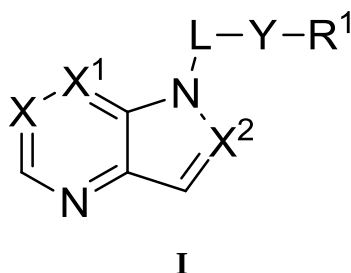


CLAIMS

We claim:

1. A compound of formula I,



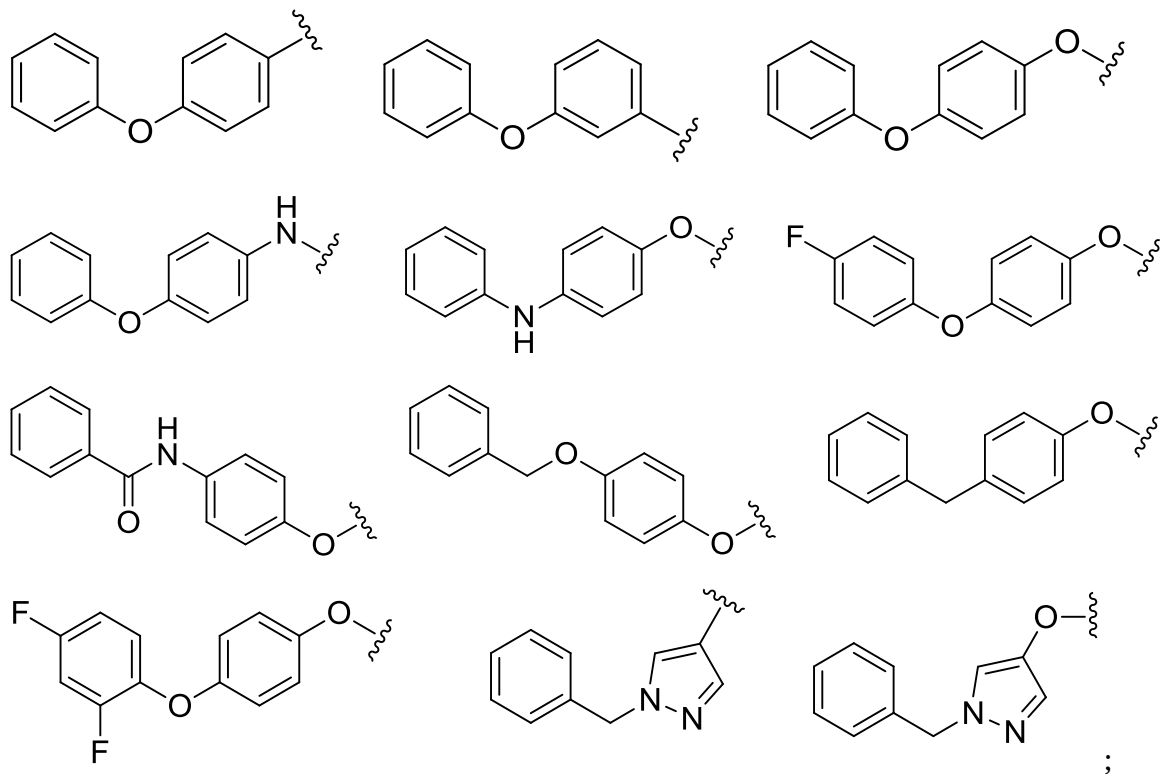
or a pharmaceutically acceptable salt thereof, wherein:

X is N;

X¹ is CR²;

X² is N or CR²;

