(C_{1-6}alkyl)$_2$, C_{3-10}cycloalkyl, 3-15 membered heterocyclyl, or -C(O)-C_{1-6}alkoxy, wherein the C_{1-6}alkyl of R^b is optionally

substituted with one or more halo, -NH_2, -NH(C_{1-6}alkyl), -N(C_{1-6}alkyl)$_2$, -NH-C(O)C_{1-6}alkyl, or -NH-C(O)-C_{1-6}alkoxy, and the 3-15-membered heterocyclyl of R^b is optionally substituted with one or more halo or -C(O)-C_{1-6}alkoxy.

2. The compound of claim 1, or a stereoisomer or tautomer thereof, or a pharmaceutically acceptable salt of any of the foregoing, wherein the moiety represented by

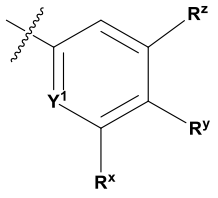


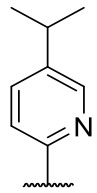
has a stereochemical configuration of the formula:

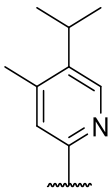


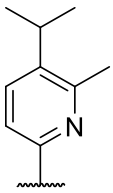
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3. The compound of claim 1, or a stereoisomer or tautomer thereof, or a pharmaceutically acceptable salt of any of the foregoing, wherein the moiety represented by

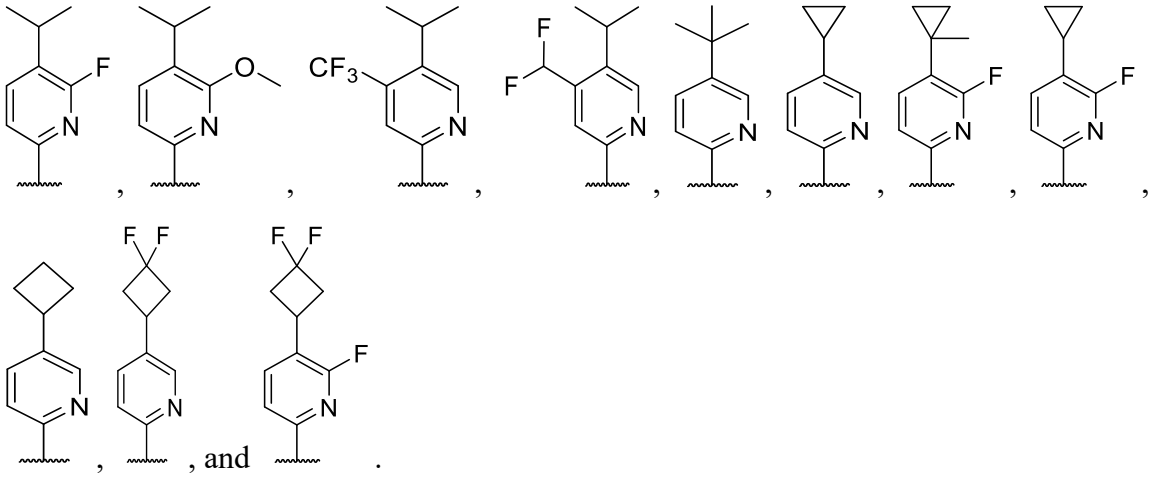


is selected from the group consisting of 

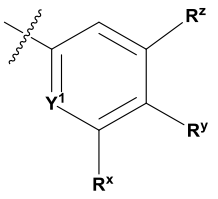
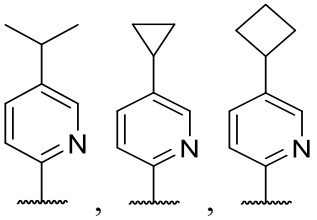
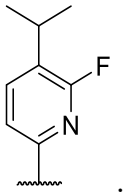
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4. The compound of claim 3, or a stereoisomer or tautomer thereof, or a pharmaceutically acceptable salt of any of the foregoing, wherein the moiety represented by

 is selected from the group consisting of , and .

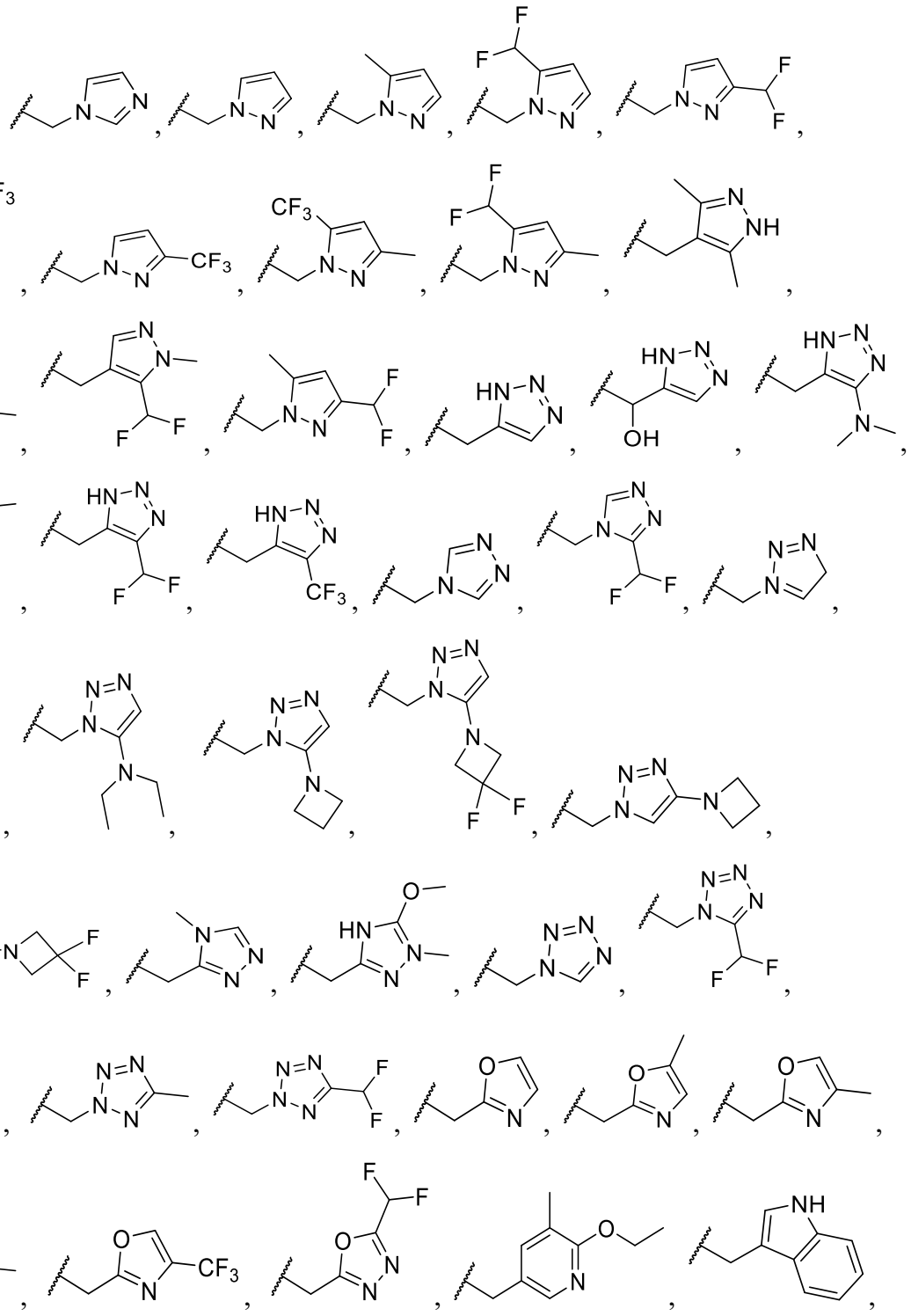
5. The compound of any one of claims 1 to 4, or a stereoisomer or tautomer thereof, or a pharmaceutically acceptable salt of any of the foregoing, wherein at least one of (a) and (b) applies:

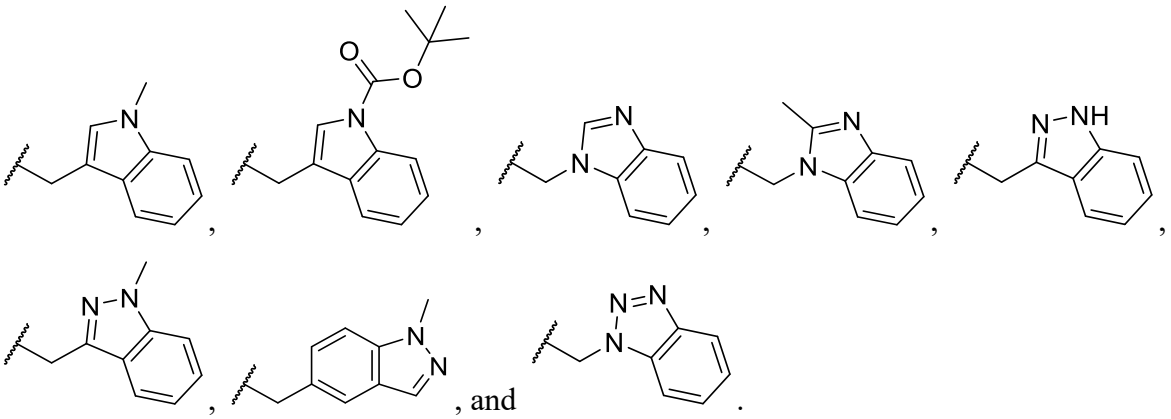
(a) R^x is H, fluoro, or methyl, and

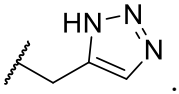
R^y is (i) isopropyl, or (ii) C_{3-4}cycloalkyl, wherein the C_{3-4}cycloalkyl is optionally substituted with one or more fluoro or methyl; and

(b) R^k is H or halo.

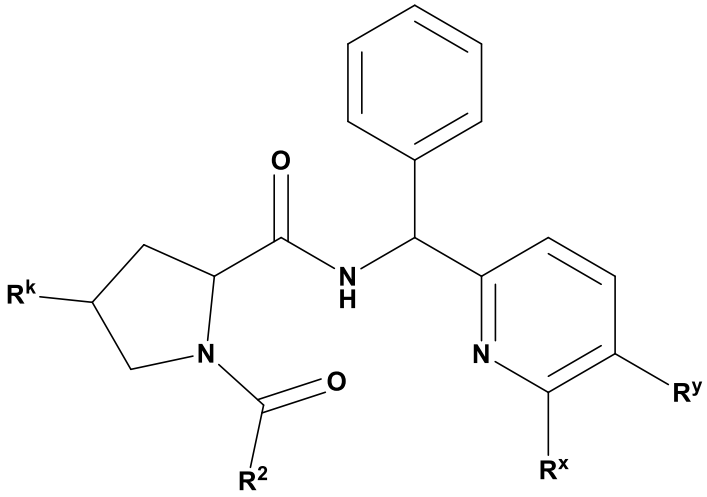
6. The compound of any one of claims 1-5, or a stereoisomer or tautomer thereof, or a pharmaceutically acceptable salt of any of the foregoing, wherein R^2 is selected from the group

consisting of 



7. The compound of claim 6, or a stereoisomer or tautomer thereof, or a pharmaceutically acceptable salt of any of the foregoing, wherein R^2 is .

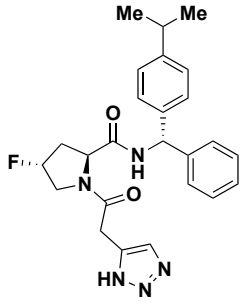
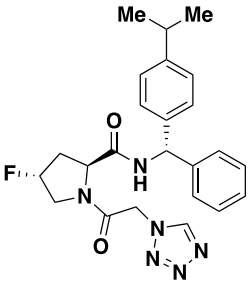
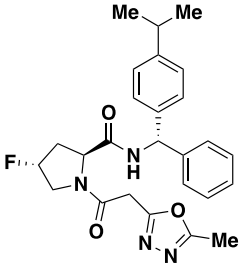
8. The compound of claim 1, wherein the compound is a compound of formula (I-A3):

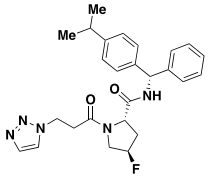
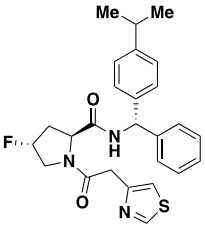
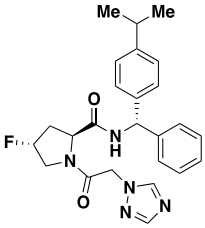


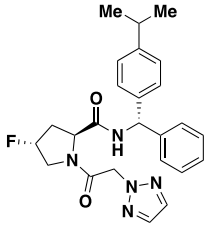
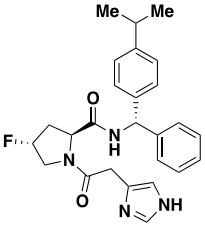
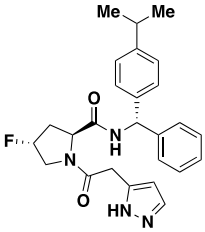
(I-A3),

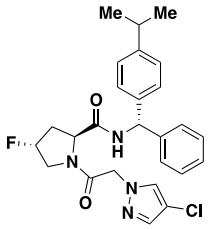
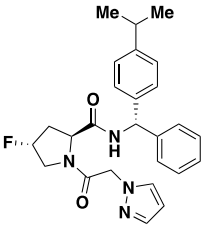
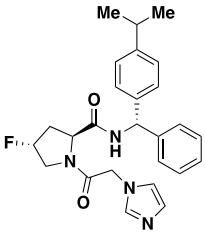
or a stereoisomer or tautomer thereof, or a pharmaceutically acceptable salt of any of the foregoing, wherein R^x is H, halo, $C_{1\text{-}6}$alkyl, or $-NH_2$.

