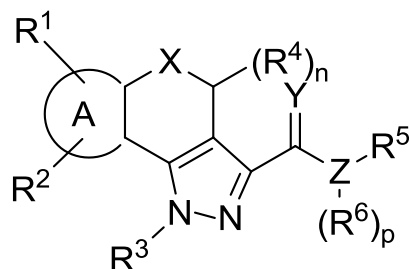


CLAIMS

We claim:

1. A compound of formula I,



I

or a pharmaceutically acceptable salt thereof, wherein:

X is O;

Y is O;

Z is O, or N; wherein when Z is O, then p is 0;

each R is independently hydrogen, C₁₋₆ aliphatic, C₃₋₁₀ aryl, a 3-8 membered saturated or partially unsaturated carbocyclic ring, a 3-7 membered heterocyclic ring having 1-4 heteroatoms independently selected from nitrogen, oxygen, or sulfur, or a 5-6 membered monocyclic heteroaryl ring having 1-4 heteroatoms independently selected from nitrogen, oxygen, or sulfur; each of which is optionally substituted; or

two R groups on the same atom are taken together with the atom to which they are attached to form a C₃₋₁₀ aryl, a 3-8 membered saturated or partially unsaturated carbocyclic ring, a 3-7 membered heterocyclic ring having 1-4 heteroatoms independently selected from nitrogen, oxygen, or sulfur, or a 5-6 membered monocyclic heteroaryl ring having 1-4 heteroatoms independently selected from nitrogen, oxygen, or sulfur; each of which is optionally substituted;

Ring A is a fused C₃₋₁₀ aryl, a fused 3-8 membered saturated or partially unsaturated carbocyclic ring, a fused 3-7 membered heterocyclic ring having 1-4 heteroatoms independently selected from nitrogen, oxygen, or sulfur, or a fused 5-6 membered monocyclic heteroaryl ring having 1-4 heteroatoms independently selected from nitrogen, oxygen, or sulfur;

R¹ is -OR;

R² is -R, -haloalkyl, -OR, -SR, -CN, -NO₂, -SO₂R, -SOR, -C(O)R, -CO₂R, -C(O)N(R)₂, -NRC(O)R, -NRC(O)N(R)₂, -NRSO₂R, or -N(R)₂;

R³ is a 3-7 membered heterocyclic ring having 1-4 heteroatoms independently selected from nitrogen, oxygen, or sulfur, or a 5-6 membered monocyclic heteroaryl ring having 1-4 heteroatoms independently selected from nitrogen, oxygen, or sulfur; each of which is optionally substituted;

each R⁴ is independently -R, halogen, -haloalkyl, -OR, -SR, -CN, -NO₂, -SO₂R, -SOR, -C(O)R, -CO₂R, -C(O)N(R)₂, -NRC(O)R, -NRC(O)N(R)₂, -NRSO₂R, or -N(R)₂;

R⁵ is C₁₋₆ aliphatic, C₃₋₁₀ aryl, a 3-8 membered saturated or partially unsaturated carbocyclic ring, a 3-7 membered heterocyclic ring having 1-4 heteroatoms independently selected from nitrogen, oxygen, or sulfur, or a 5-6 membered monocyclic heteroaryl ring having 1-4 heteroatoms independently selected from nitrogen, oxygen, or sulfur; each of which is optionally substituted;

R⁶ is hydrogen, C₁₋₆ aliphatic, C₃₋₁₀ aryl, a 3-8 membered saturated or partially unsaturated carbocyclic ring, a 3-7 membered heterocyclic ring having 1-4 heteroatoms independently selected from nitrogen, oxygen, or sulfur, or a 5-6 membered monocyclic heteroaryl ring having 1-4 heteroatoms independently selected from nitrogen, oxygen, or sulfur; each of which is optionally substituted;

or R⁵ and R⁶, together with the atom to which each is attached, form a 3-8 membered heterocyclic ring having 1-4 heteroatoms independently selected from nitrogen, oxygen, or sulfur, or a 3-8 membered heteroaryl ring having 1-4 heteroatoms independently selected from nitrogen, oxygen, or sulfur; each of which is optionally substituted;

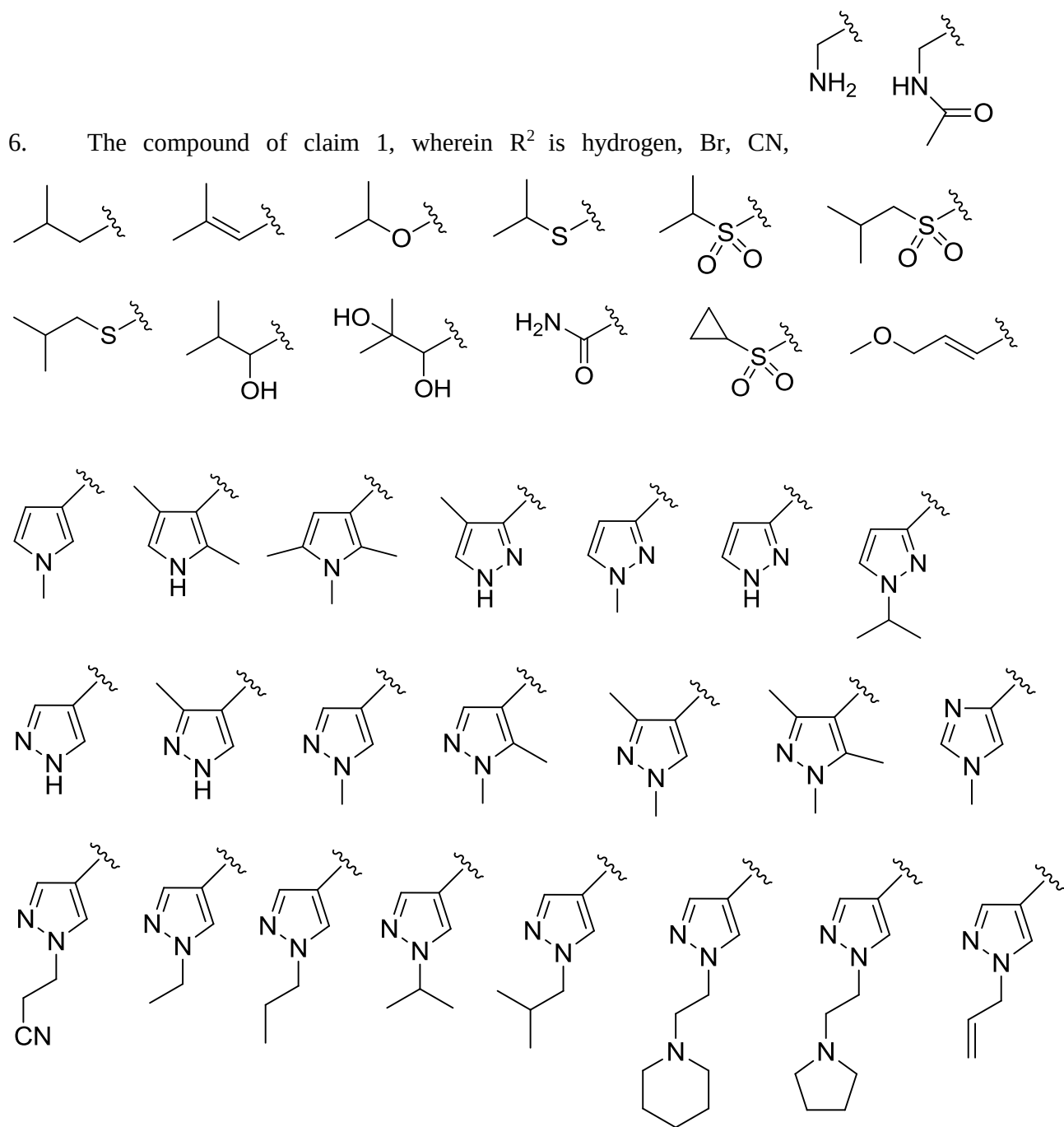
n is 0, 1, or 2; and

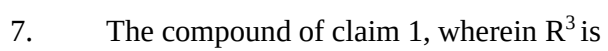
p is 0 or 1.

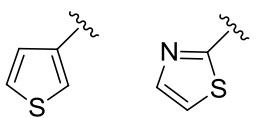
2. The compound of claim 1, wherein Y is O.

3. The compound of claim 1, wherein Z is N.

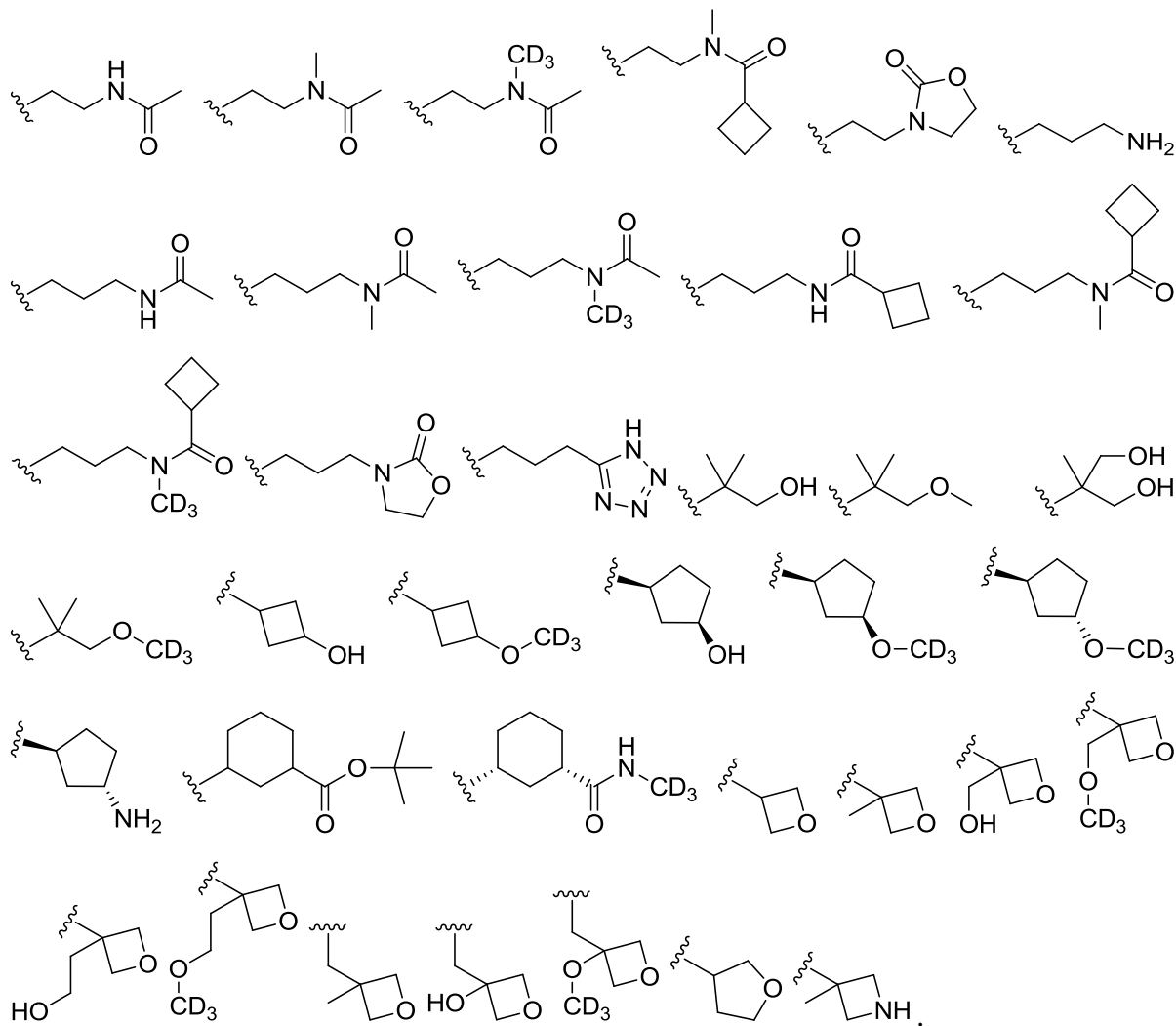
4. The compound of claim 1, wherein Ring A is phenyl.
5. The compound of claim 1, wherein R¹ is -OR, and R is C₁₋₆ aliphatic.