each R² is independently hydrogen,



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

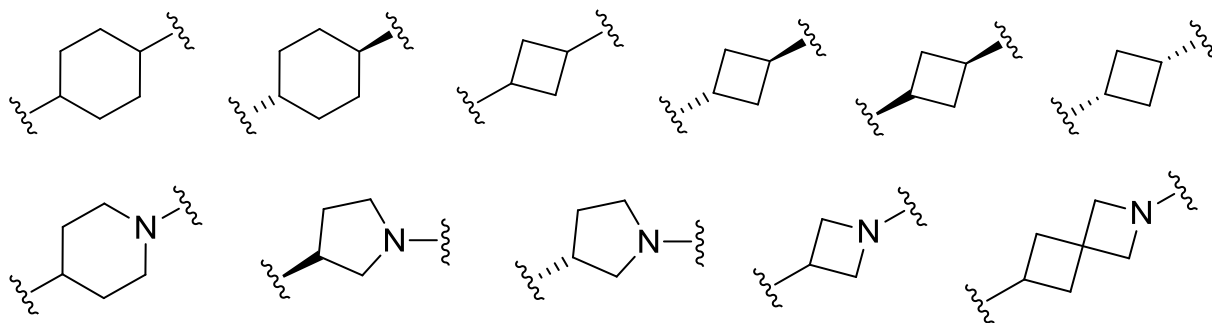
two R groups on the same atom are taken together with the atom to which they are attached to form a C₃₋₁₀ aryl, a 3-8 membered saturated or partially unsaturated carbocyclic ring, a 3-7 membered heterocyclic ring having 1-4 heteroatoms independently selected from nitrogen, oxygen, or sulfur, or a 5-6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

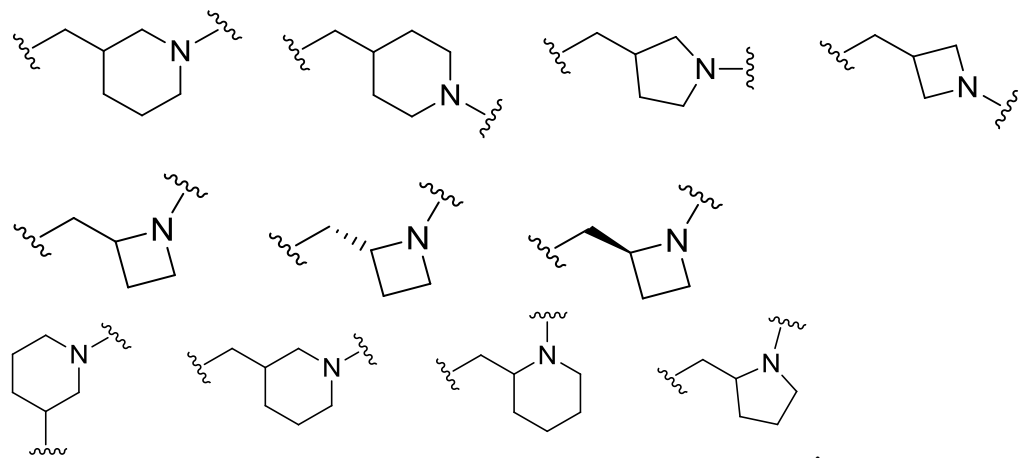
L is a divalent group selected from a 3-8 membered saturated or partially unsaturated carbocyclic ring, a 3-7 membered heterocyclic ring having 1-4 heteroatoms independently selected from nitrogen, oxygen, or sulfur, each of which is optionally substituted; or L is a divalent group selected from C₁₋₆ aliphatic-3-8 membered saturated or partially unsaturated carbocyclic ring, C₁₋₆ aliphatic-3-7 membered heterocyclic ring having 1-4 heteroatoms independently selected from nitrogen, oxygen, or sulfur, each of which is optionally substituted;

Y is O, S, SO₂, SO, C(O), CO₂, C(O)N(R), -NRC(O), -NRC(O)N(R), -NRSO₂, or N(R); or Y is absent; and

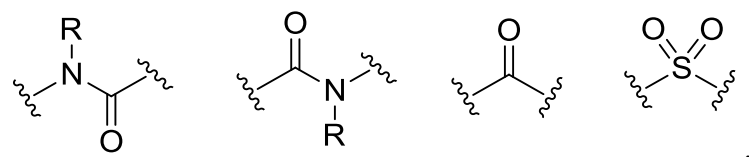
R¹ is C₁₋₆ aliphatic, C₃₋₁₀ aryl, a 3-8 membered saturated or partially unsaturated carbocyclic ring, a 3-7 membered heterocyclic ring having 1-4 heteroatoms independently selected from nitrogen, oxygen, or sulfur, or a 5-6 membered monocyclic heteroaryl ring having 1-4 heteroatoms independently selected from nitrogen, oxygen, or sulfur; each of which is optionally substituted; or R¹ is CN.