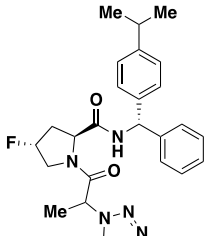
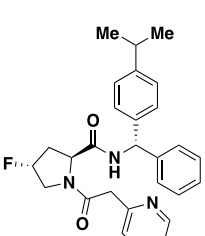
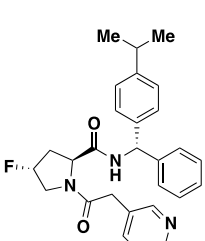
9. The compound of claim 1, or a stereoisomer or tautomer thereof, or a pharmaceutically acceptable salt of any of the foregoing, wherein the compound, or a stereoisomer or tautomer thereof, or a pharmaceutically acceptable salt of any of the foregoing, is selected from the group consisting of


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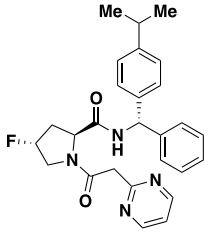
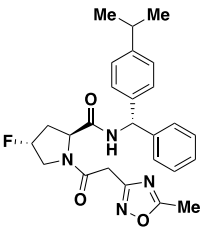
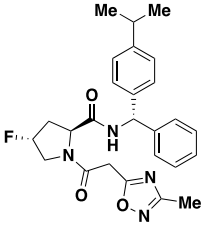

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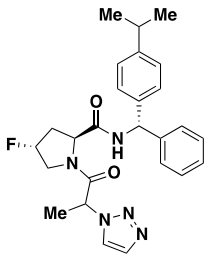
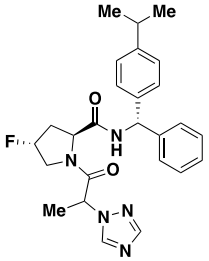
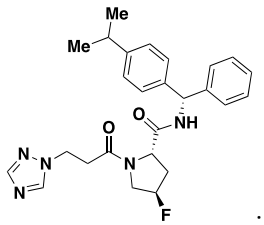
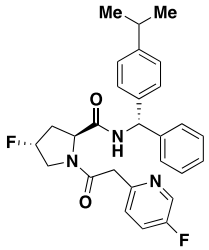
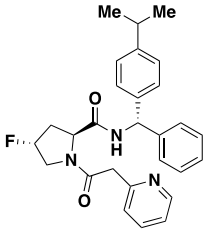
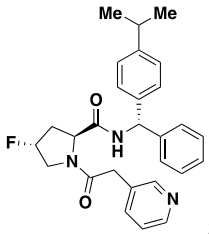
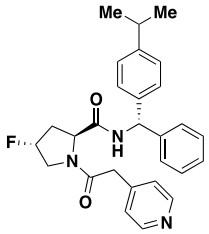
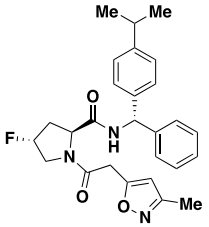
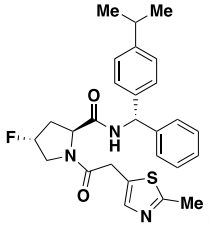
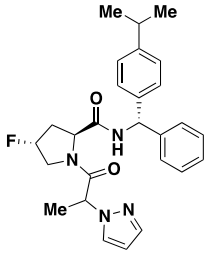
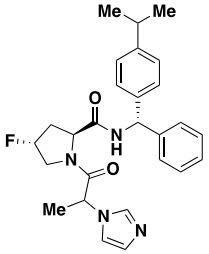
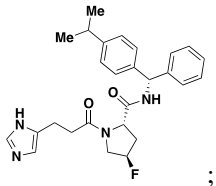
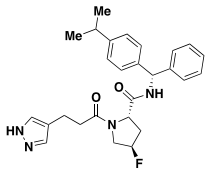
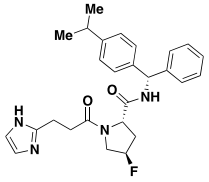
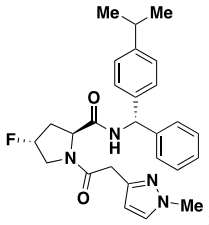
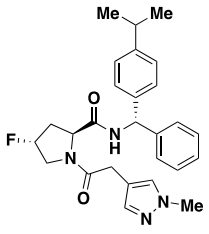
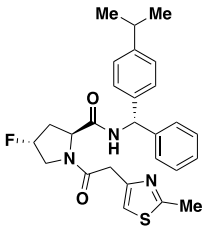
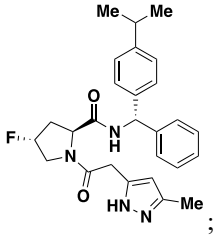
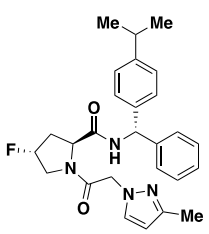
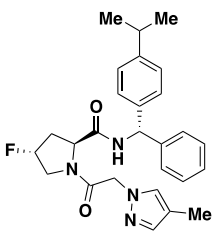
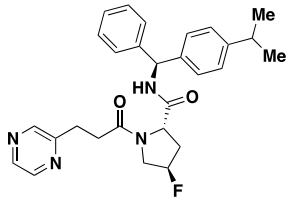

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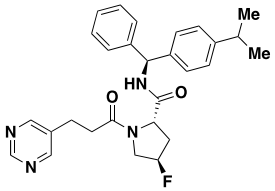
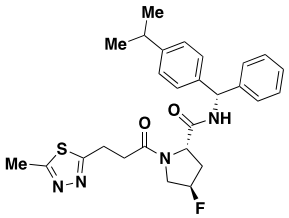
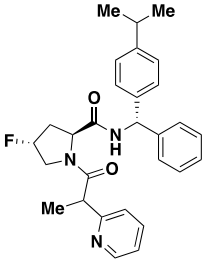
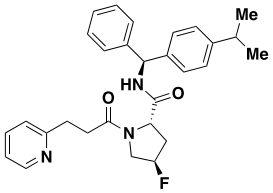
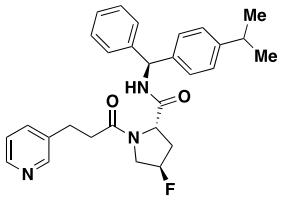
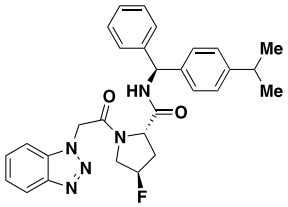
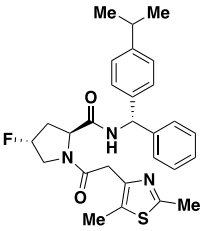
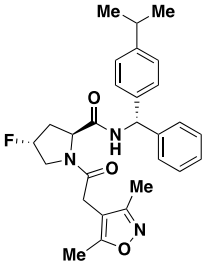
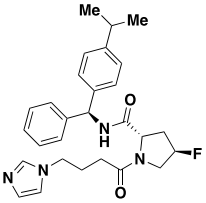
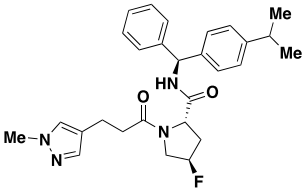
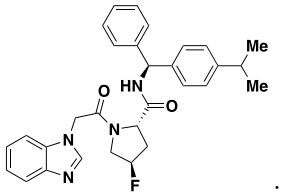
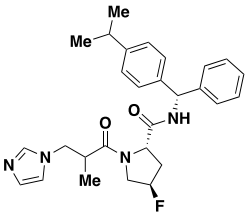
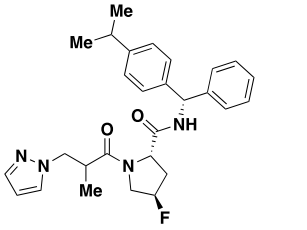
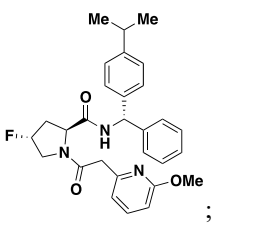
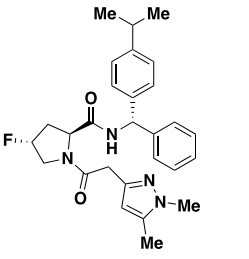
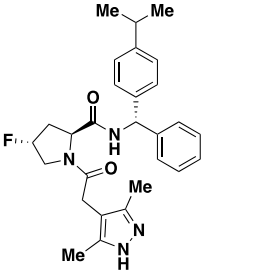
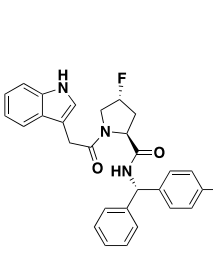
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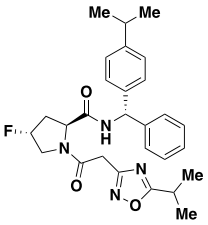
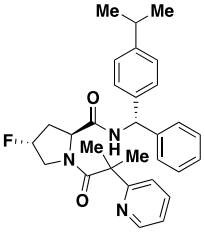
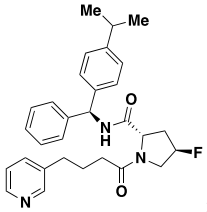
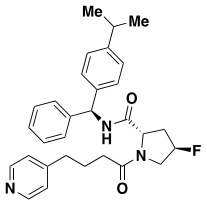
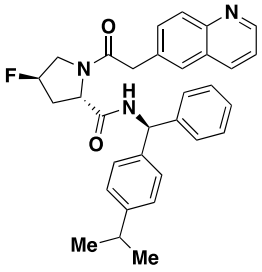
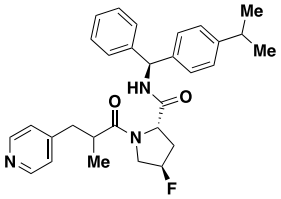
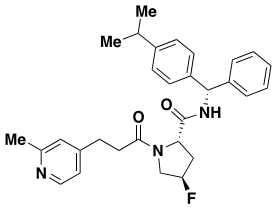
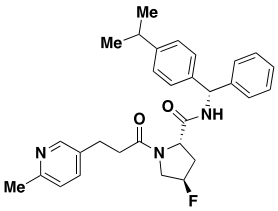
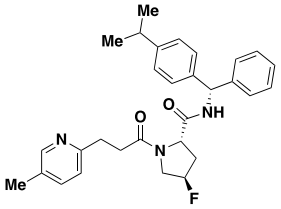
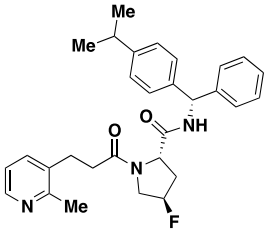
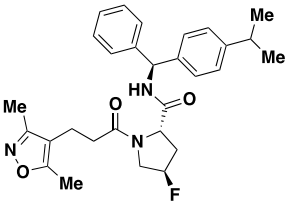
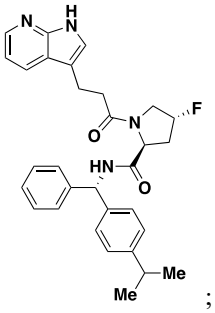
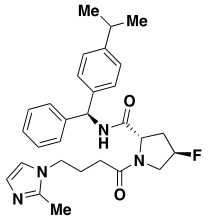
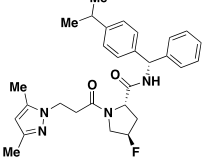
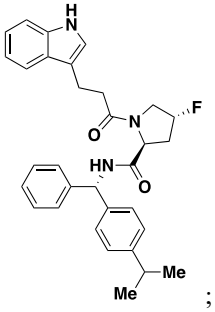
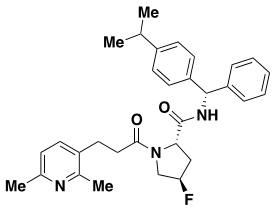
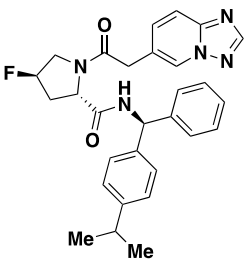
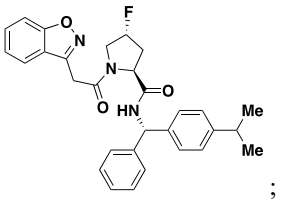