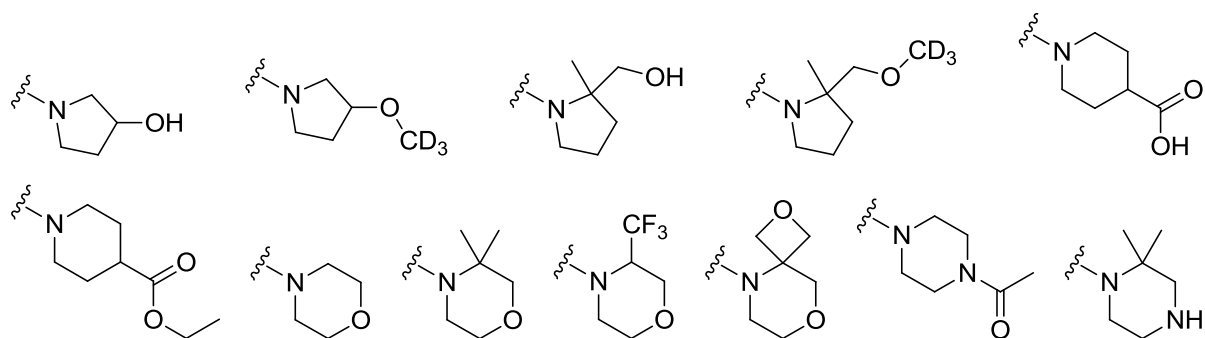




8. The compound of claim 1, wherein R^5 is methyl, t-butyl, $-CD_3$,



9. The compound of claim 1, wherein Z is N and the ring formed by Z, R^5 and R^6 is

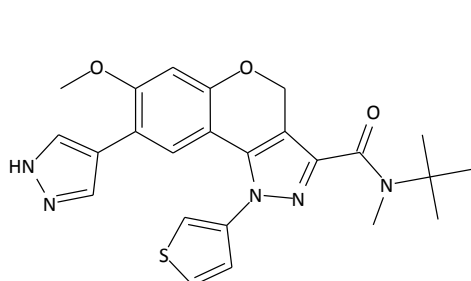


I-h;

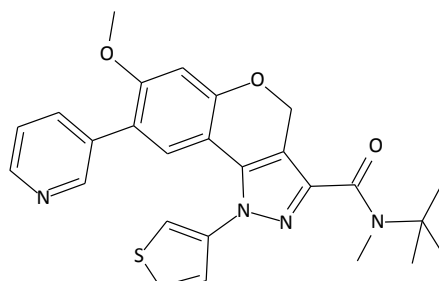
or a pharmaceutically acceptable salt thereof.