2. The compound of claim 1, wherein L is



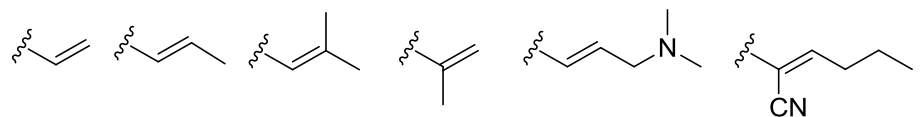


3. The compound of claim 1, wherein Y is NR,

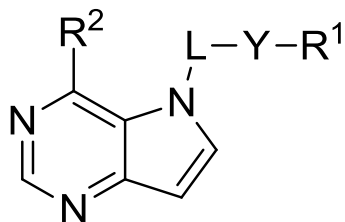


4. The compound of claim 1, wherein Y is absent.

5. The compound of claim 1, wherein R¹ is -CN, -CH₂CN,



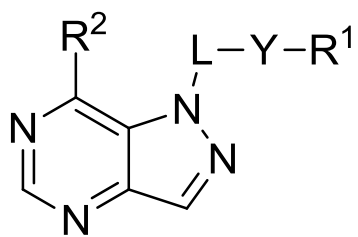
6. The compound of claim 1, of formula **I-a1**,



I-a1;

or a pharmaceutically acceptable salt thereof.

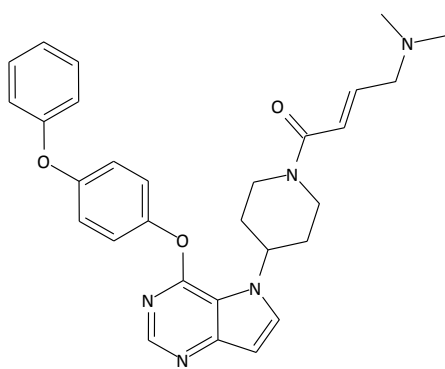
7. The compound of claim 1, of formula **I-a2**,



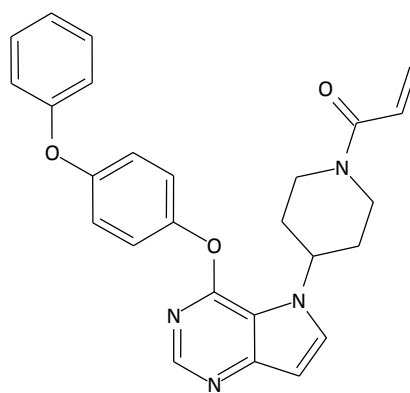
I-a2;

or a pharmaceutically acceptable salt thereof.

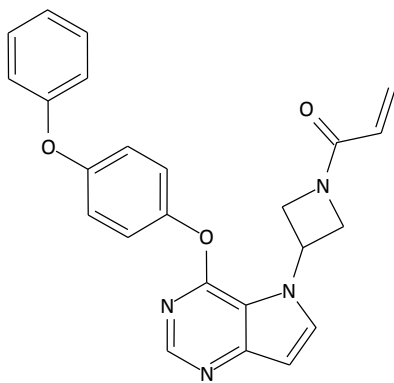
8. The compound of claim 1, selected from Table 1.