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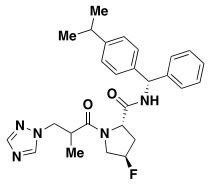
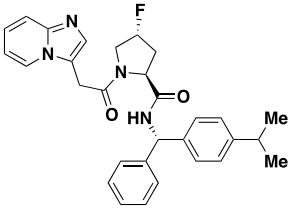
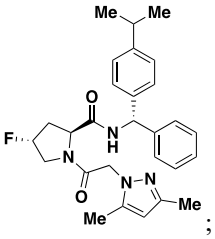
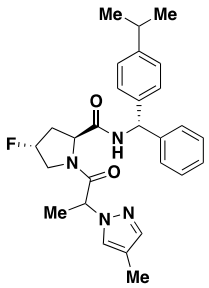
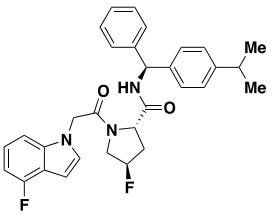
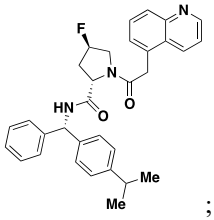
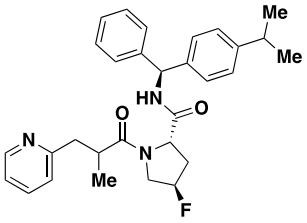
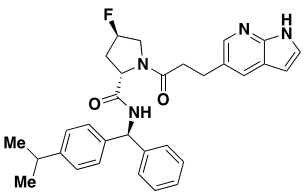
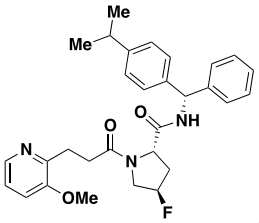
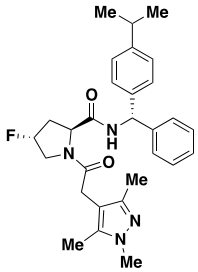
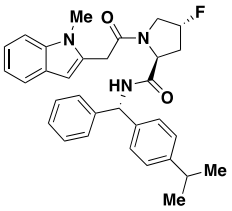

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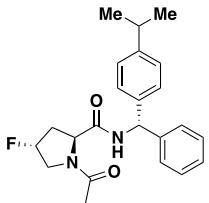
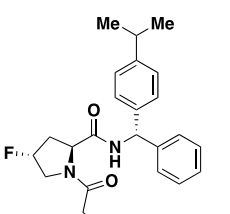
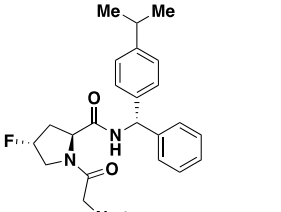
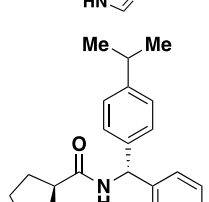
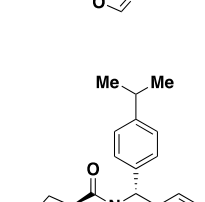
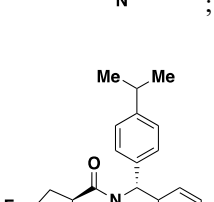
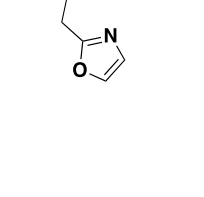
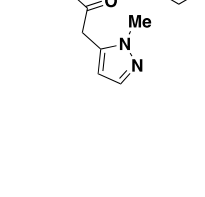
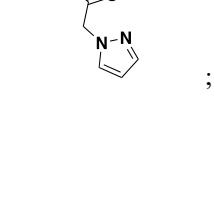
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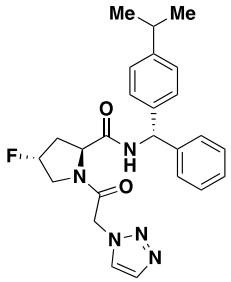
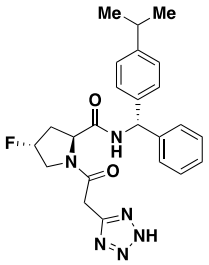
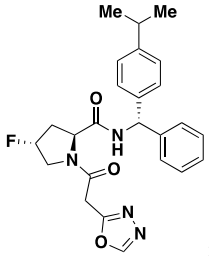
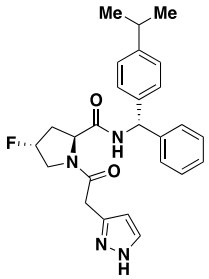
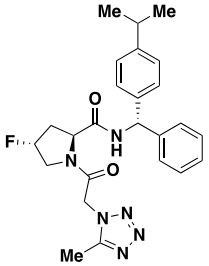
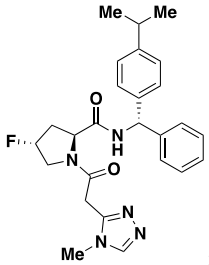
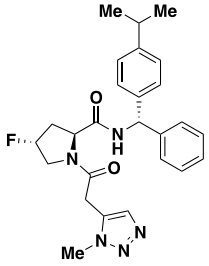
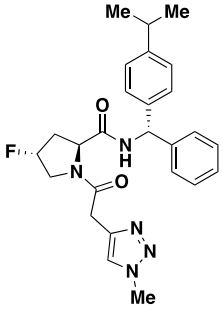
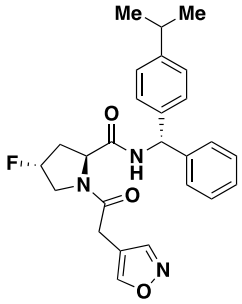
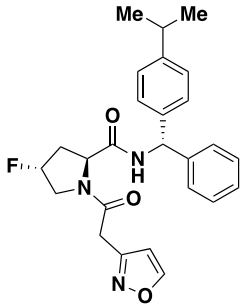
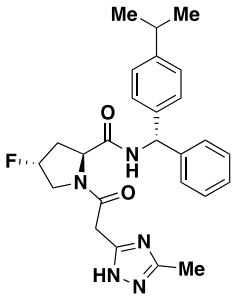
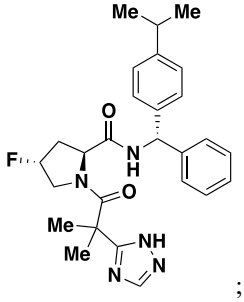
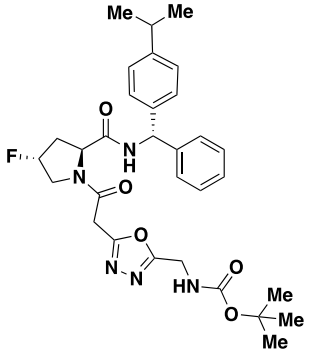
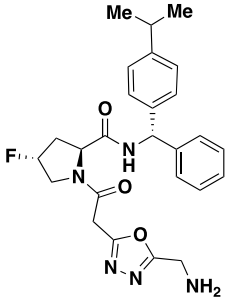
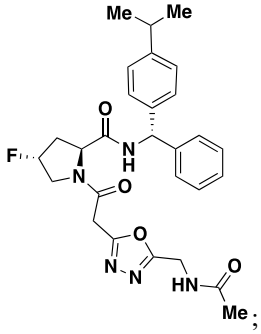
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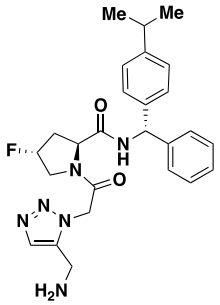
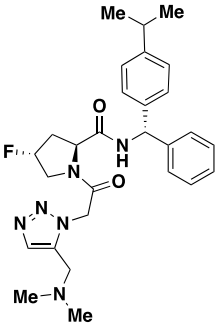
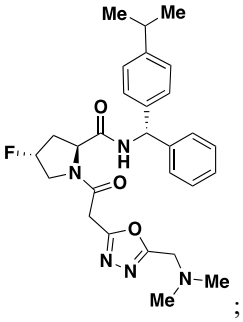
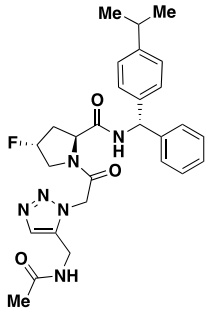
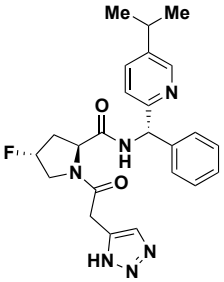
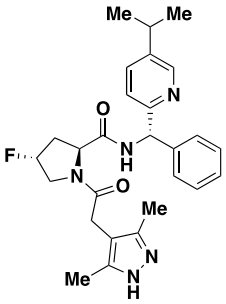
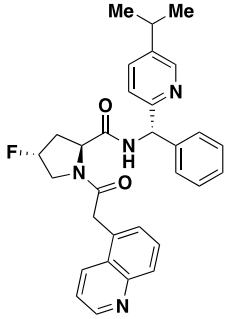
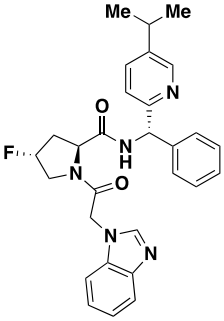
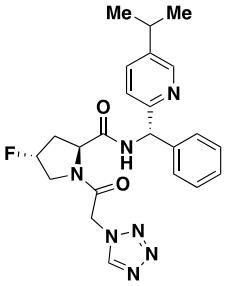
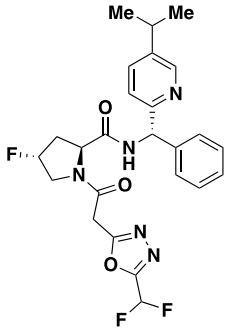
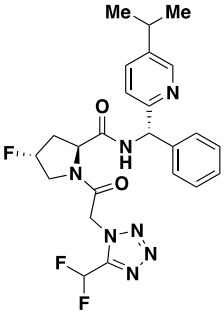
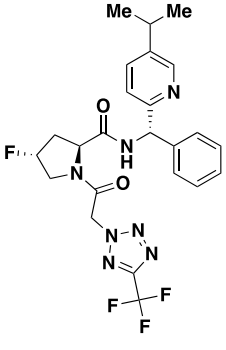
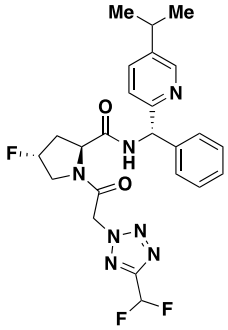
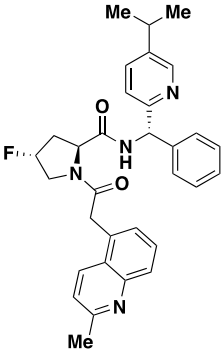
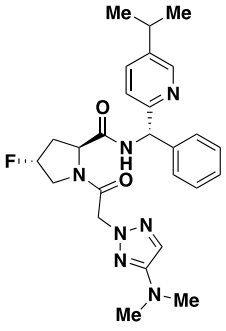
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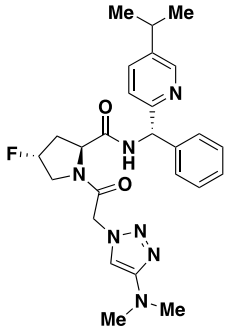
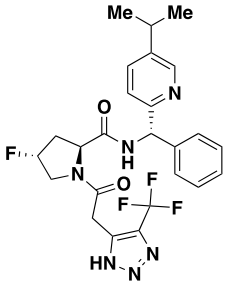
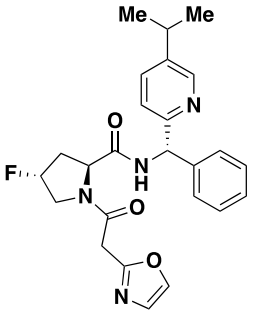
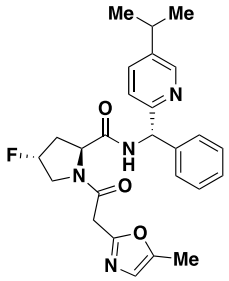
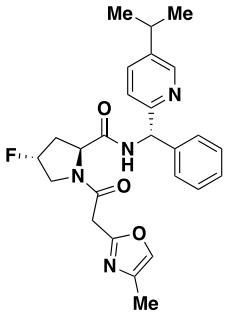
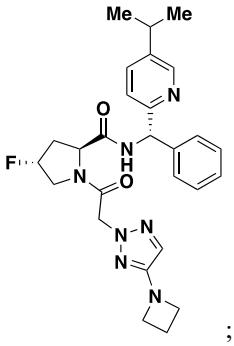
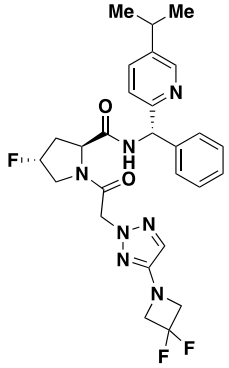
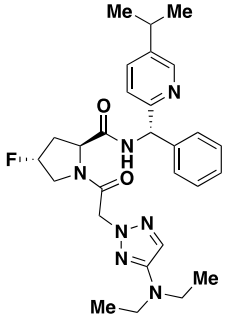
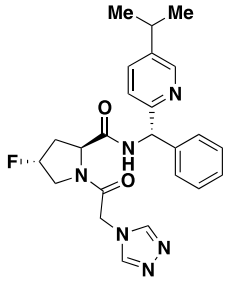
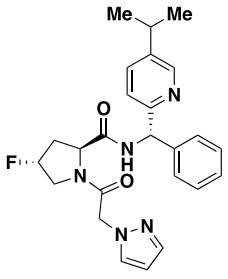
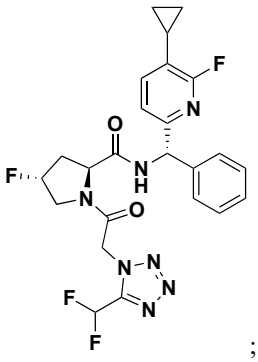
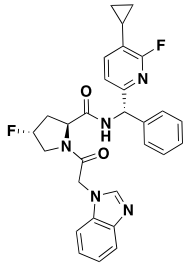
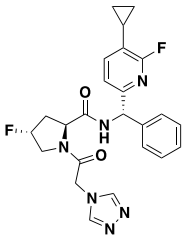
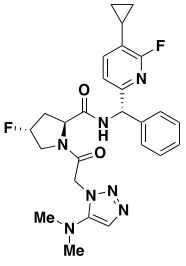