13. The compound of claim 1, selected from Table 1.

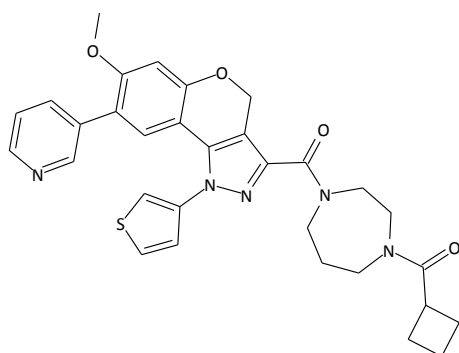
Table 1



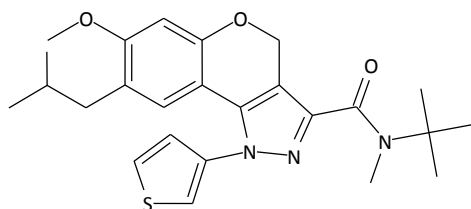
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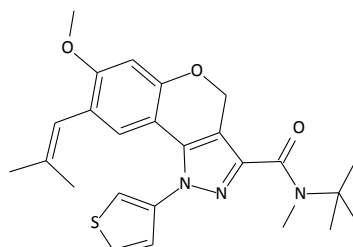
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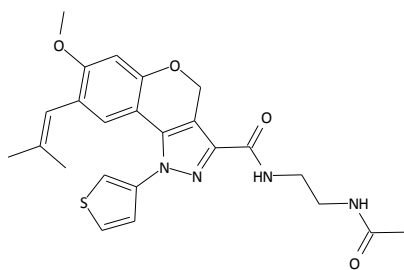
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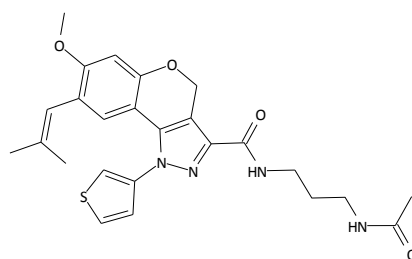
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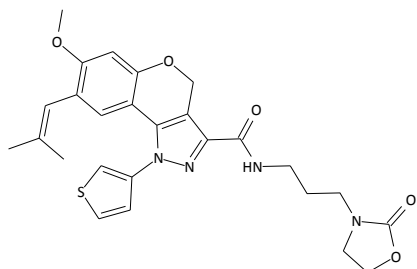
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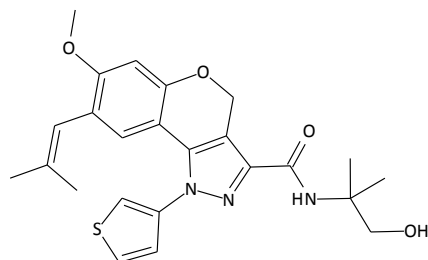
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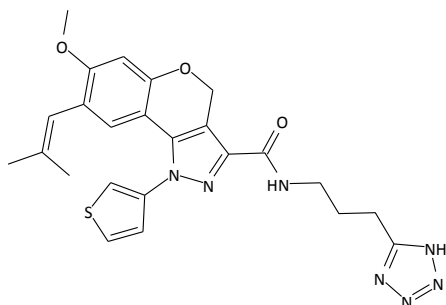
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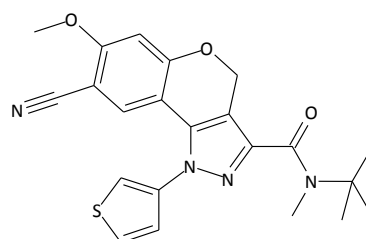
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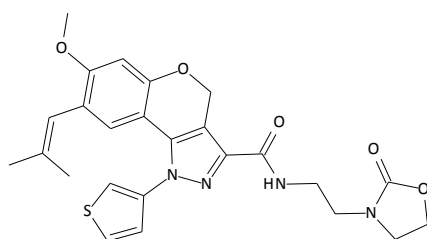
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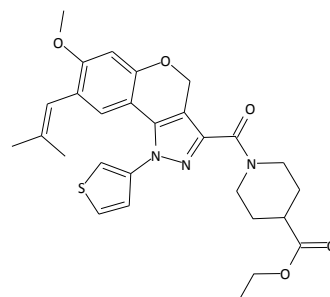
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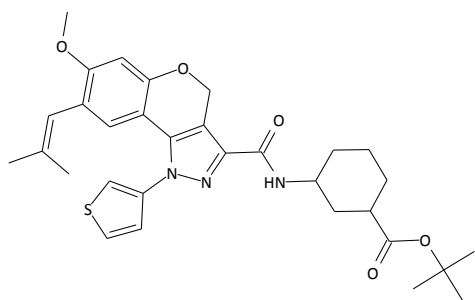
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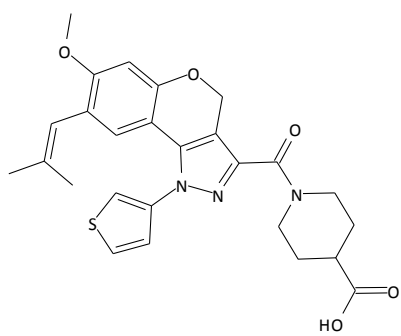
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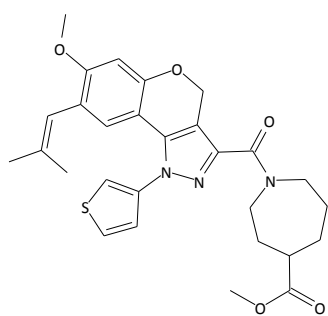
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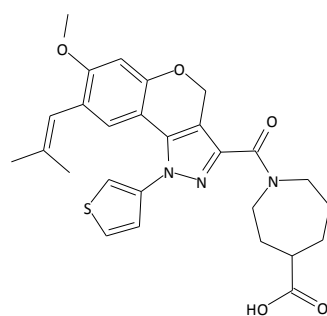
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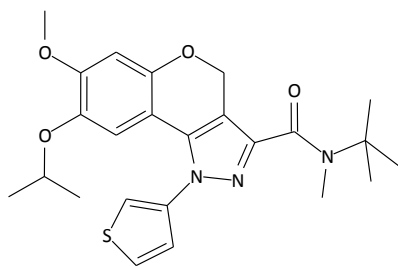
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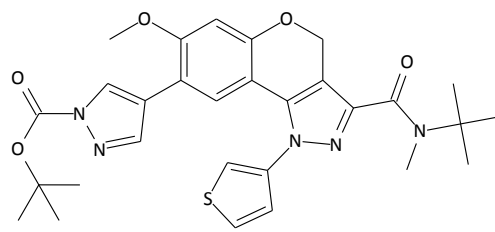
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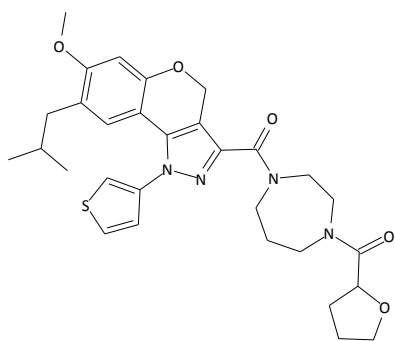
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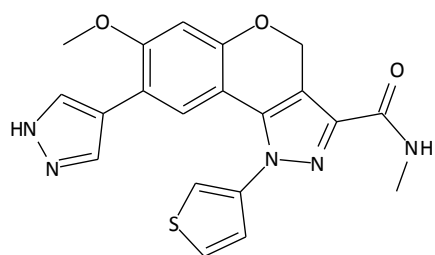
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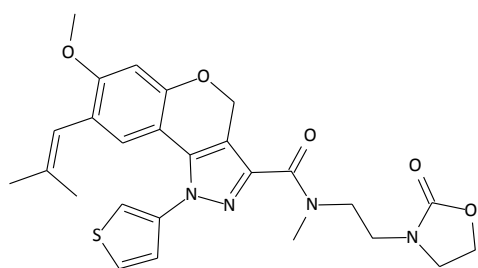
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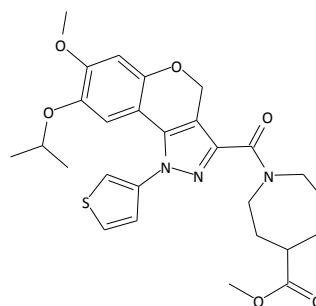
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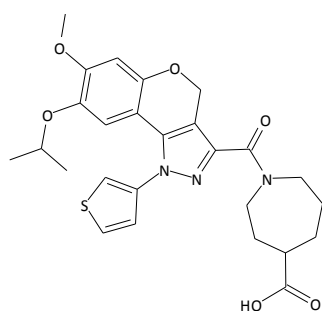
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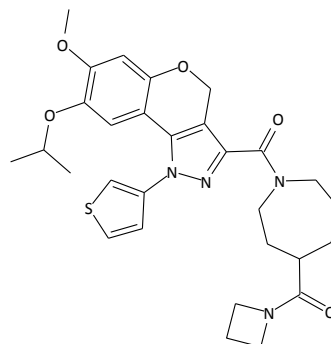
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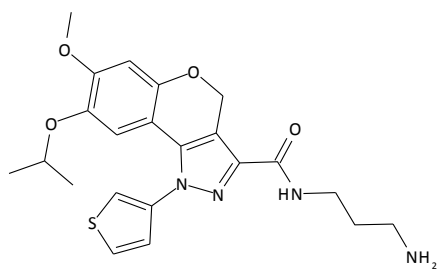
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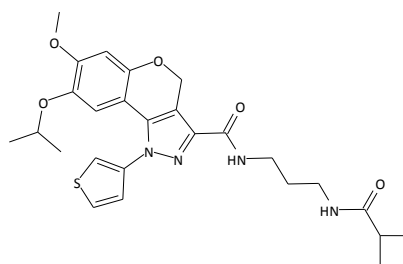
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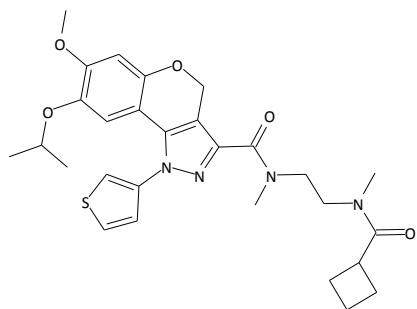
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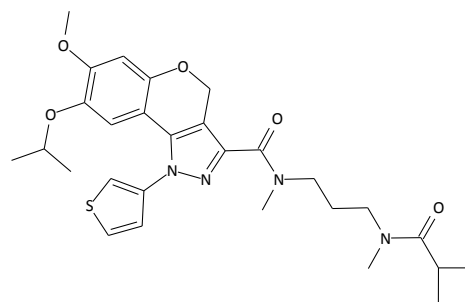
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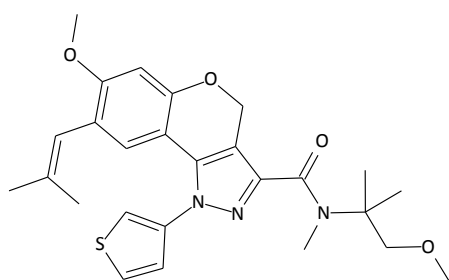
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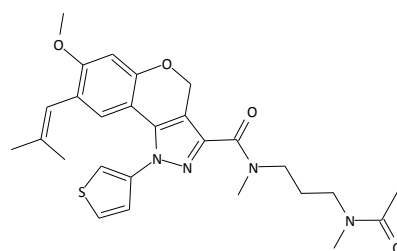
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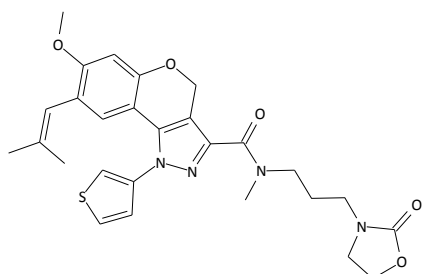
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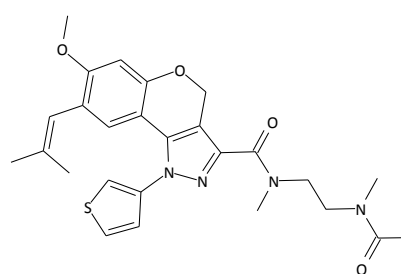
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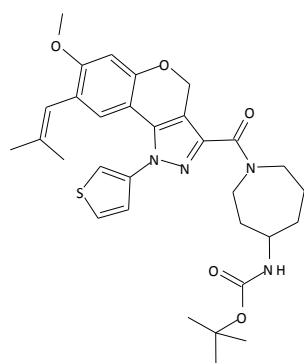
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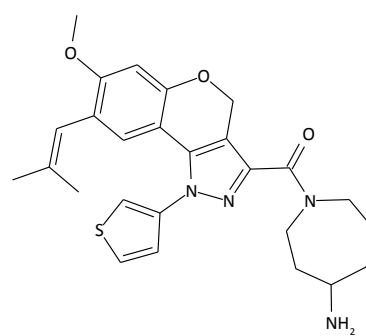
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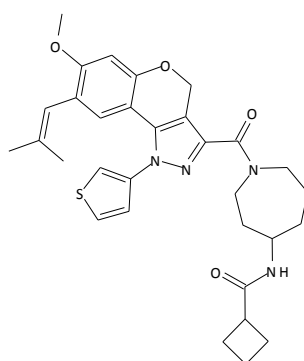
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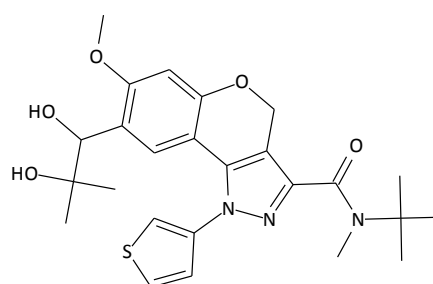
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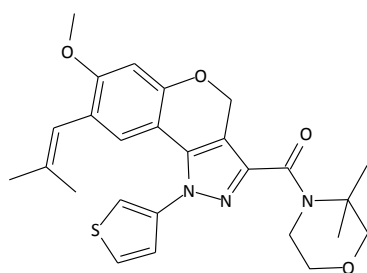
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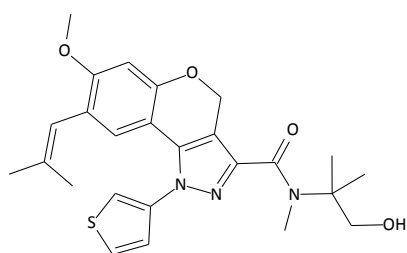
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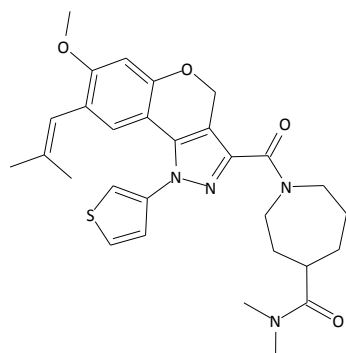
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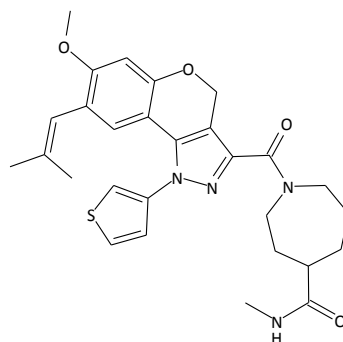
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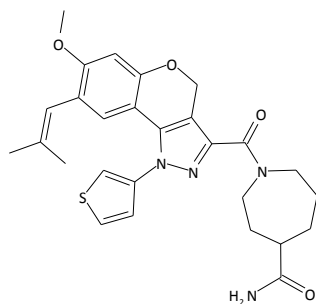
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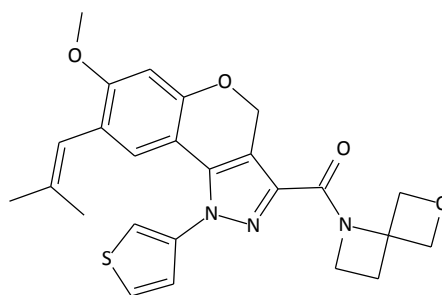
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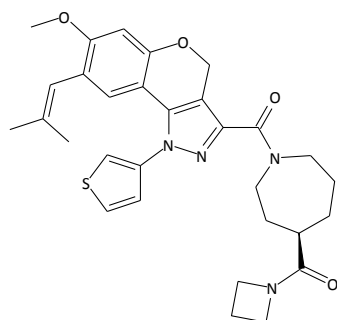
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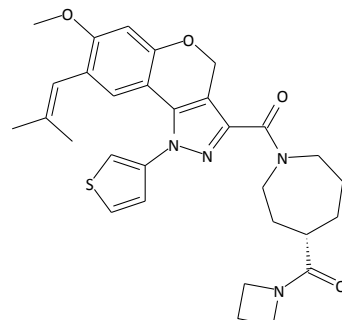
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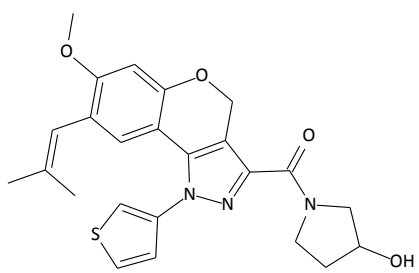
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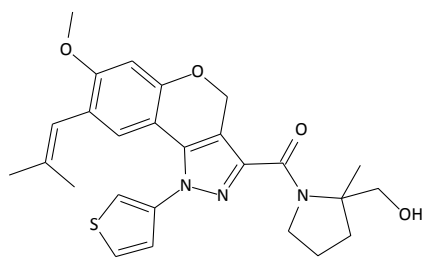
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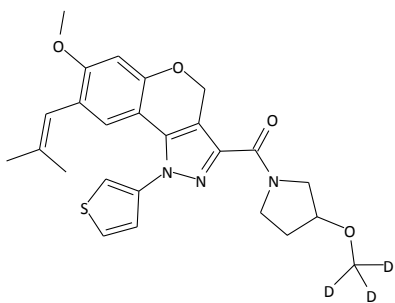
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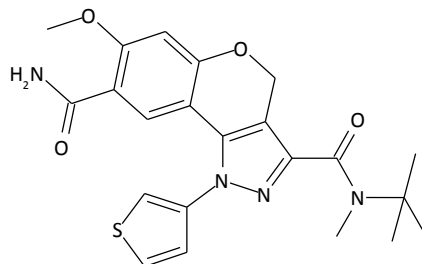
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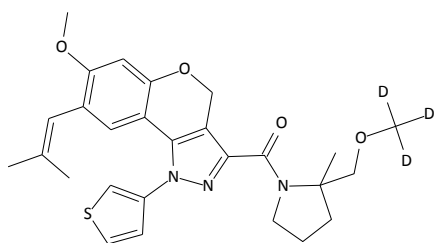
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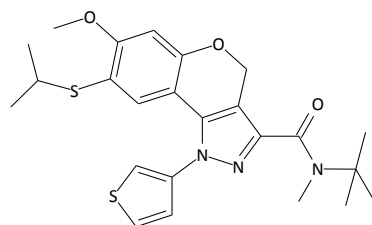
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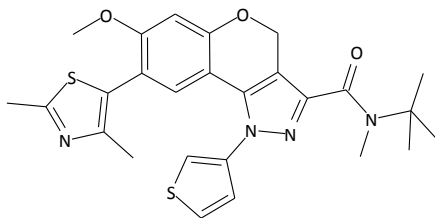
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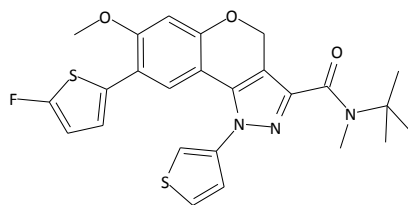
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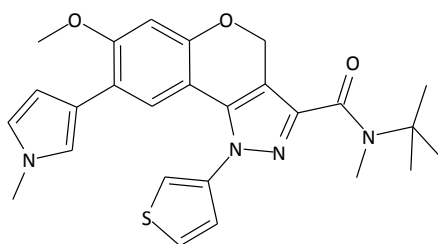