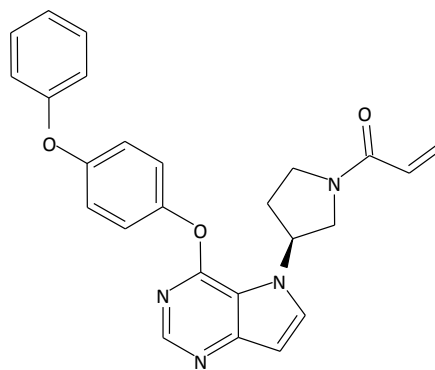
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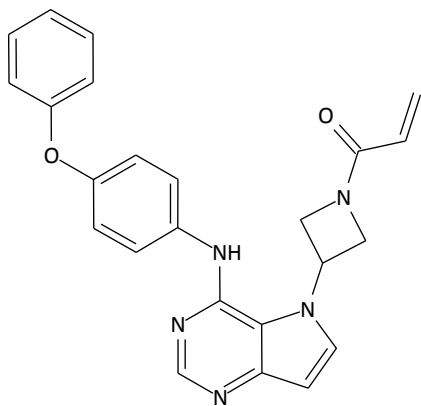
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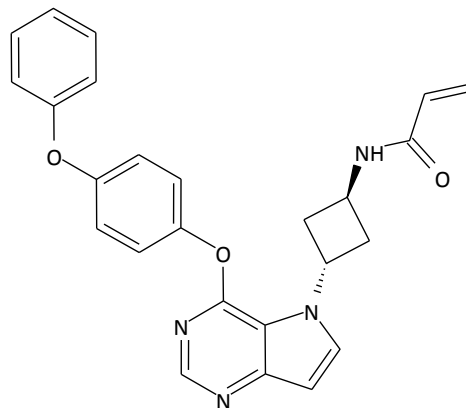
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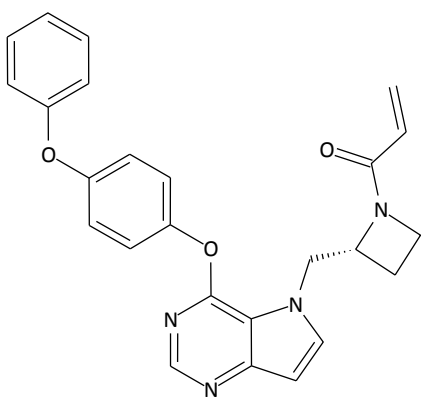
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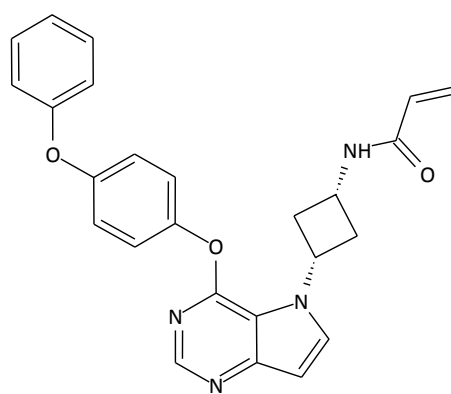
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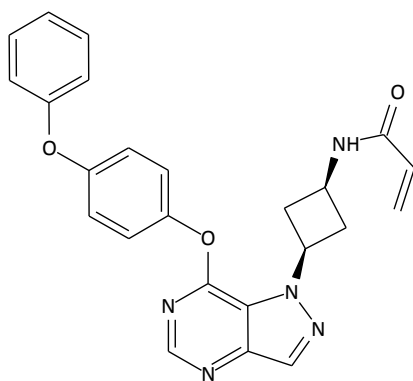
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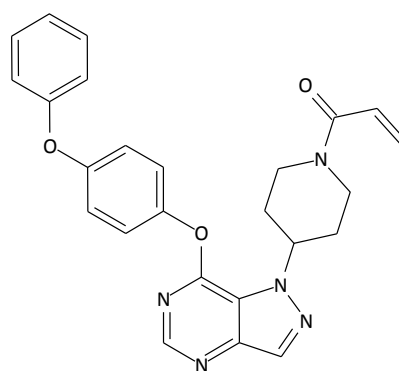