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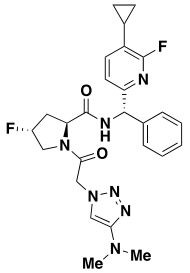
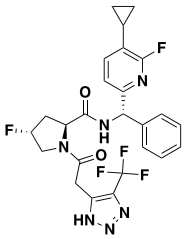
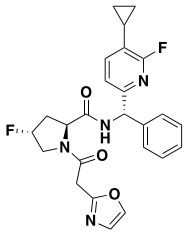
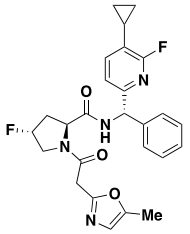
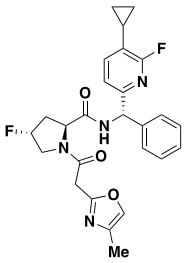
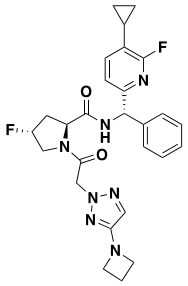
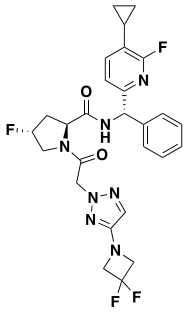
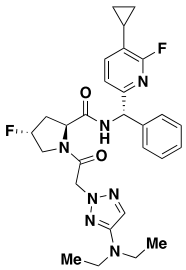
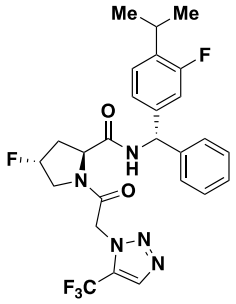
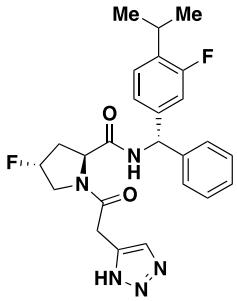
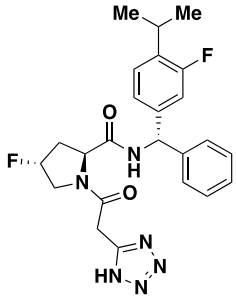
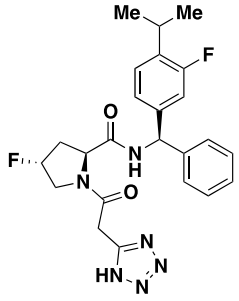
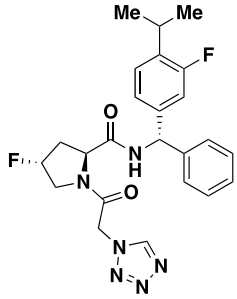
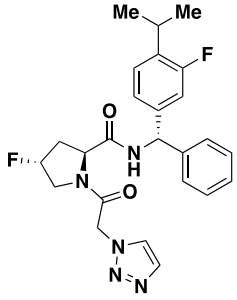
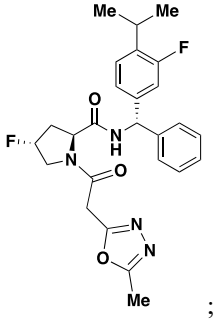

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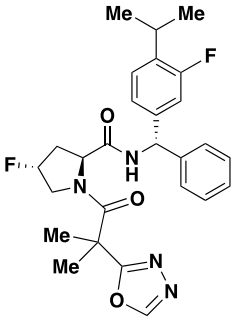
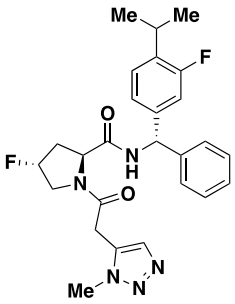
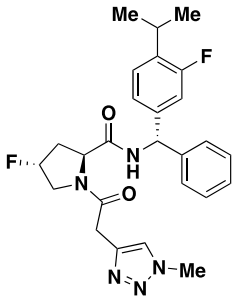
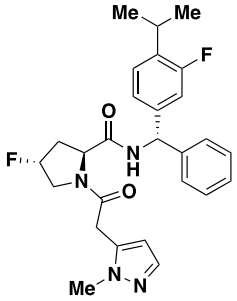
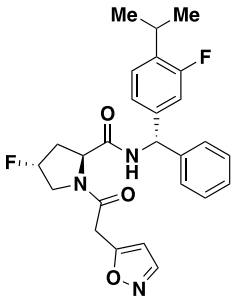
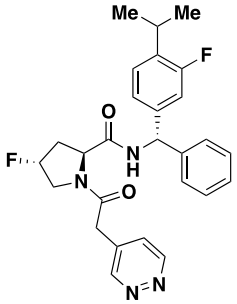
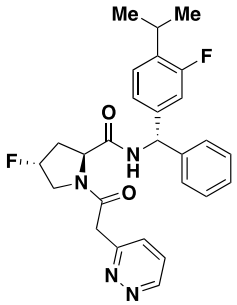
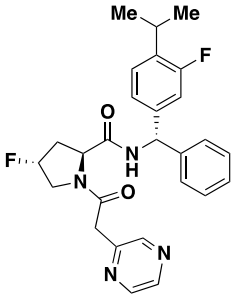
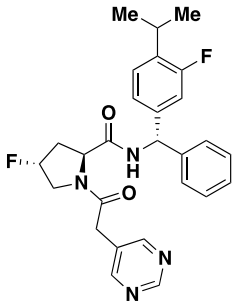
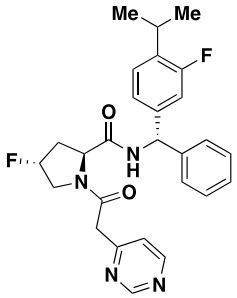
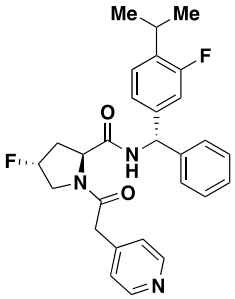
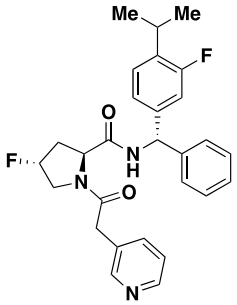
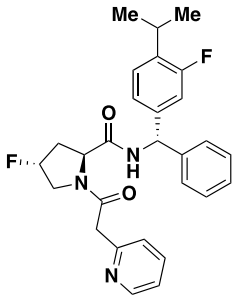
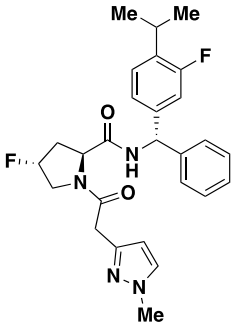
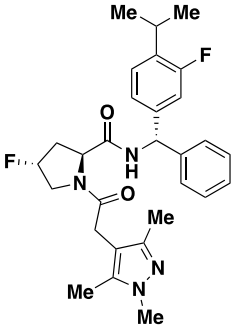
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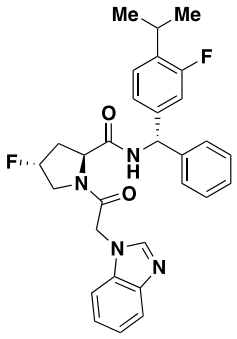
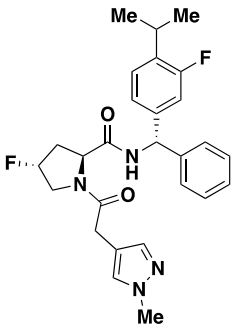
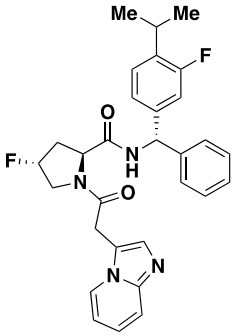
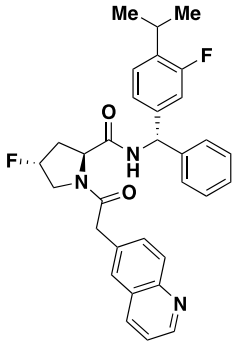
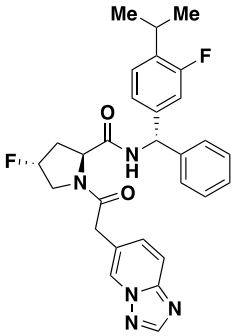
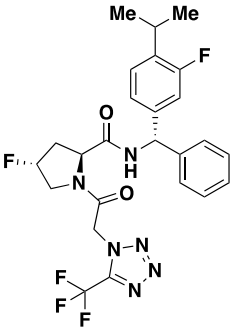
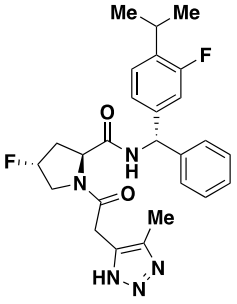
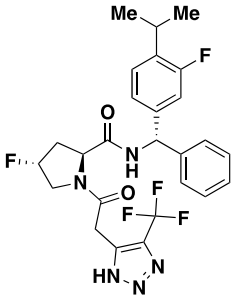
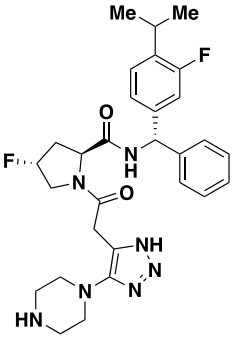
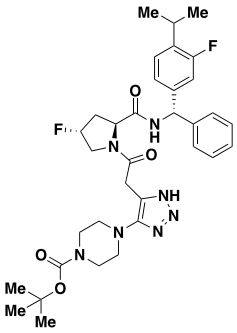
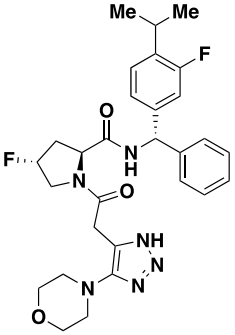
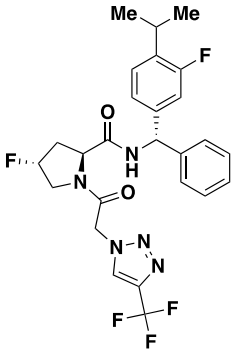

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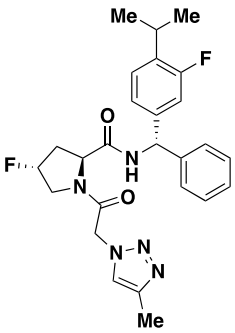
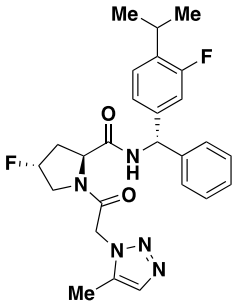
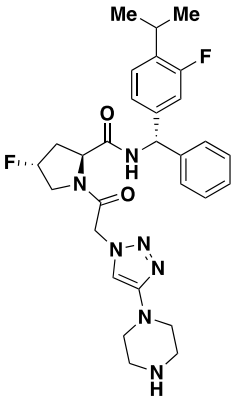
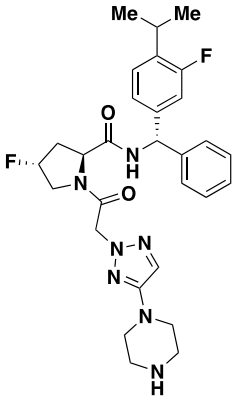
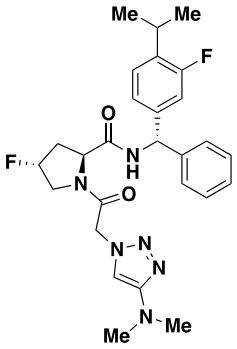
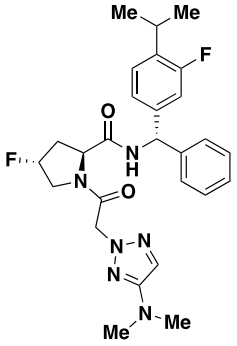
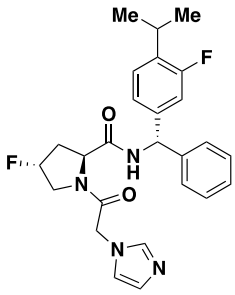
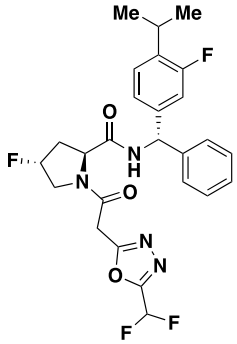
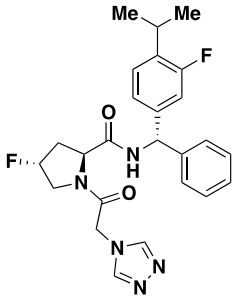
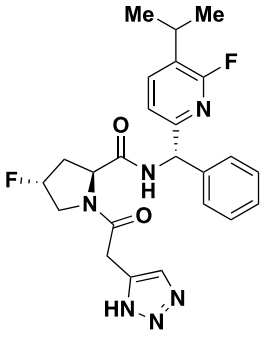
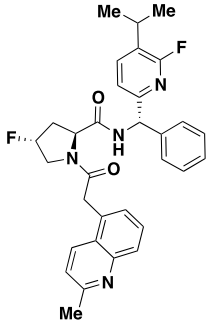
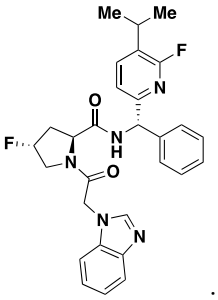