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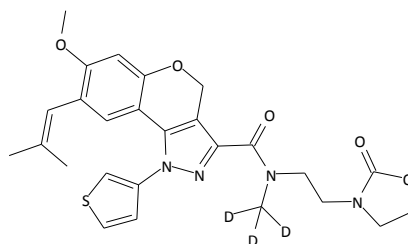
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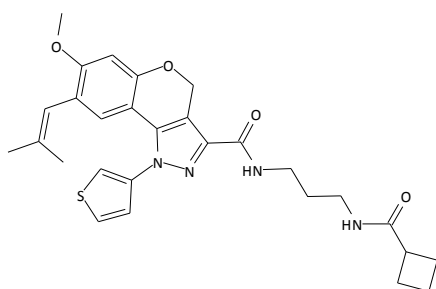
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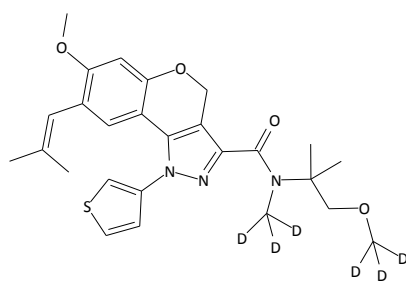
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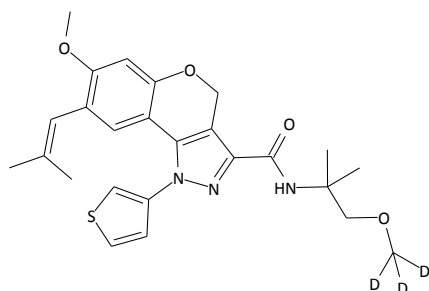
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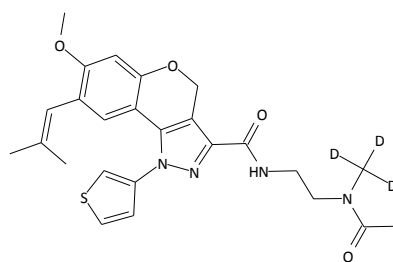
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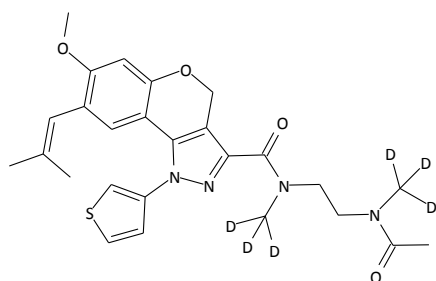
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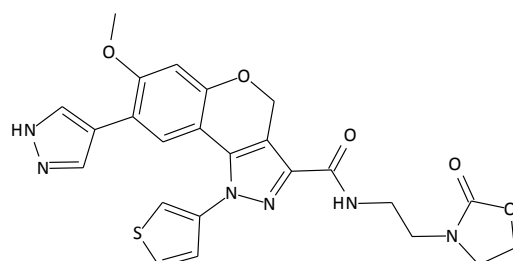
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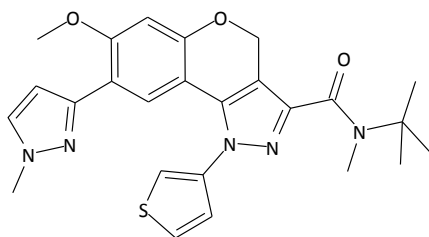
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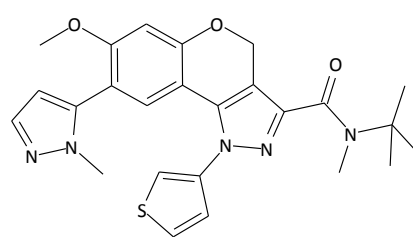
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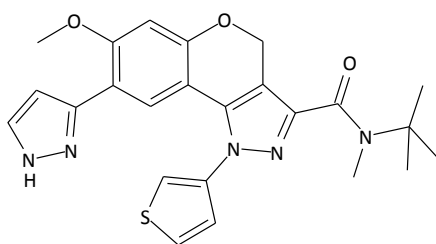
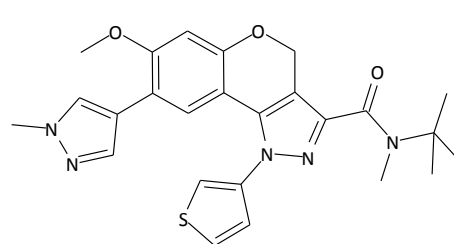
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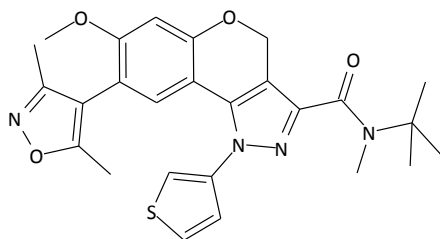
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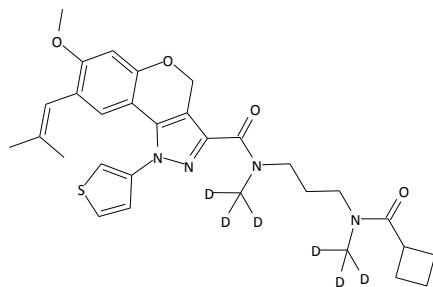
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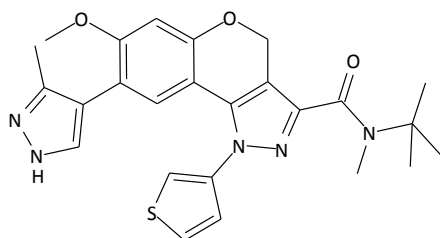
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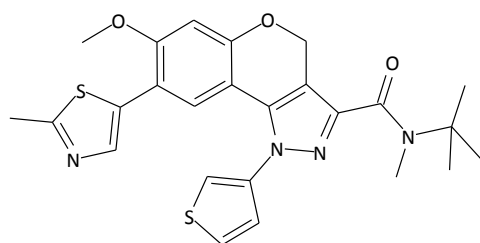
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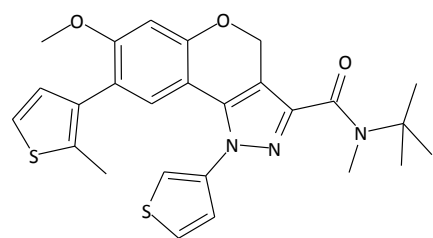
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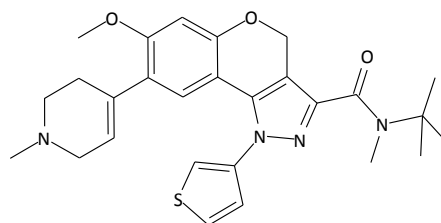
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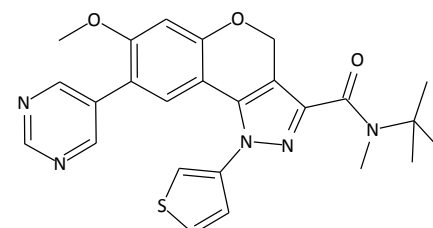
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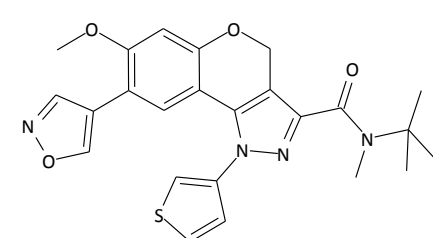
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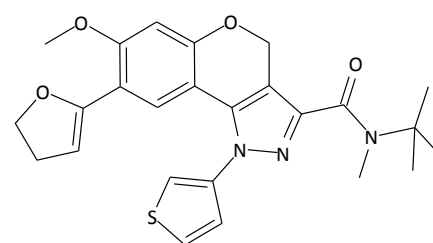
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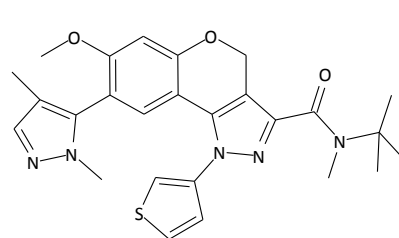
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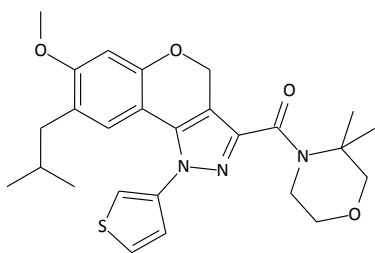
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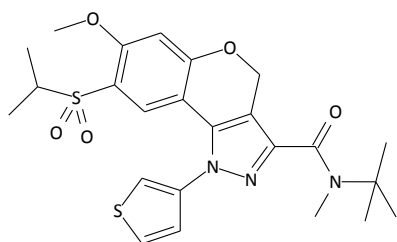
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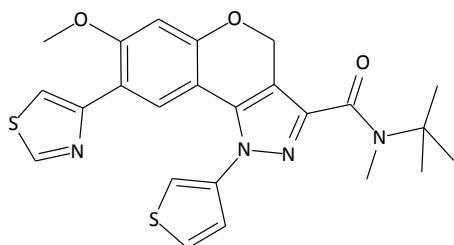
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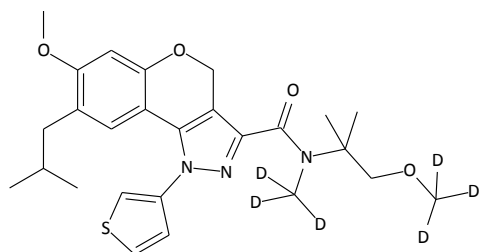
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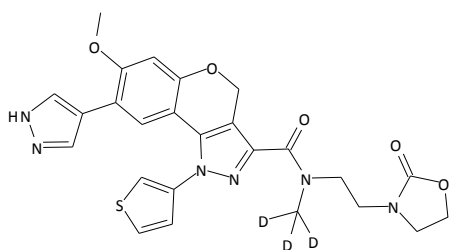
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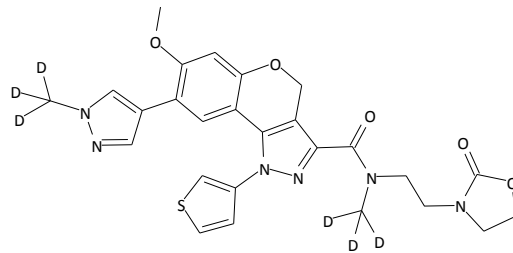
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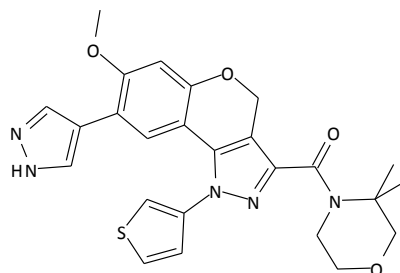
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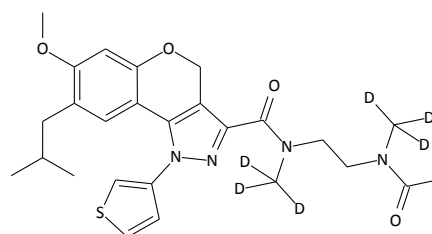
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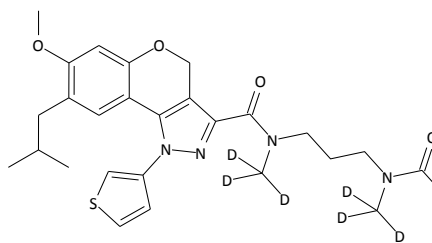
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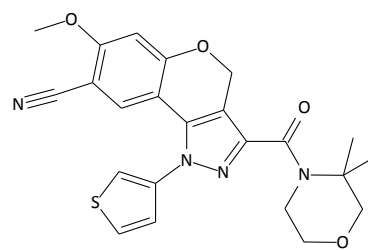
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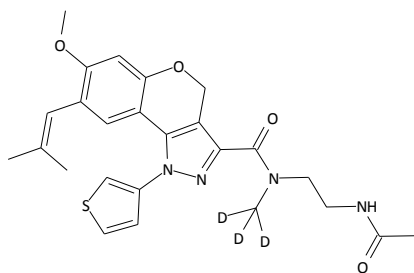
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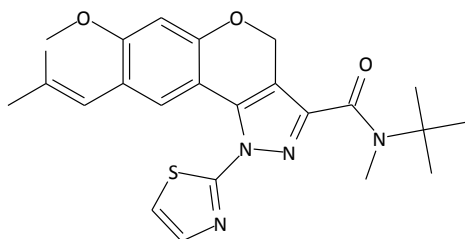
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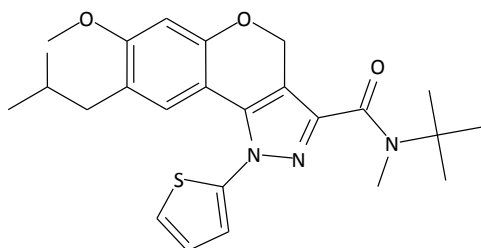
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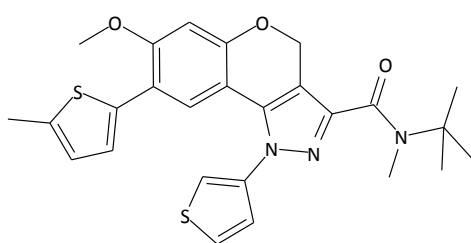
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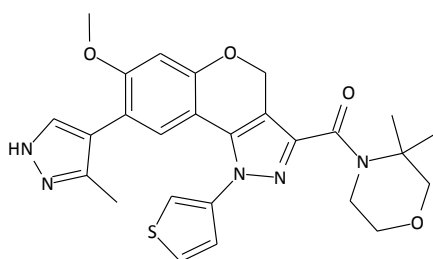
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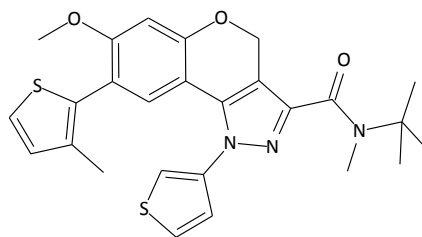
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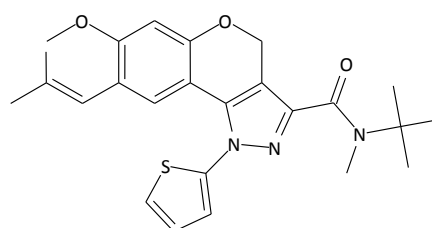
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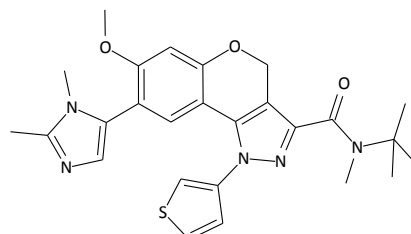
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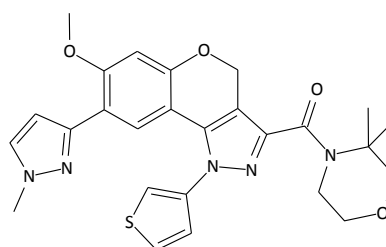
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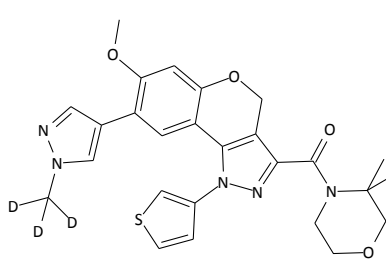
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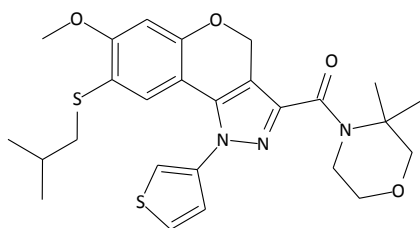
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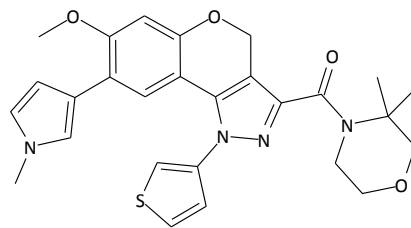
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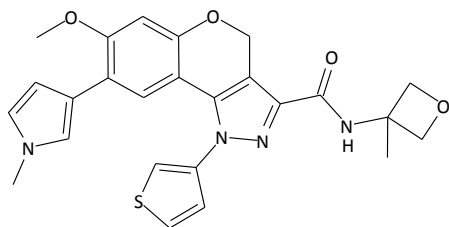
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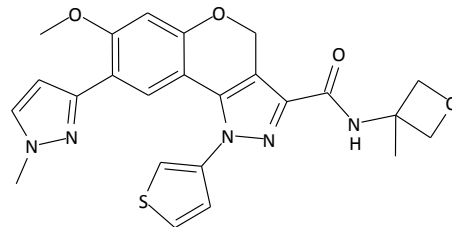
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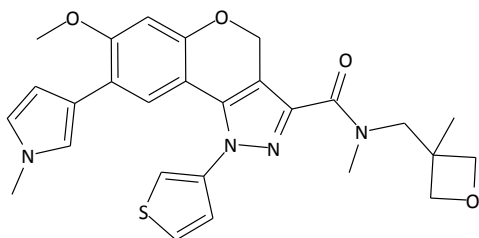
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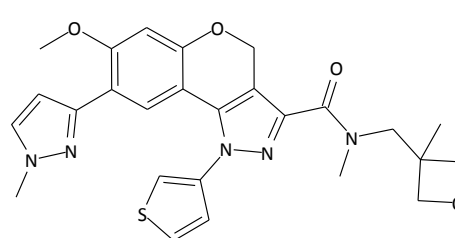
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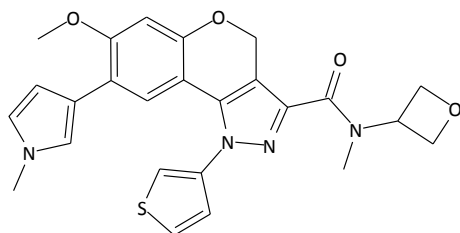
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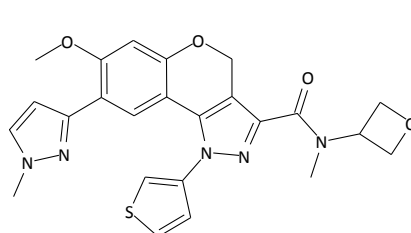
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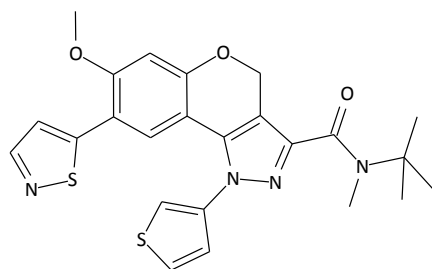
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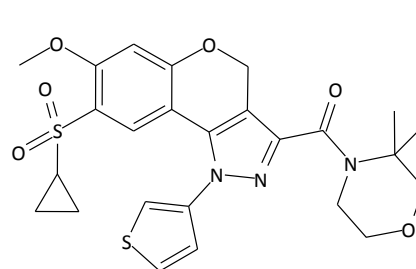
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103