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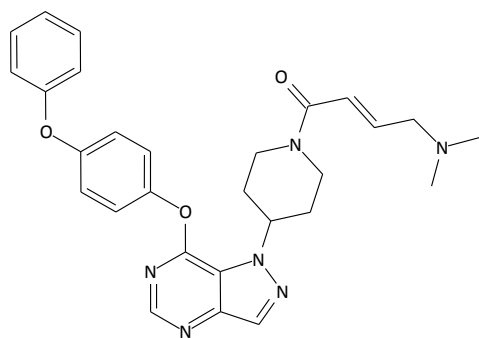
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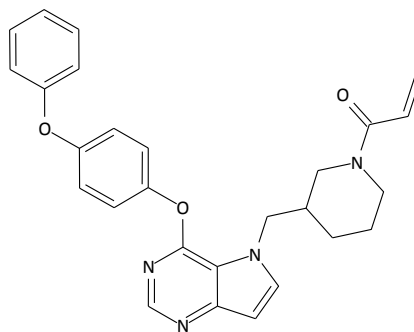
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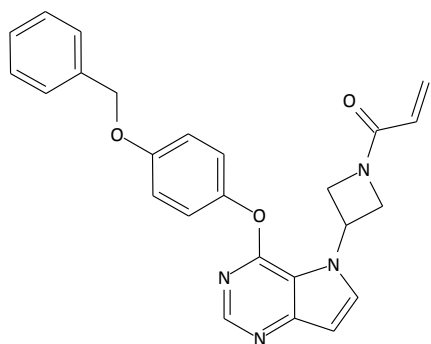
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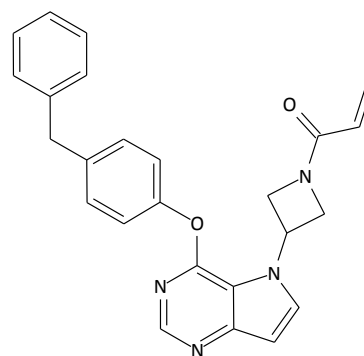
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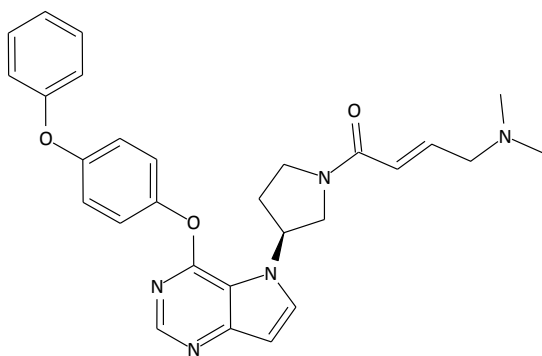
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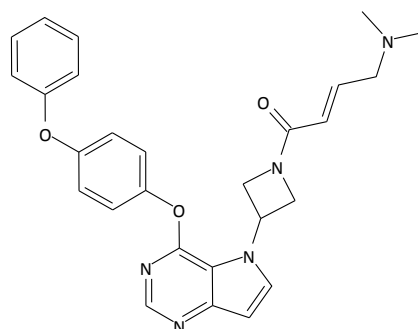
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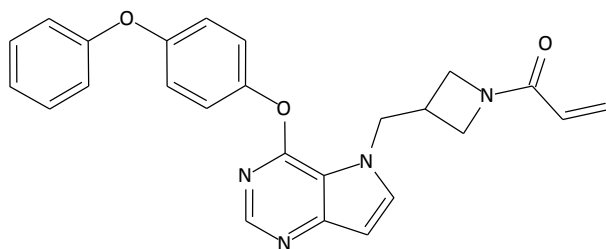