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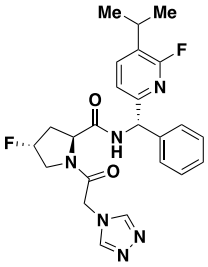
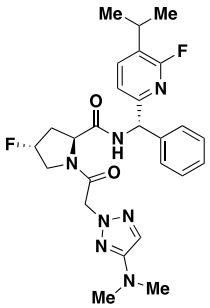
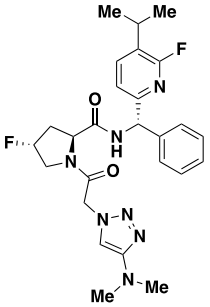
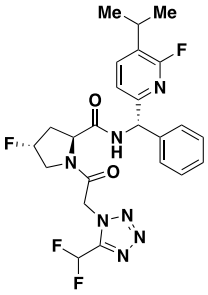
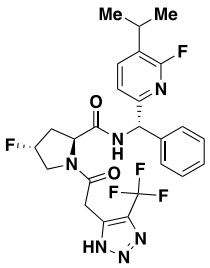
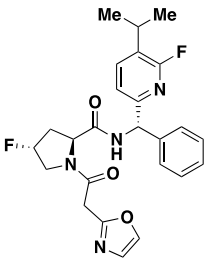
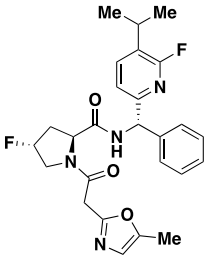
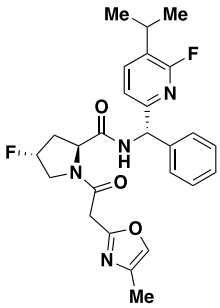
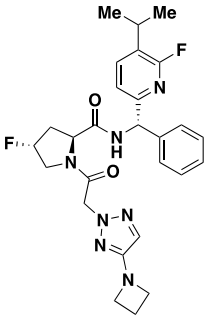
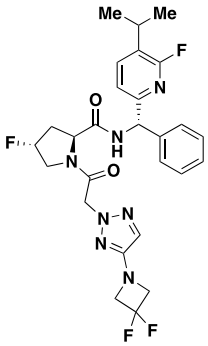
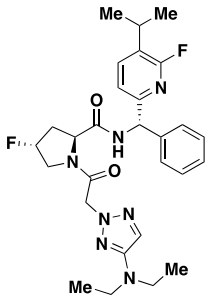
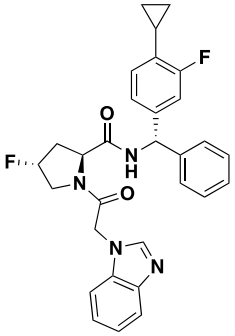
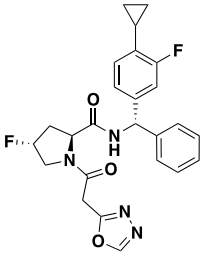
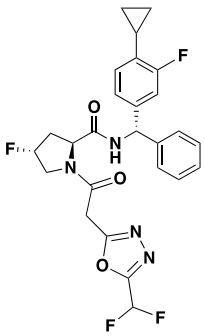
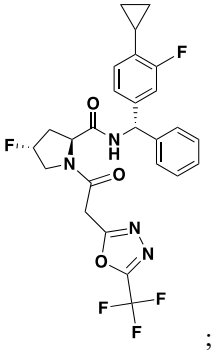

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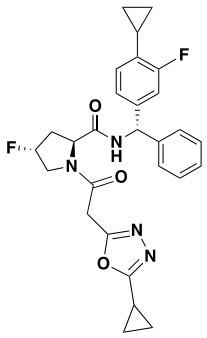
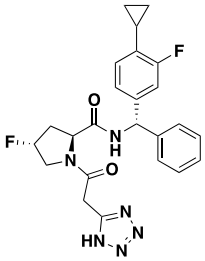
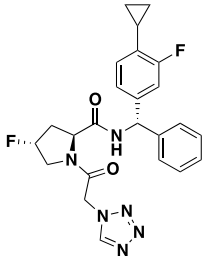

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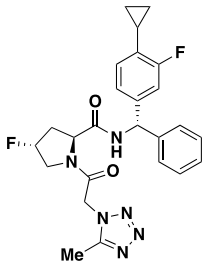
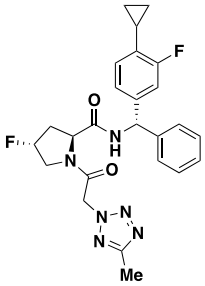
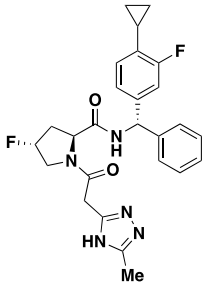

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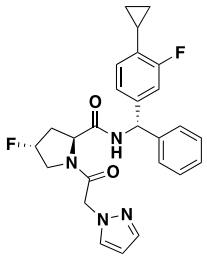
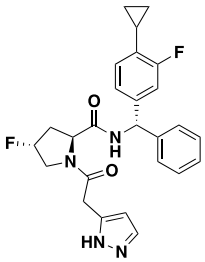
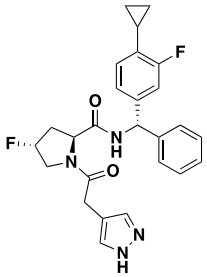

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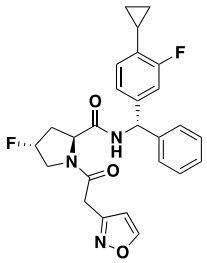
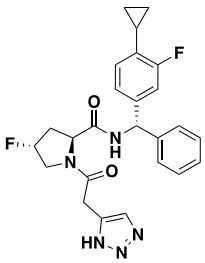
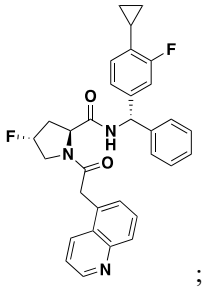

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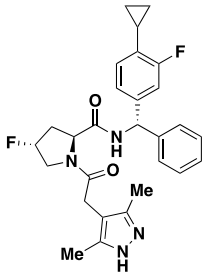
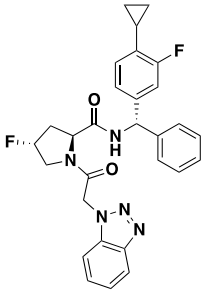
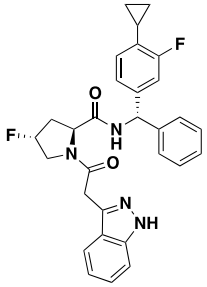

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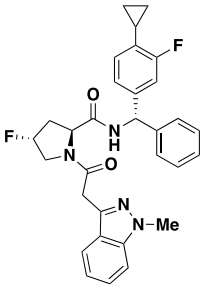
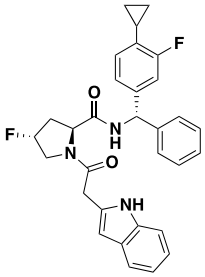
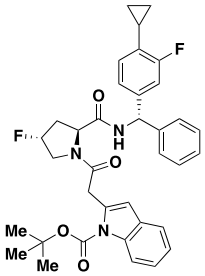
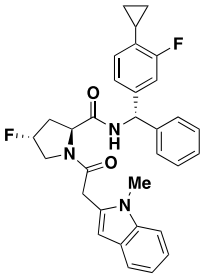
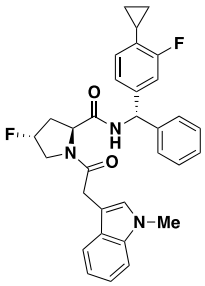
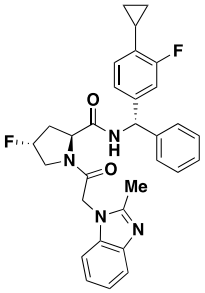
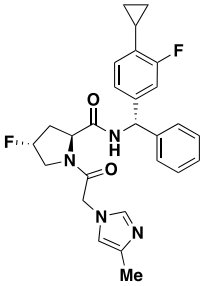
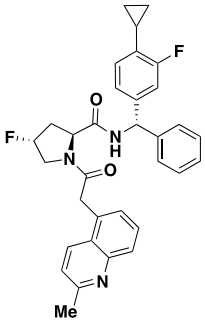
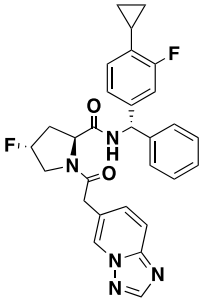
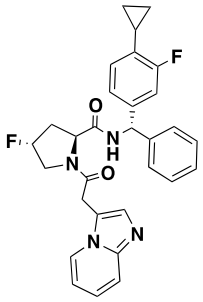
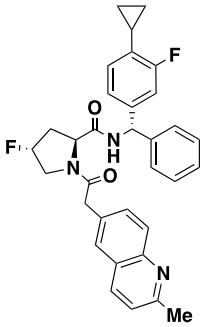
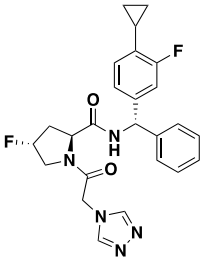
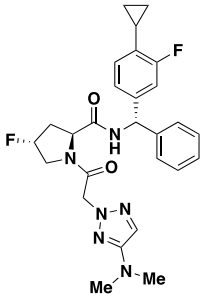
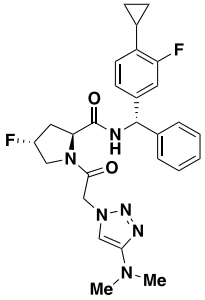
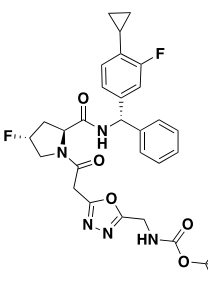

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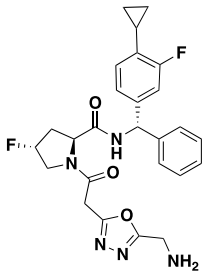
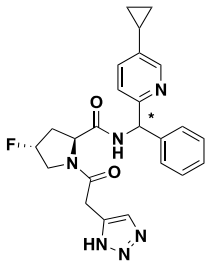
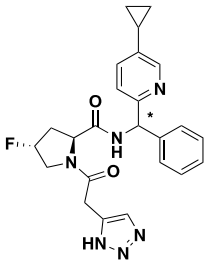

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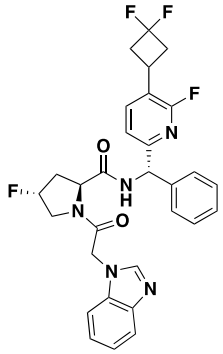
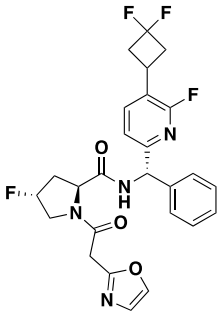
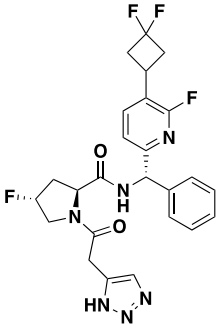