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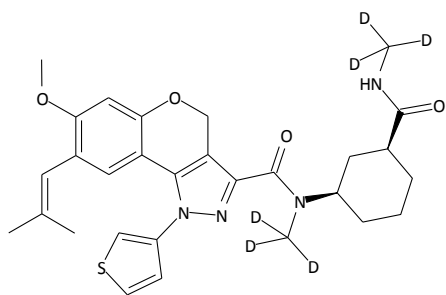


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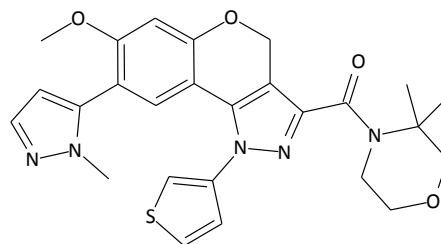


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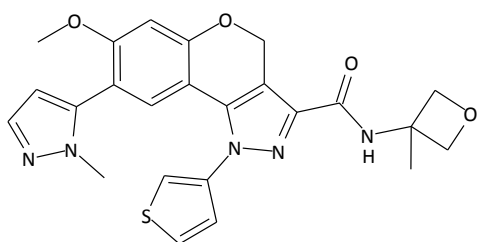




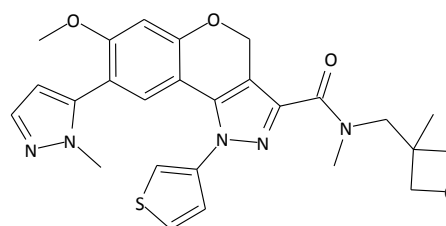
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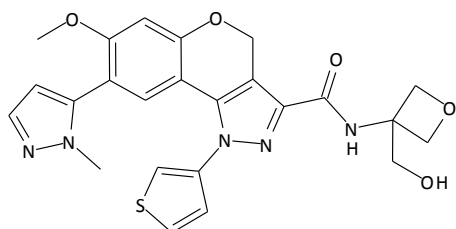
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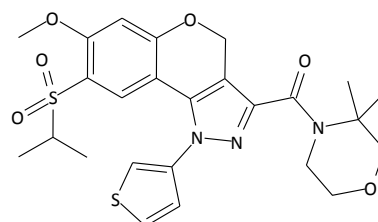
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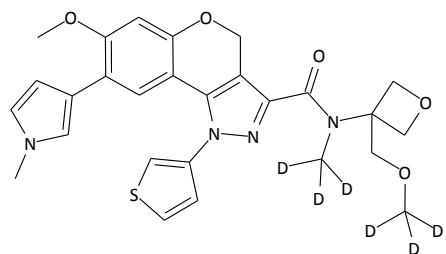
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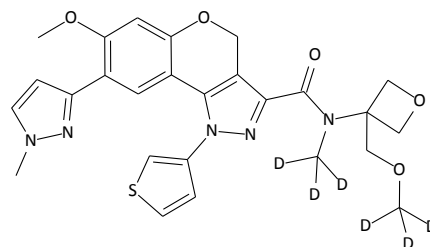
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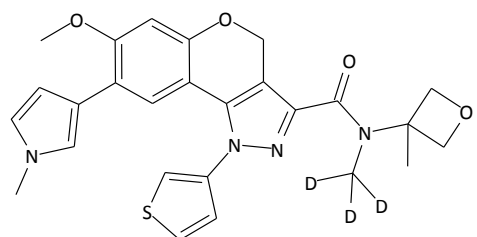
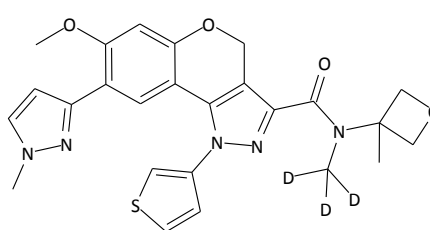
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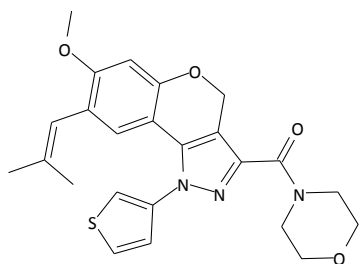
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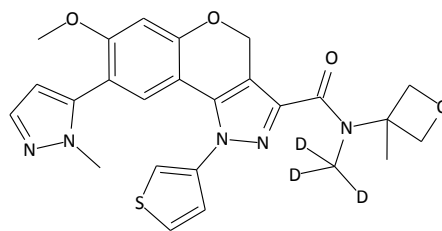
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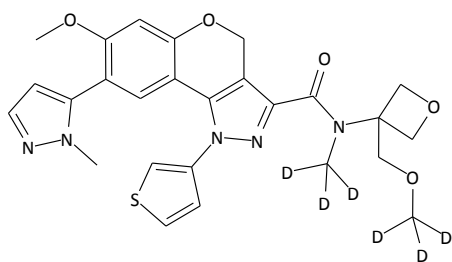
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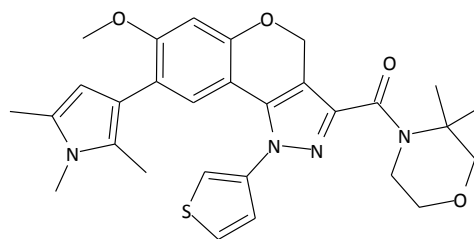
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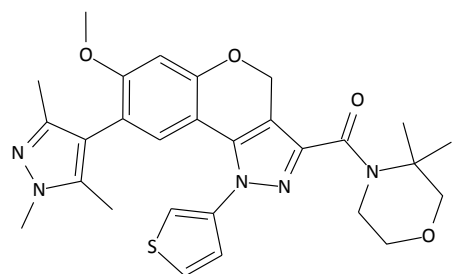
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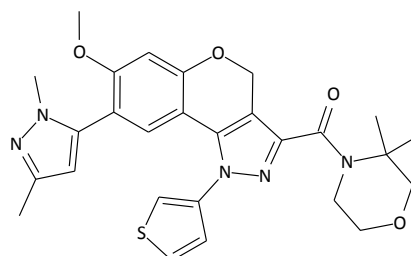
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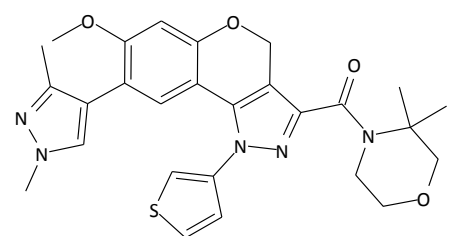
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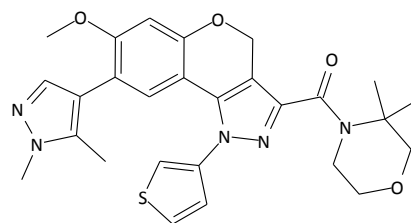
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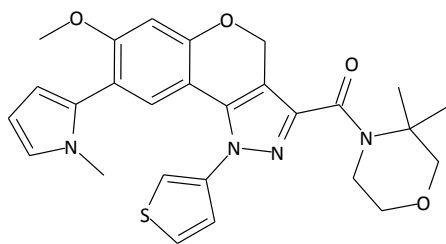