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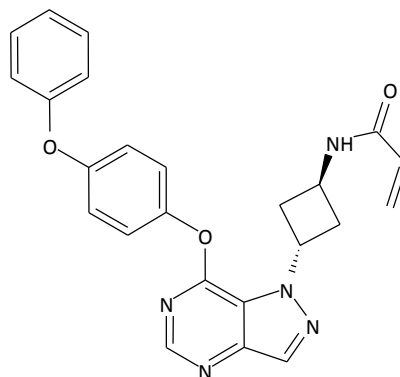
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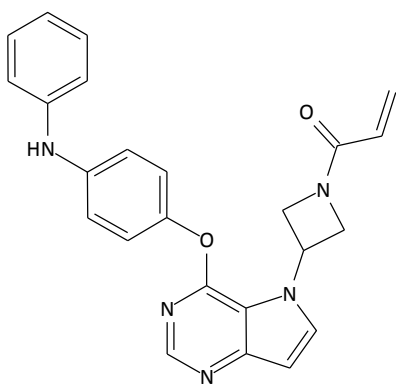
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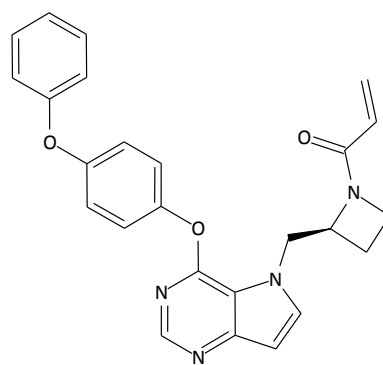
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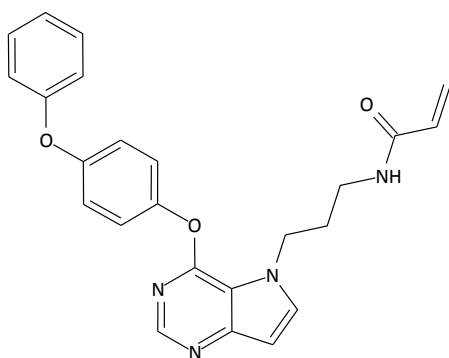
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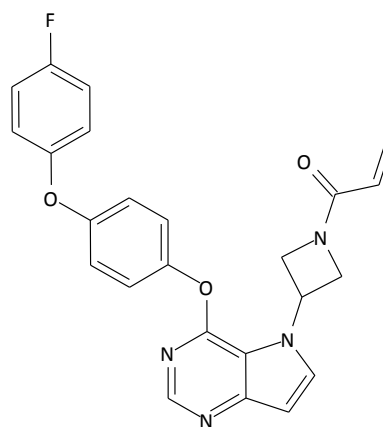
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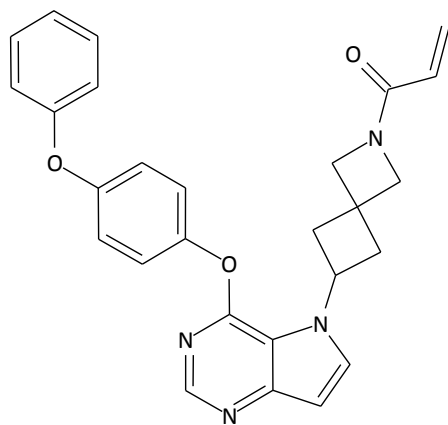
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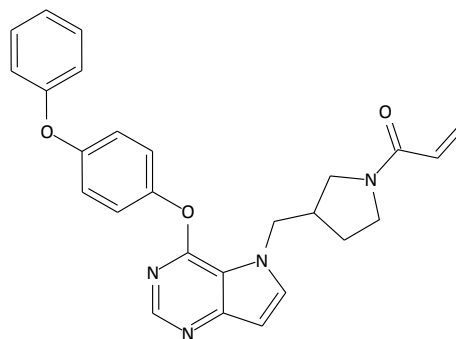