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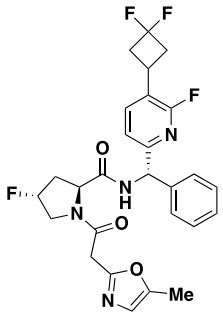
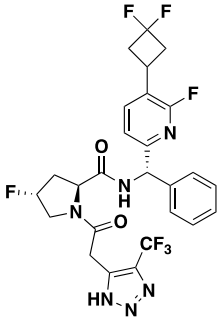
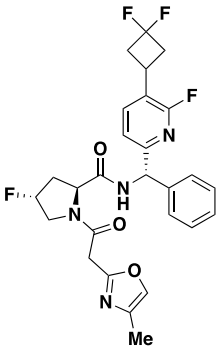
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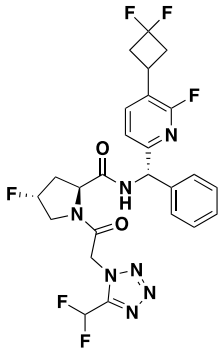
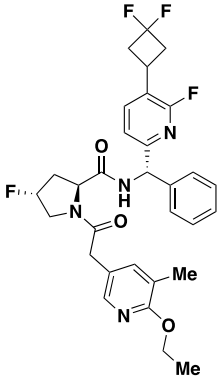
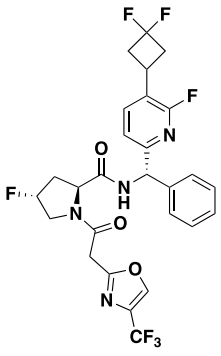
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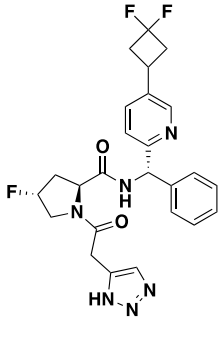
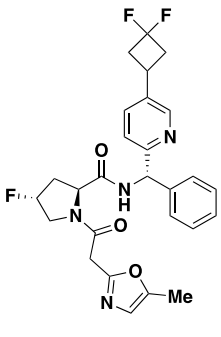
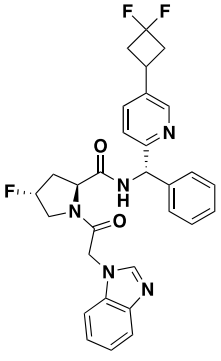
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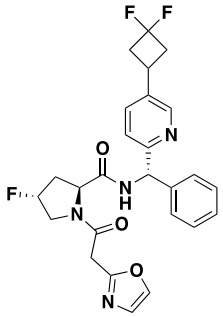
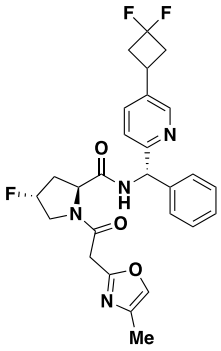
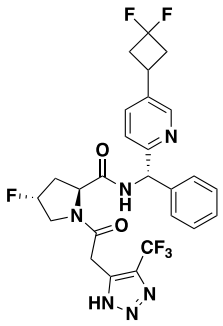
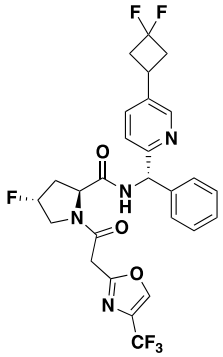
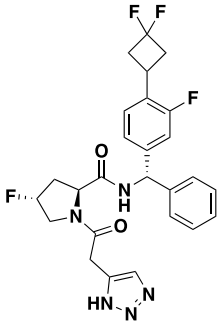
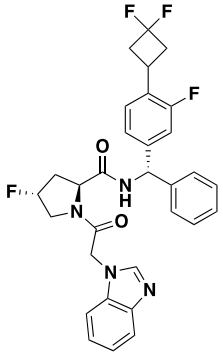
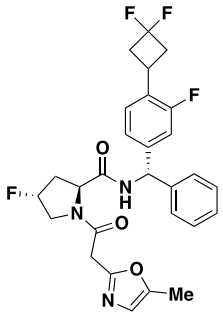
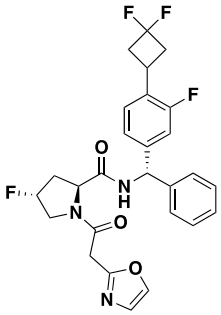
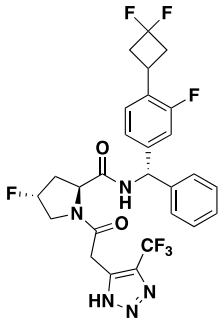
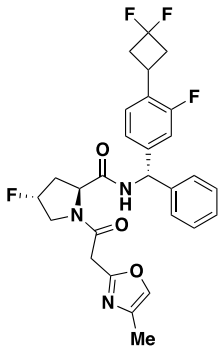
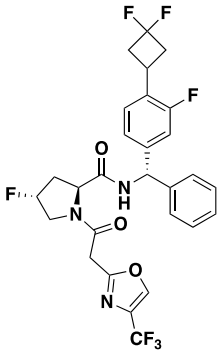
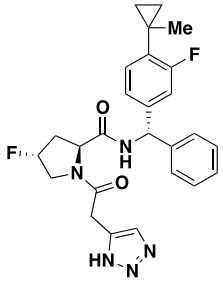
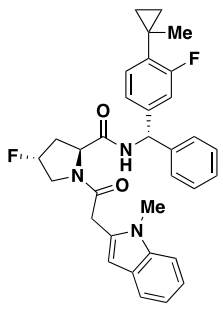
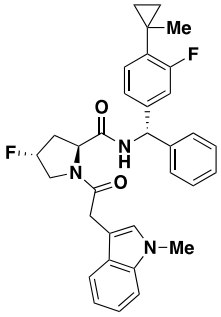
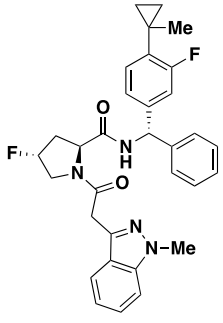

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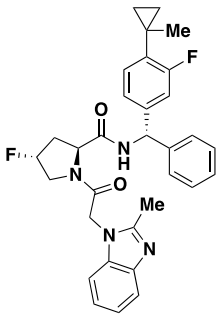
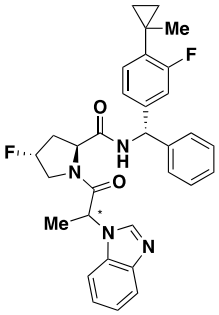
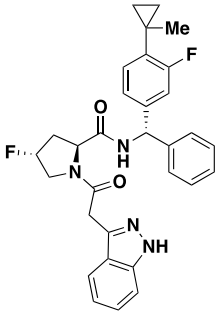
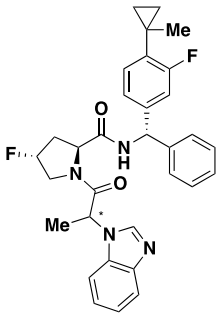
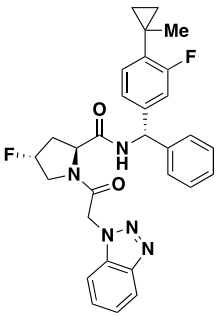
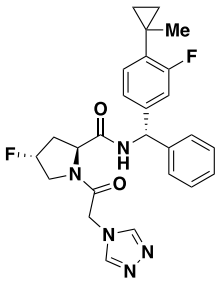
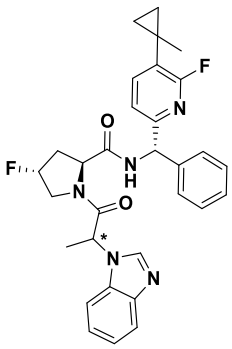
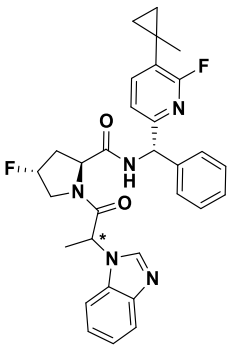
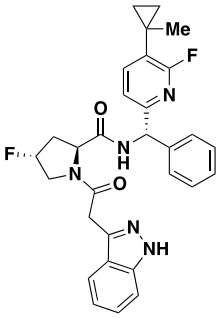
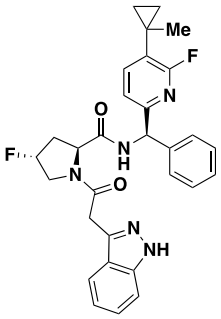
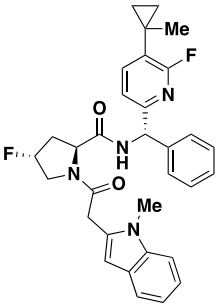
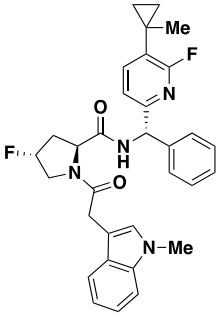
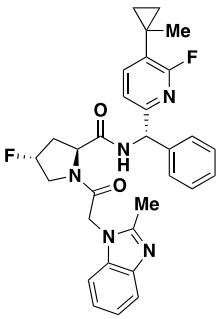
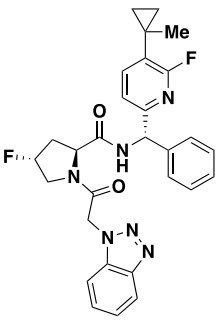
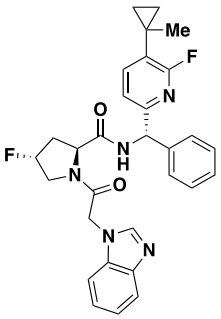

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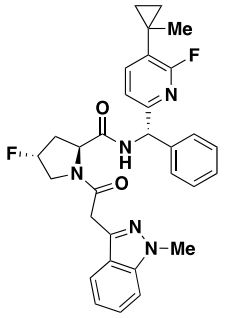
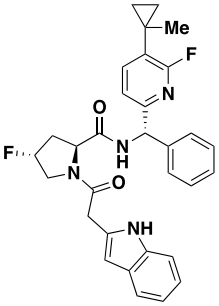
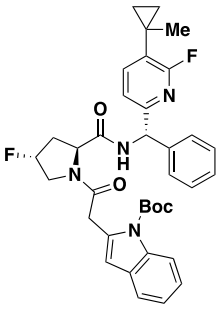
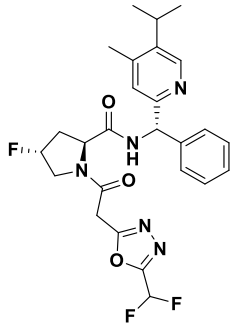
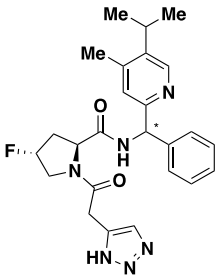
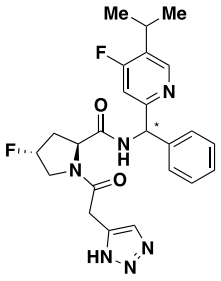
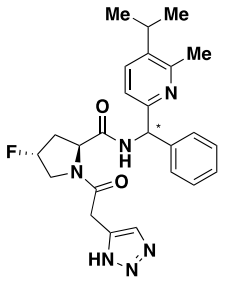
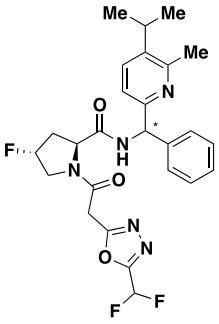
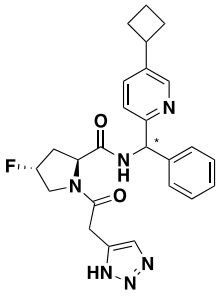
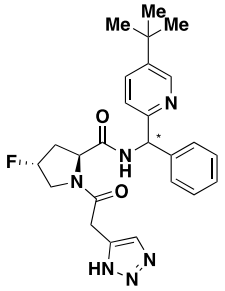
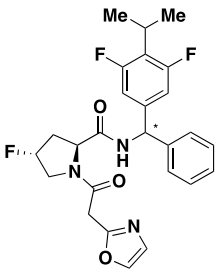
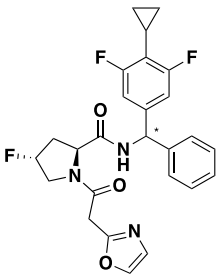
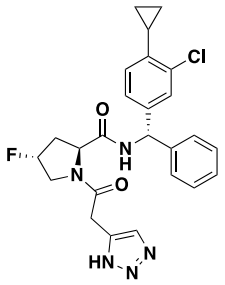
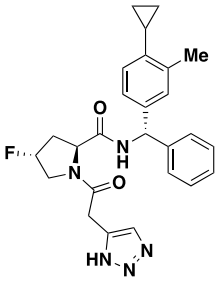
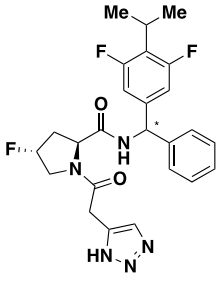