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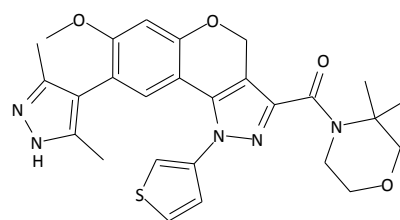


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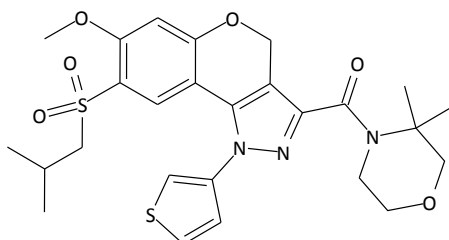
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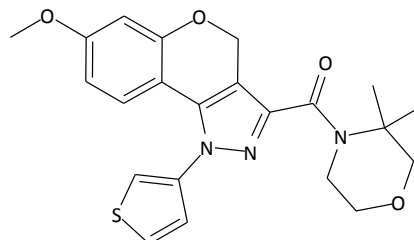
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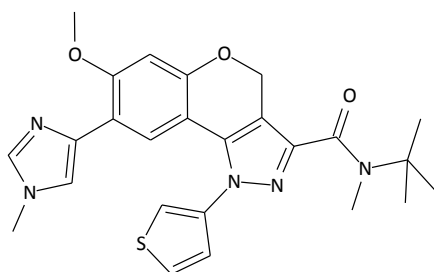
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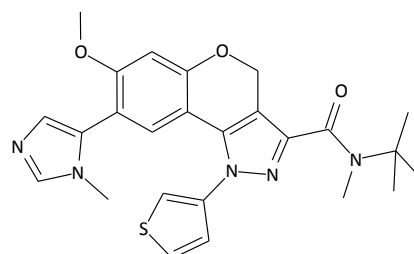
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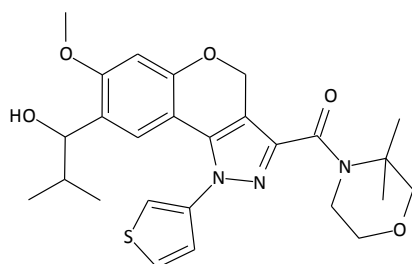
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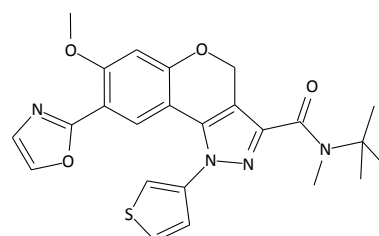
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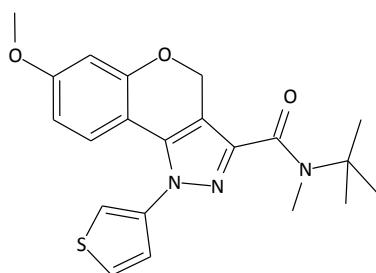
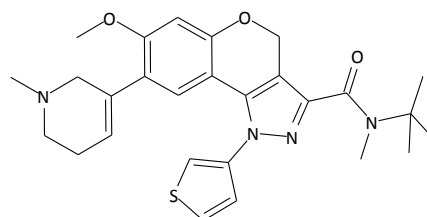
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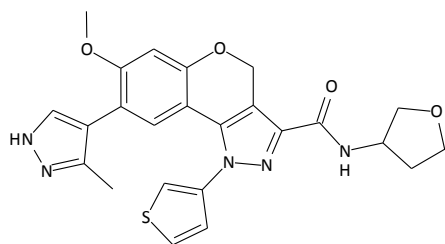
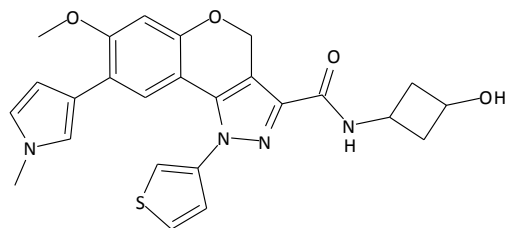
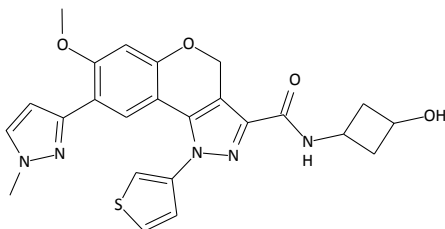
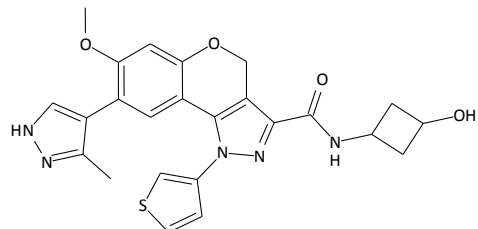
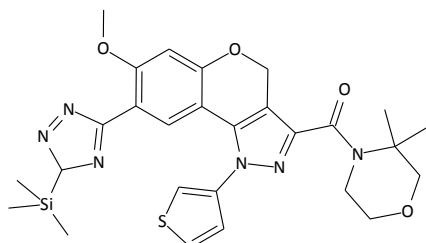
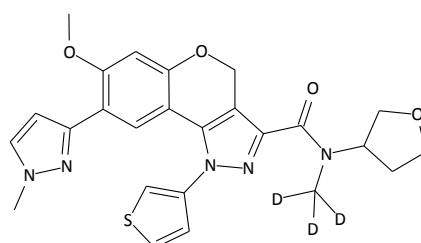
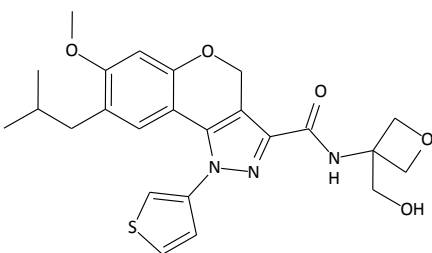
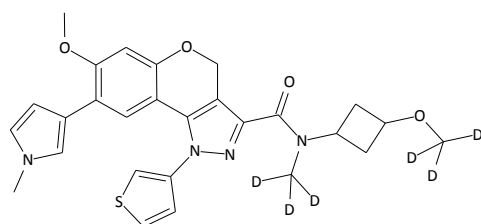
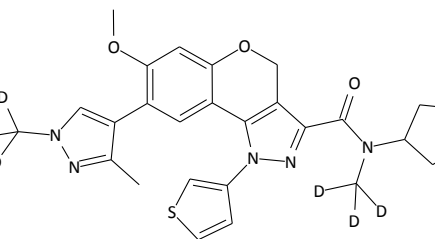
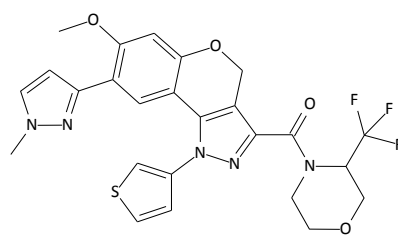


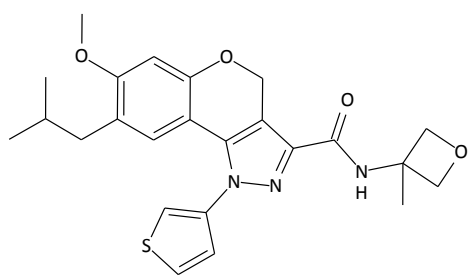
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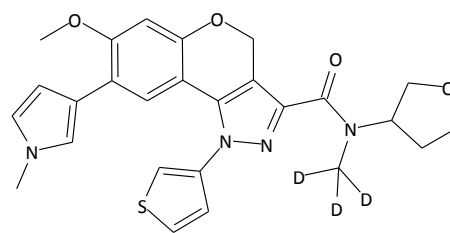
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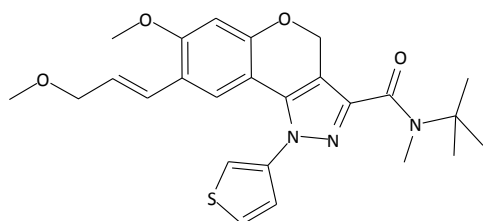
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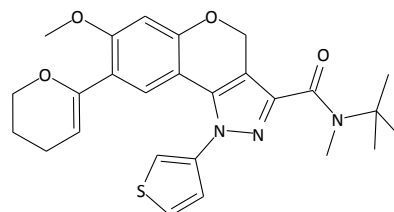
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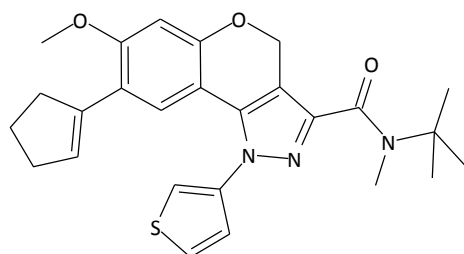
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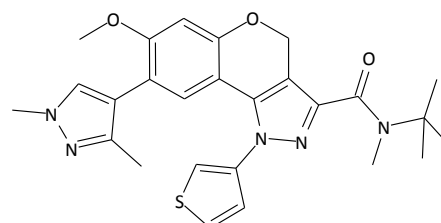
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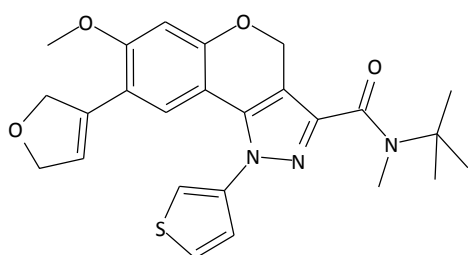
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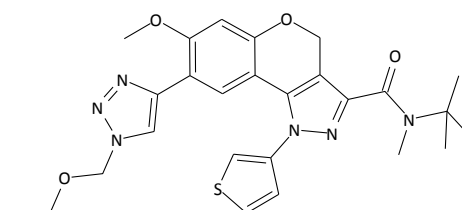
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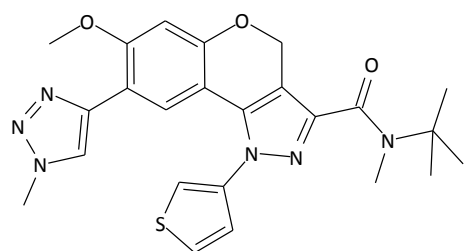
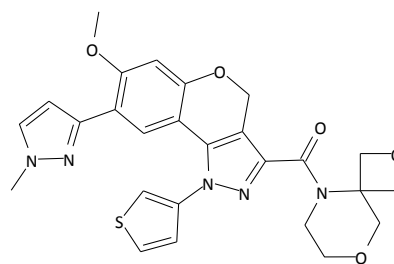
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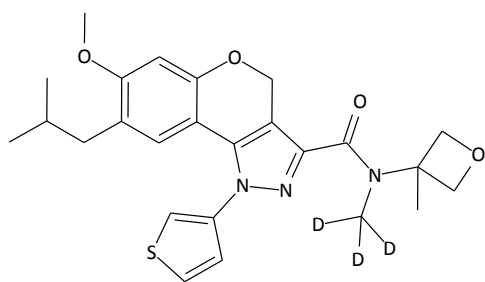