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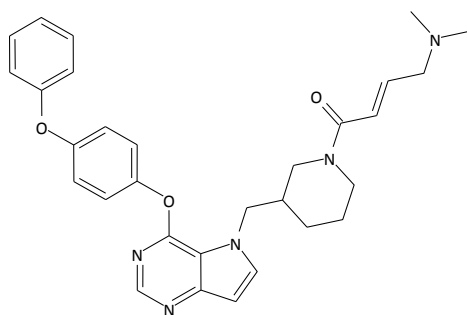
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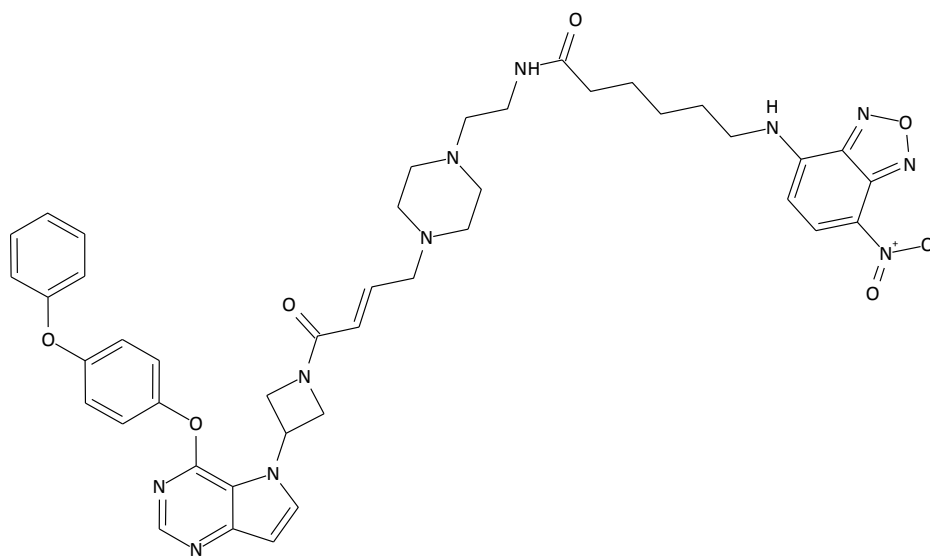
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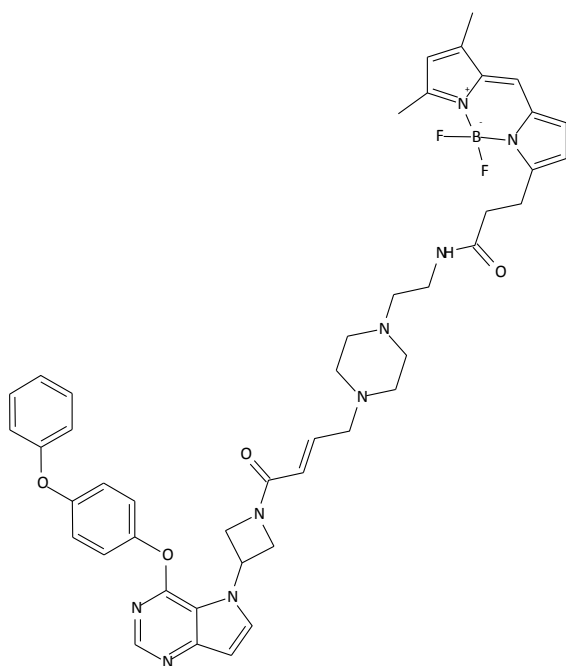
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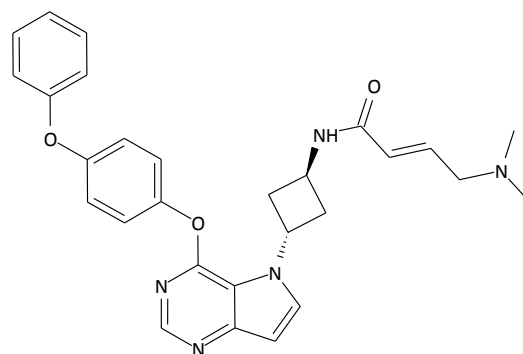
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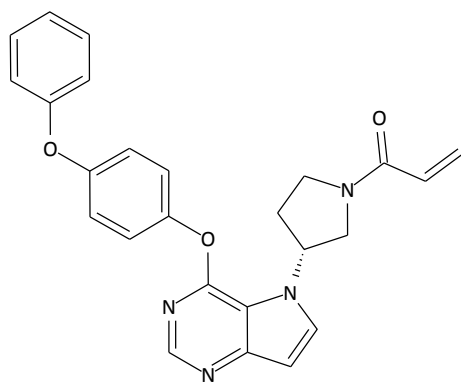
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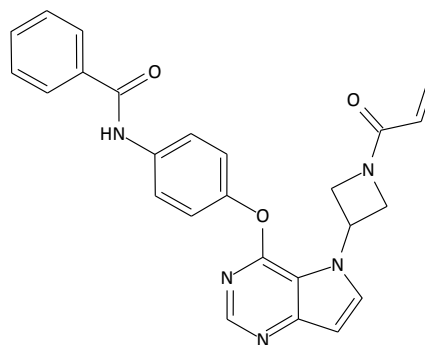
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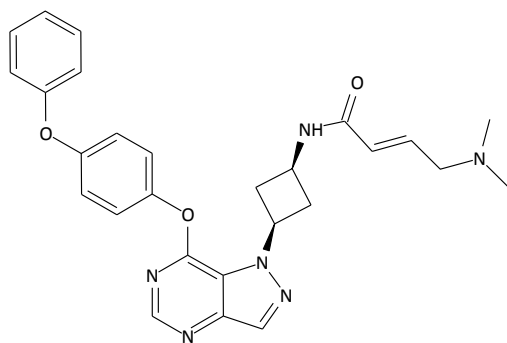