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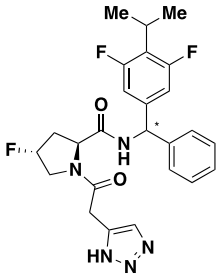
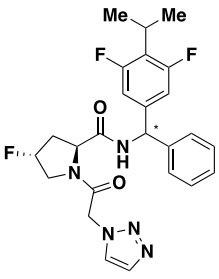
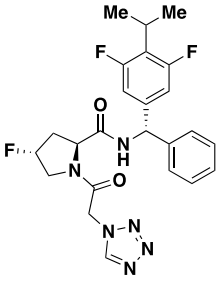
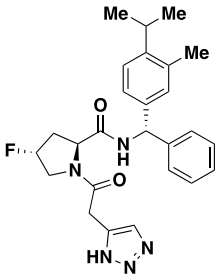
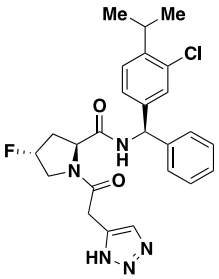
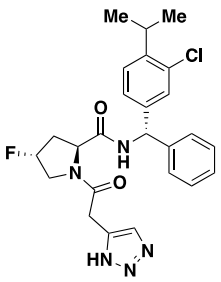
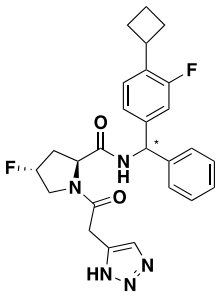
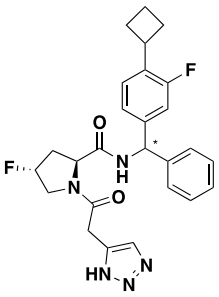
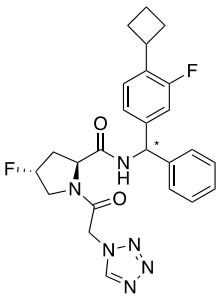
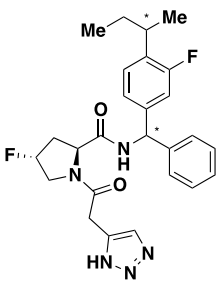
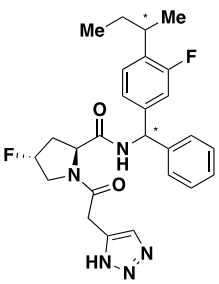
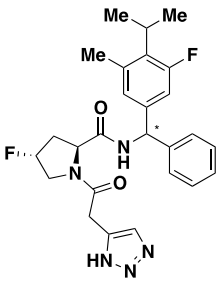
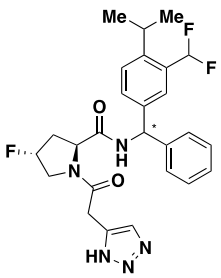
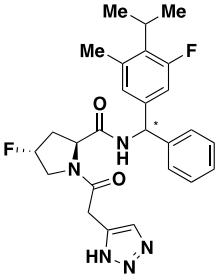
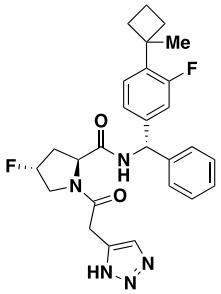

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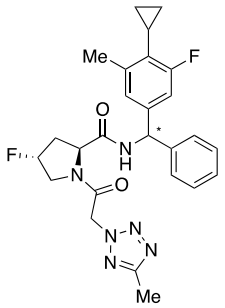
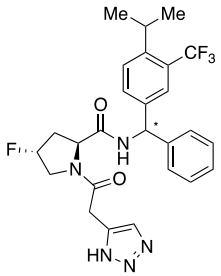
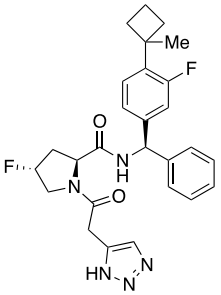
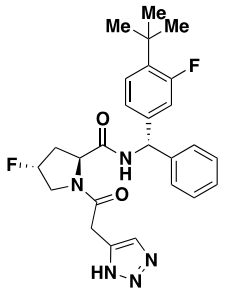
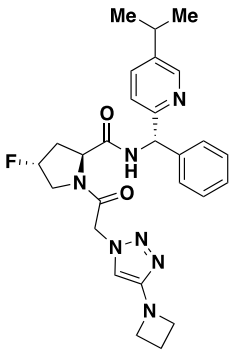
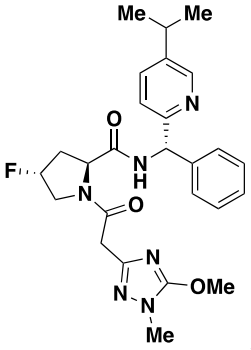
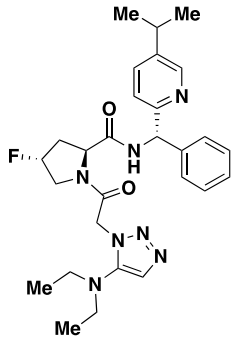
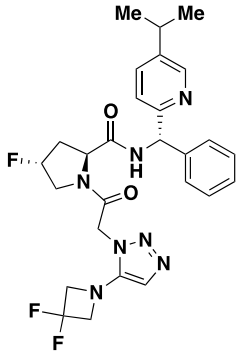
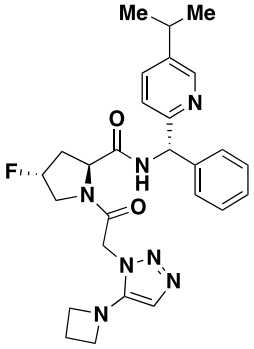
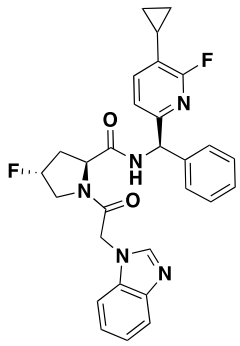
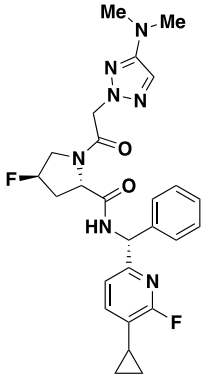
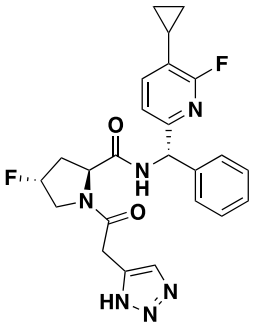
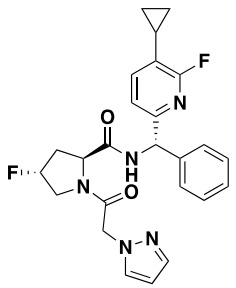
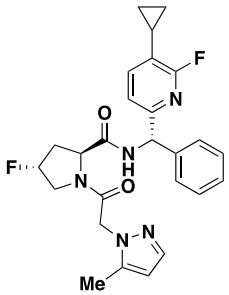
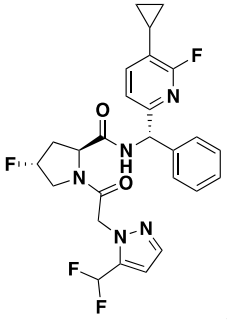

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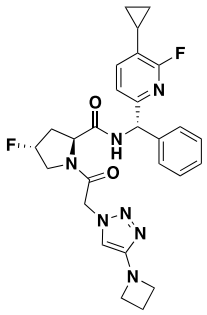
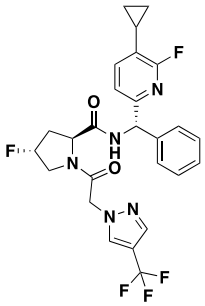
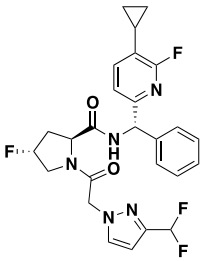
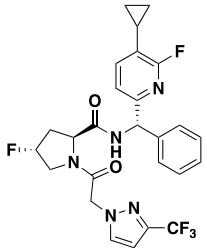
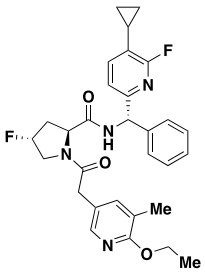
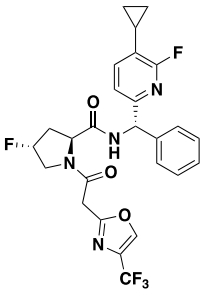
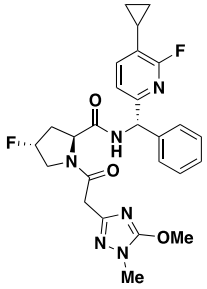
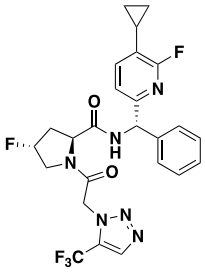
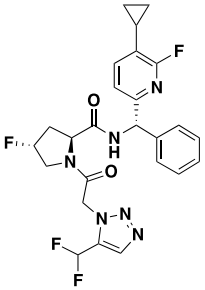
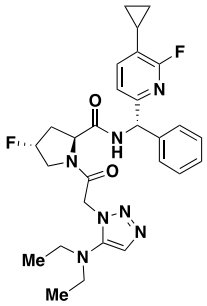
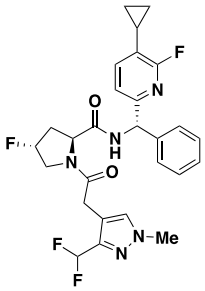
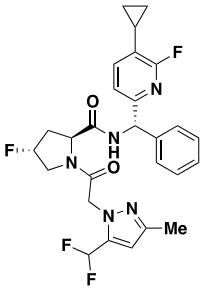
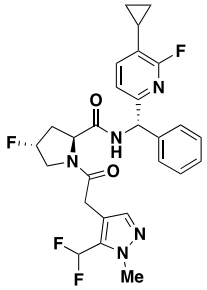
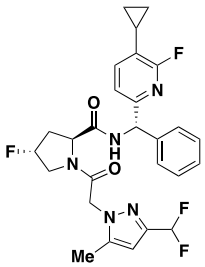
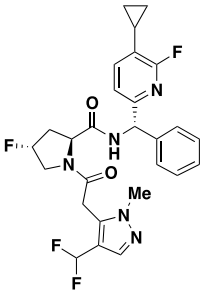