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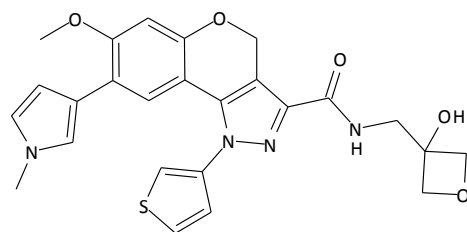


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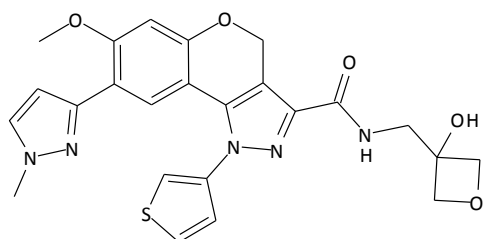




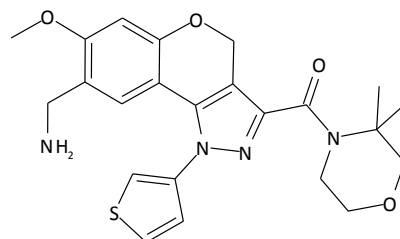
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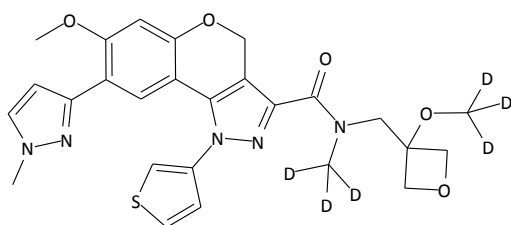
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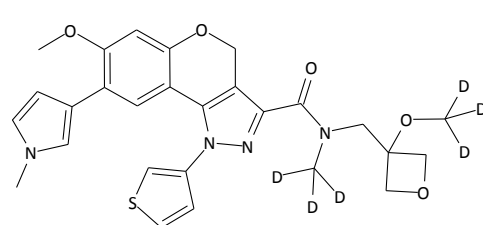
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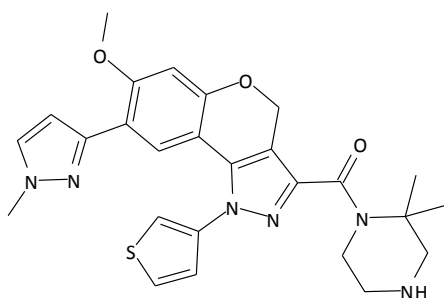
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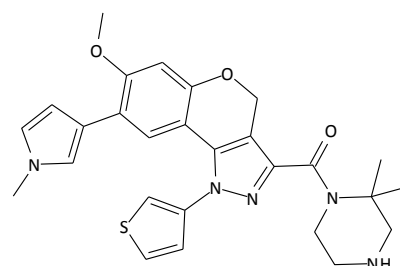
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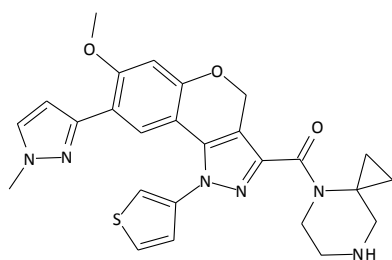
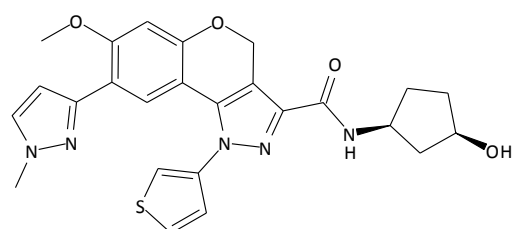
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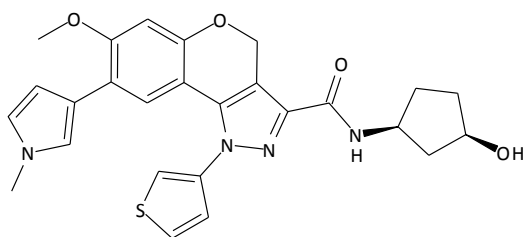
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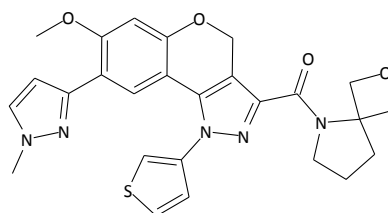
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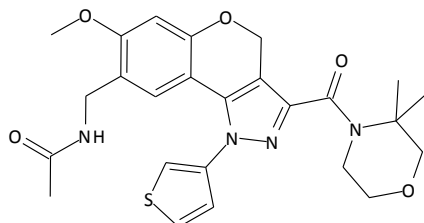
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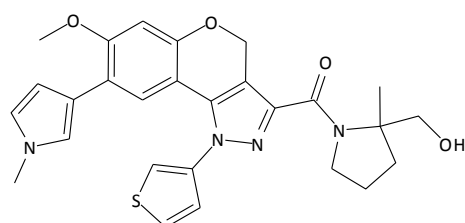
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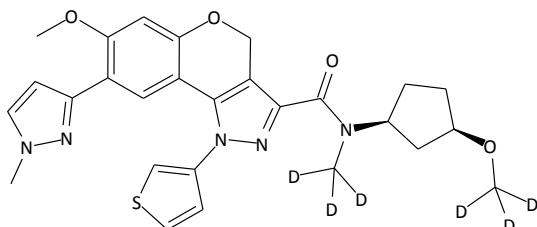
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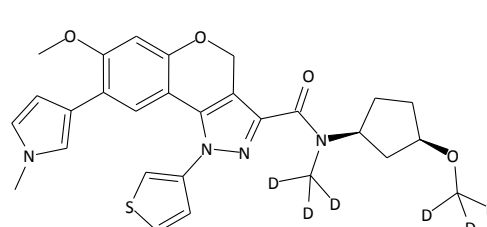
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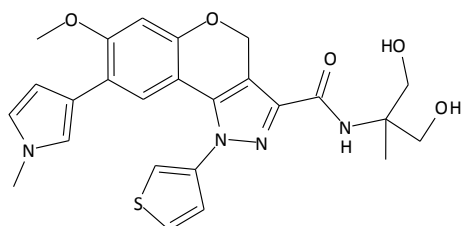
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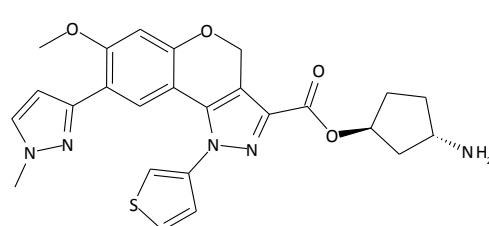
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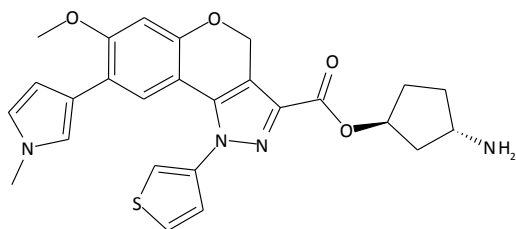
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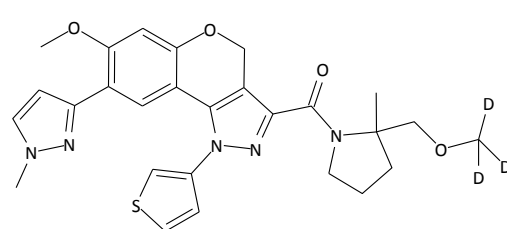
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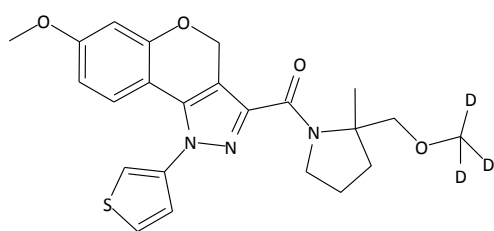


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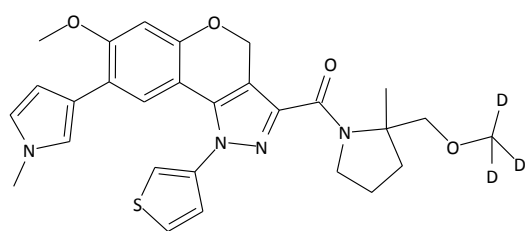


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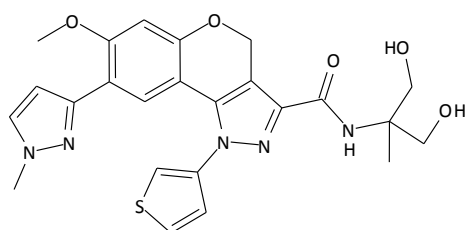