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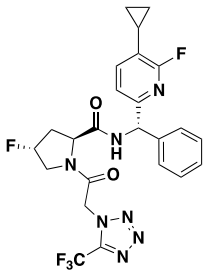
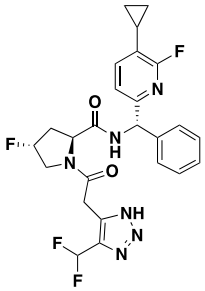
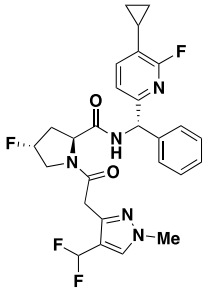
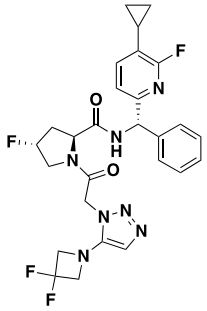
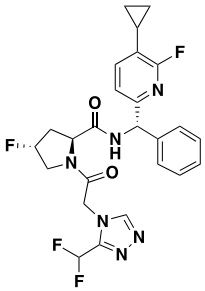
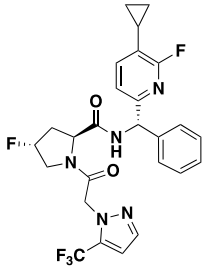
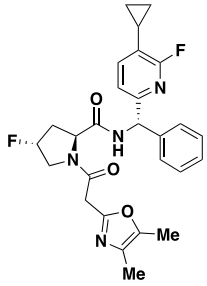
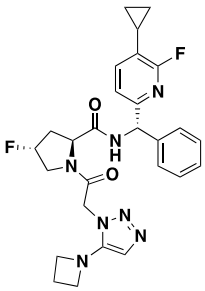
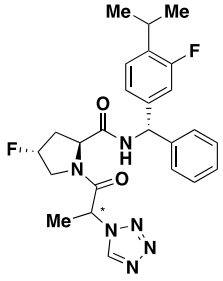
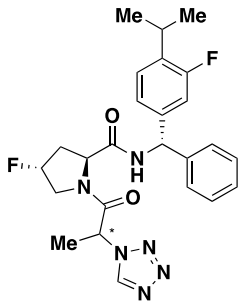
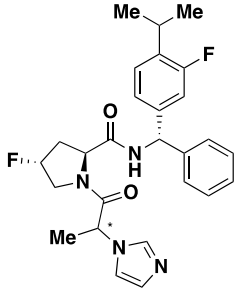
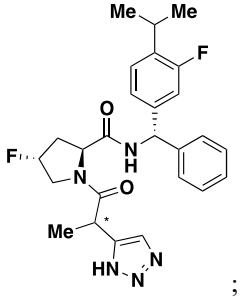
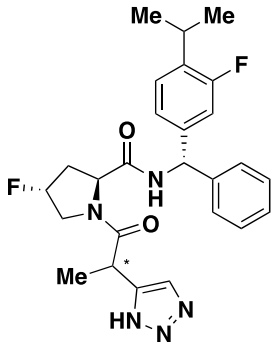
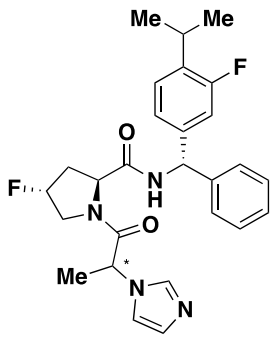
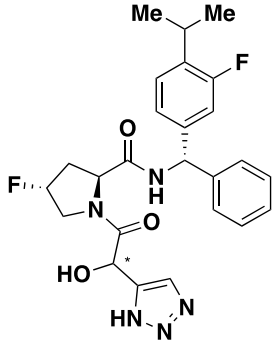
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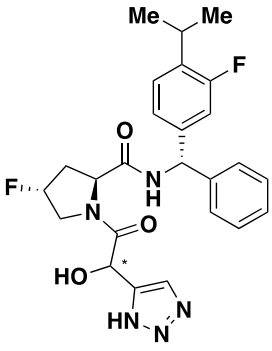
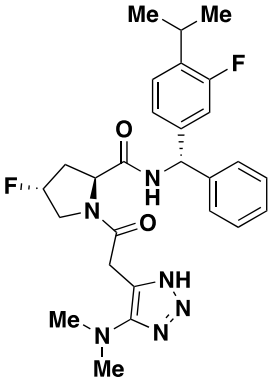
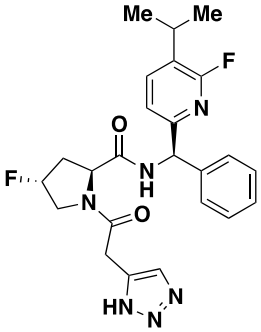
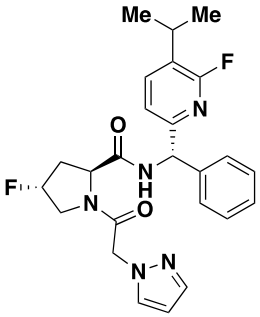
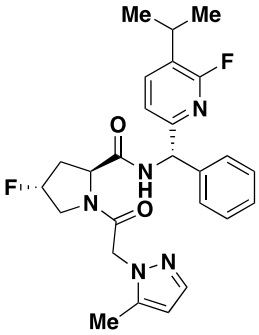
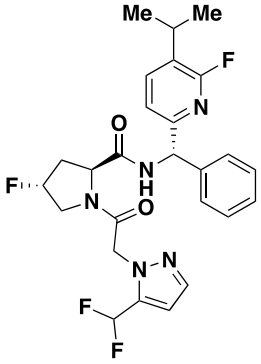
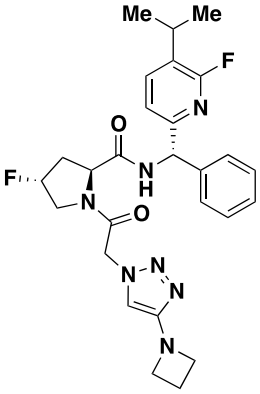
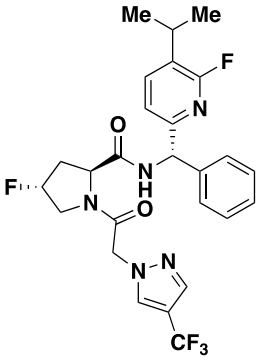
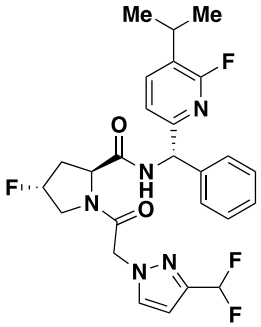
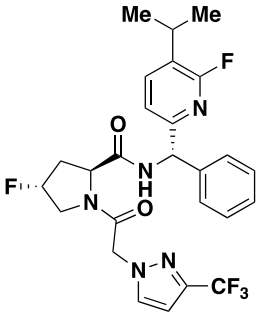
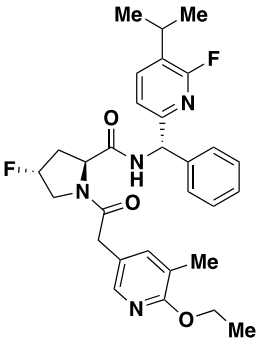
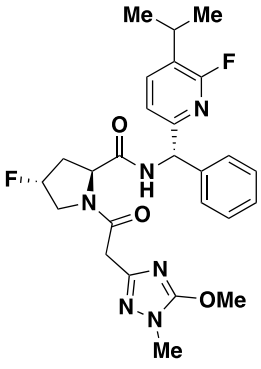
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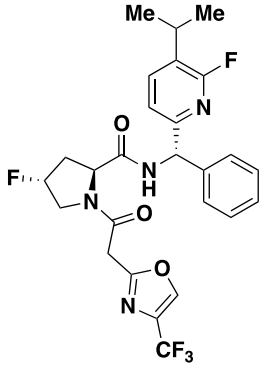
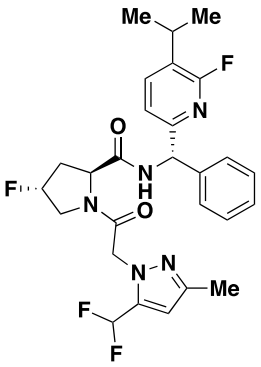
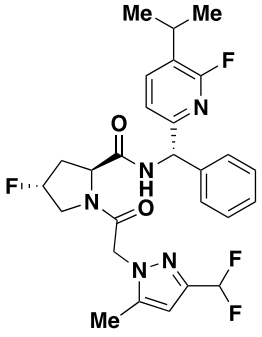
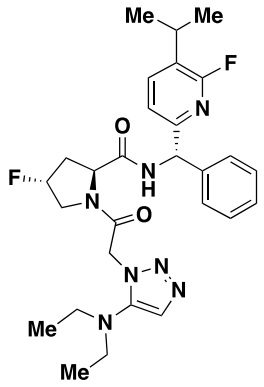
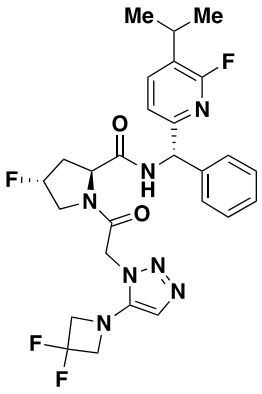
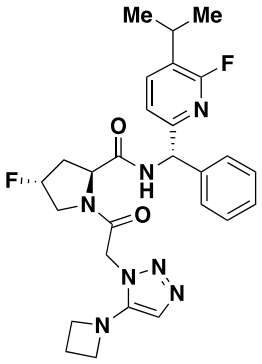
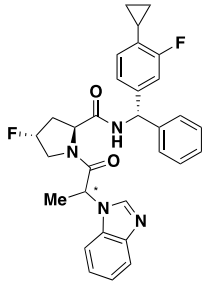
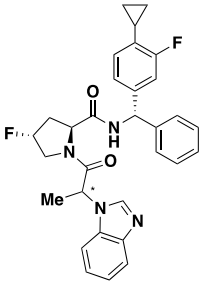
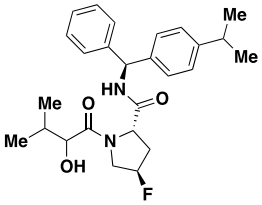
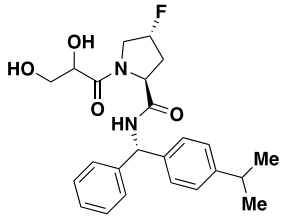
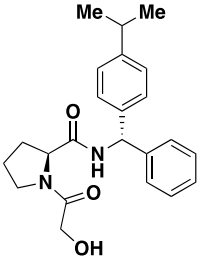
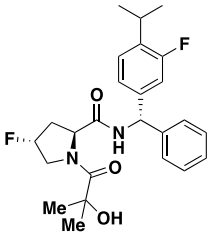
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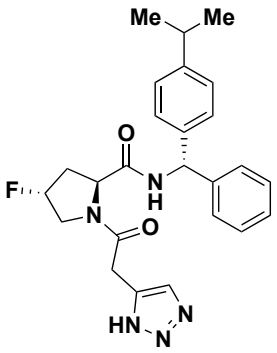
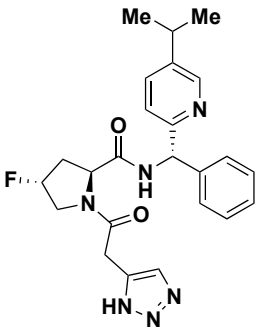
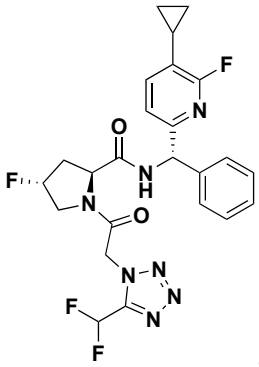
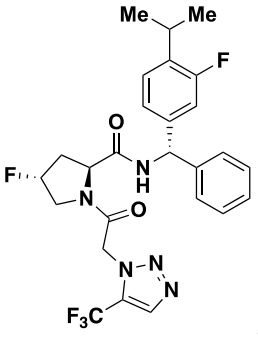
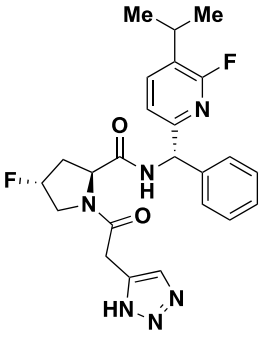
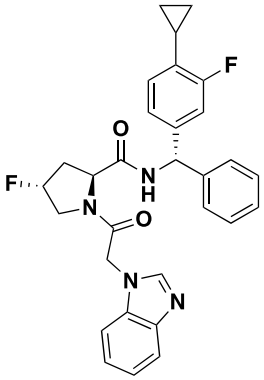
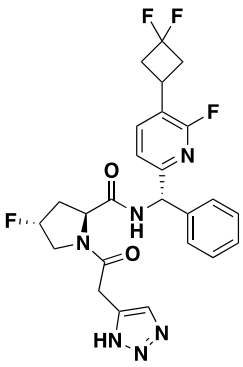
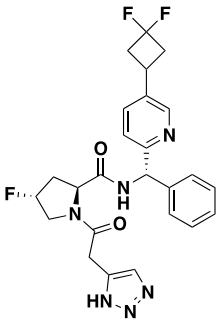
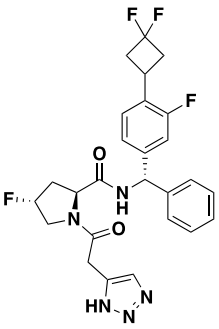
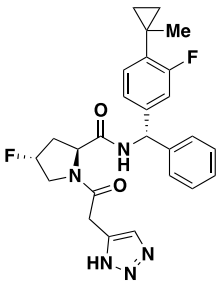
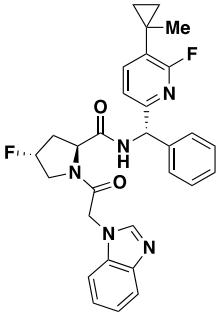
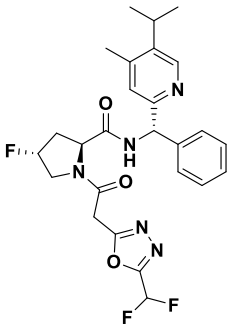

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and

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10. The compound of claim 1, wherein the compound is selected from:


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, and

a pharmaceutically acceptable salt thereof.

11. A pharmaceutical composition comprising (i) a compound of any one of claims 1-10, or a stereoisomer or tautomer thereof, or a pharmaceutically acceptable salt of any of the foregoing, and (ii) one or more pharmaceutically acceptable excipients.

12. A kit, comprising (i) a compound of any one of claims 1-10, or a stereoisomer or tautomer thereof, or a pharmaceutically acceptable salt of any of the foregoing, or a pharmaceutical composition of claim 11, and (ii) instructions for use in treating an GYS1-mediated disease, disorder, or condition in an individual in need thereof, wherein the disease, disorder, or condition is selected from Pompe disease, Cori disease (GSD III), adult polyglucosan body disease (APBD), and Lafora disease.

13. Use of a compound of any one of claims 1-10, or a stereoisomer or tautomer thereof, or a pharmaceutically acceptable salt of any of the foregoing, or a pharmaceutical composition according to claim 11, in the manufacture of a medicament for treating or delaying the development of a disease, disorder, or condition selected from:
(a) a glycogen storage disorder (GSD), optionally selected from the group consisting of Pompe disease, Cori disease (GSD III), adult polyglucosan body disease (APBD), and Lafora disease, optionally wherein the disease, disorder, or condition is Pompe disease; and
(b) cancer, optionally selected from the group consisting of Ewing sarcoma (ES), clear cell renal cell carcinoma (ccRCC), glycogen rich clear cell carcinoma (GRCC) breast cancer, non-small-cell lung carcinoma (NSCLC), and acute myeloid leukemia (AML), optionally wherein the individual has a GAA mutation, such as a loss-of-function mutation.

14. The kit of claim 12, or the compound, or a stereoisomer or tautomer thereof, or a pharmaceutically acceptable salt of any of the foregoing, or the pharmaceutical composition for use of claim 14, wherein the disease, disorder, or condition is Pompe disease.

15. The use of claim 13, wherein the disease, disorder, or condition is selected from Pompe disease, Cori disease (GSD III), adult polyglucosan body disease (APBD), and Lafora disease.

16. The use of claim 13, wherein the disease, disorder, or condition is Pompe disease.