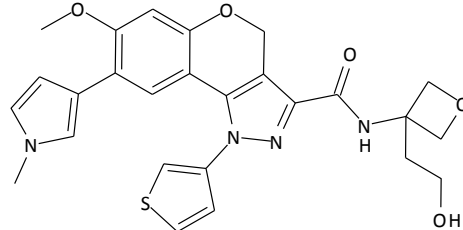
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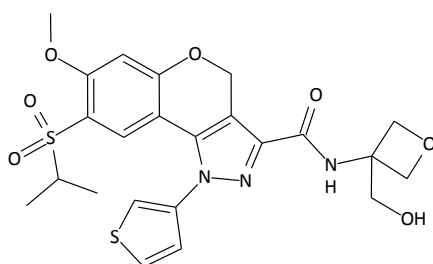
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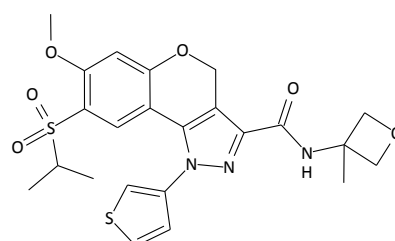
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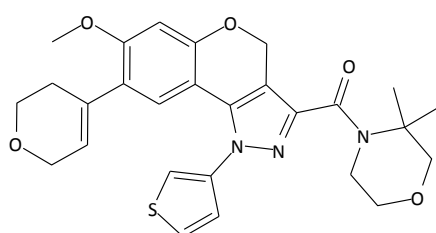
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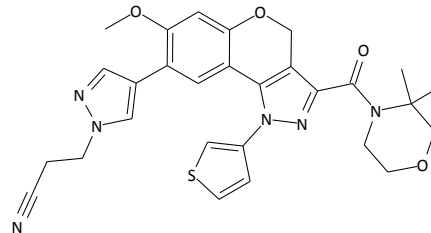
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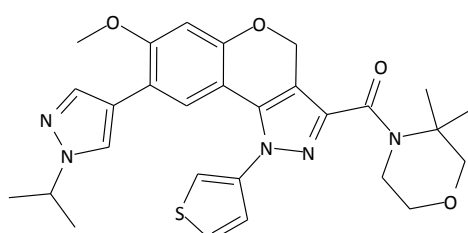
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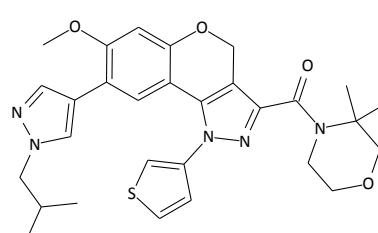
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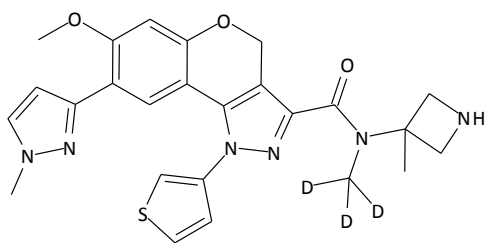
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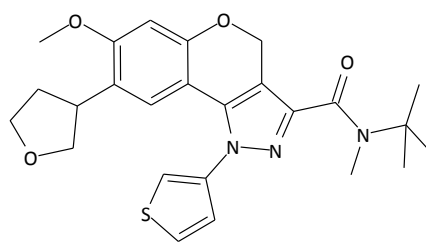
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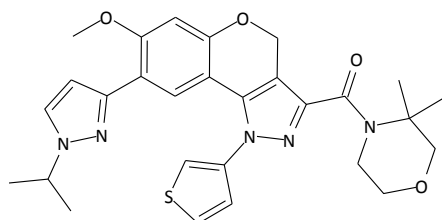
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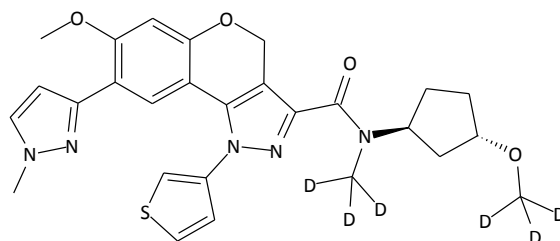
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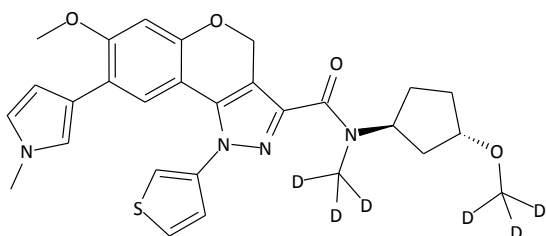
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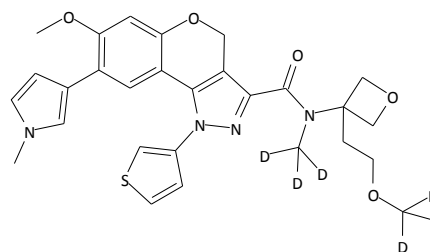
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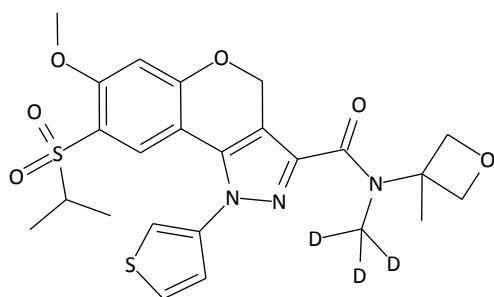
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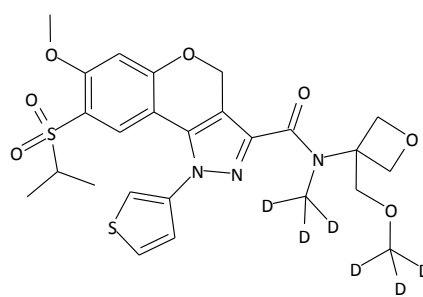
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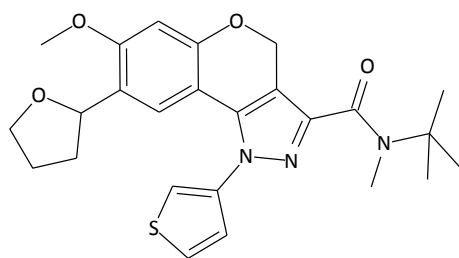
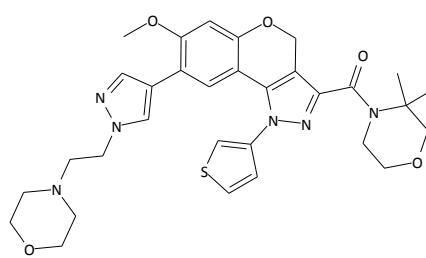
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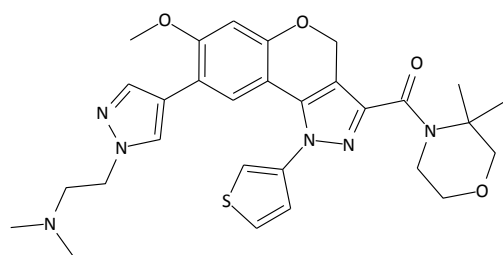
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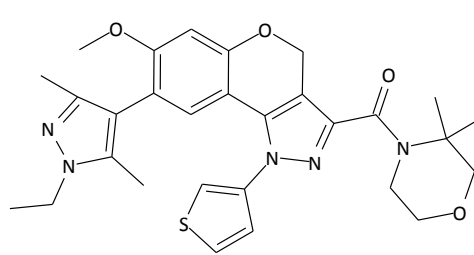
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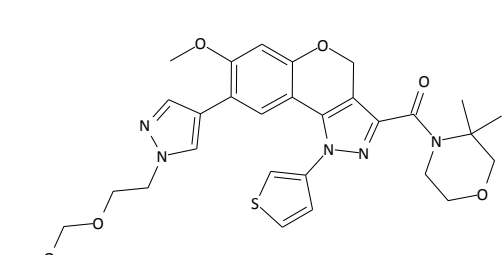
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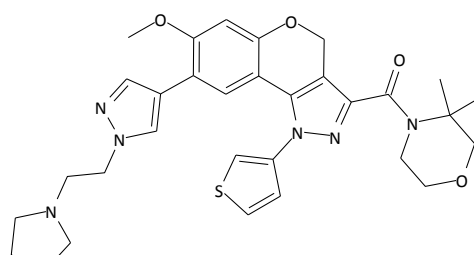
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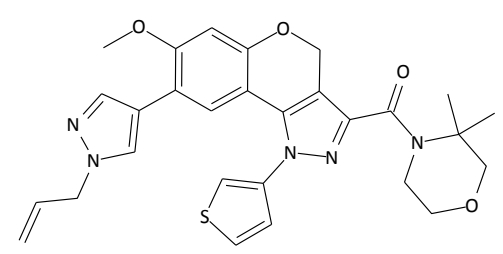
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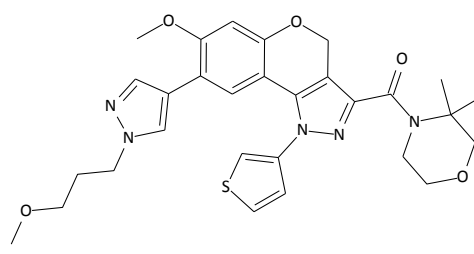
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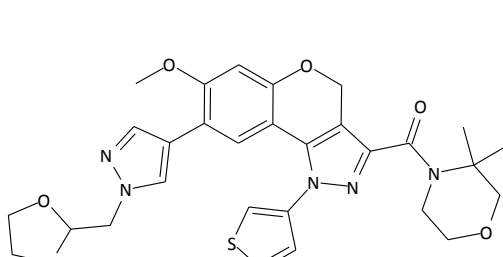
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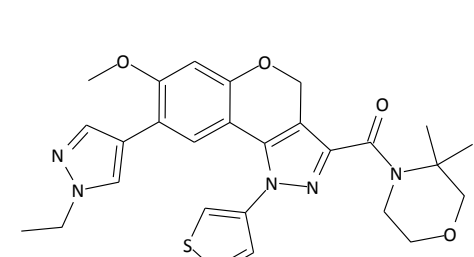
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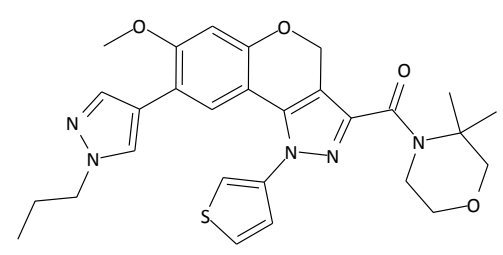
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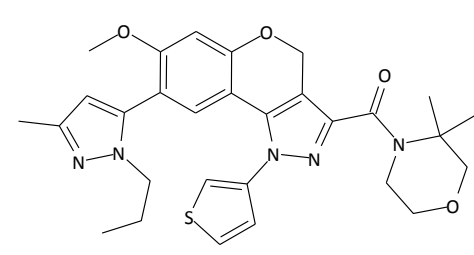
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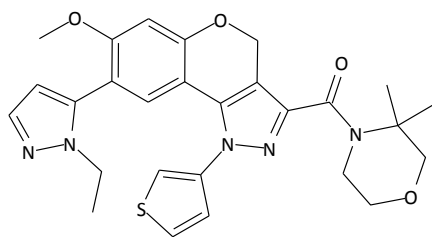
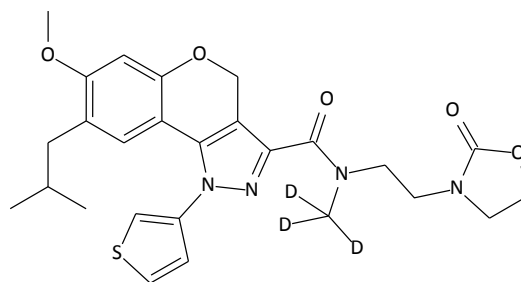
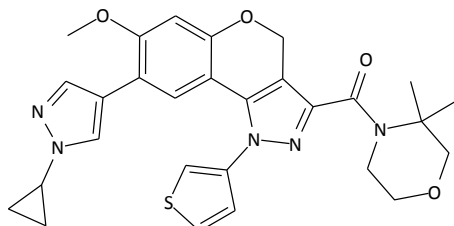
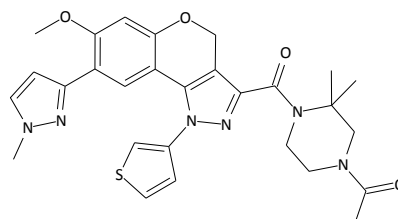
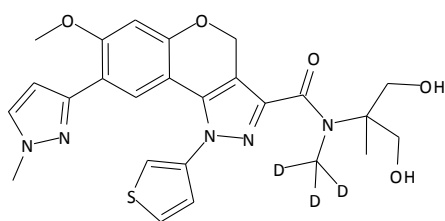
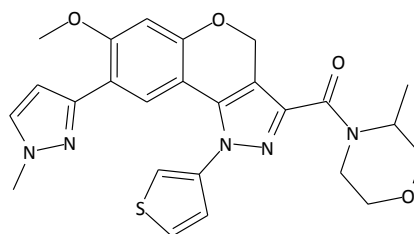


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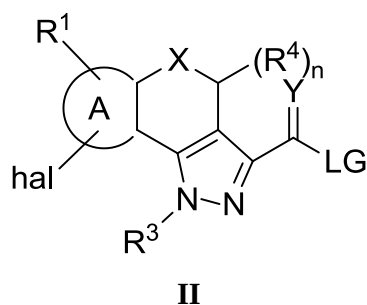


211**212****213****214****215****216****217****218**

14. A pharmaceutical composition comprising a compound of claim 1, and a pharmaceutically acceptable adjuvant, carrier, or vehicle.

15. A process for manufacturing a compound of formula I according to claim 1, comprising the steps of:

reacting a compound of formula (II)

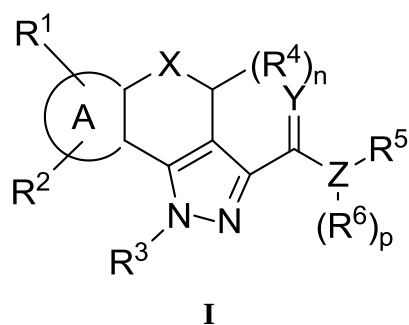


wherein X, Y, R¹, R³, R⁴, and n are as defined in claim 1, and LG is a leaving group;

with a compound of formula ZH(R⁵)(R⁶)_p

wherein Z, R⁵, R⁶, and p are as defined in claim 1;

to yield a compound of formula I:



wherein X, Y, Z, R¹, R², R³, R⁴, R⁵, R⁶, n, and p, are as defined in claim 1.