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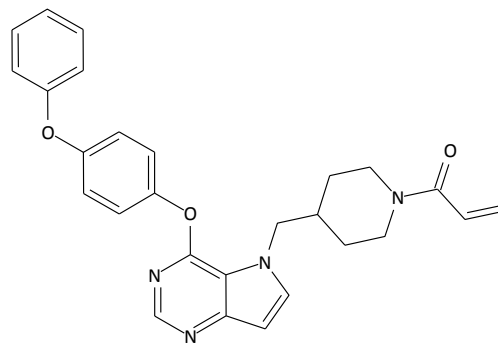
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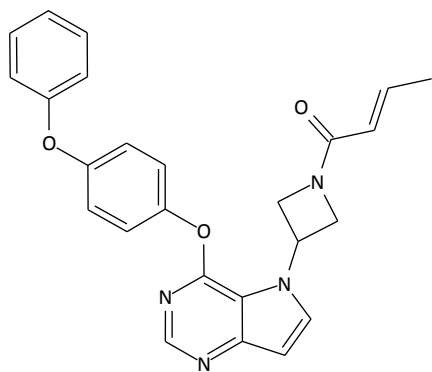
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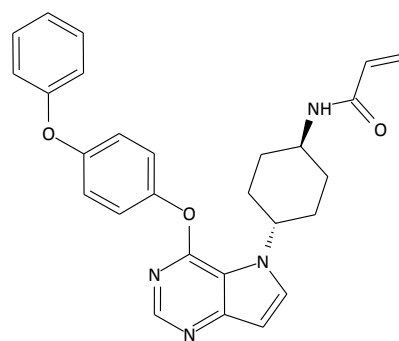
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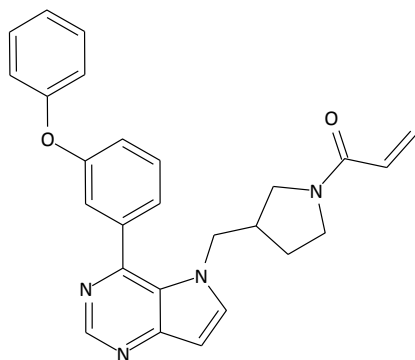
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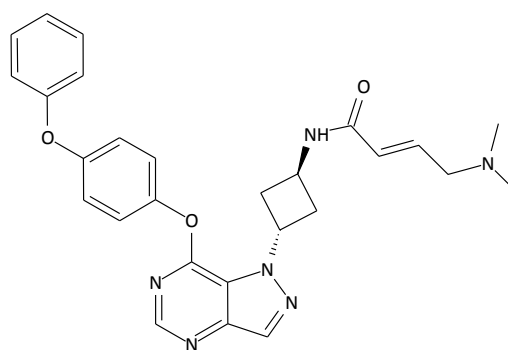
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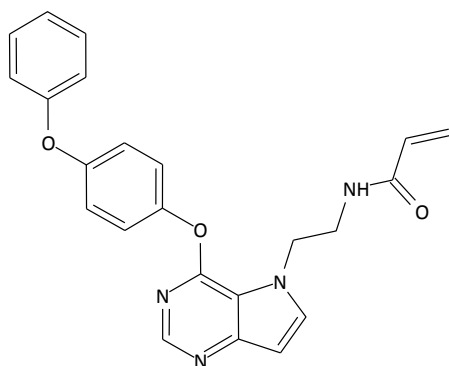
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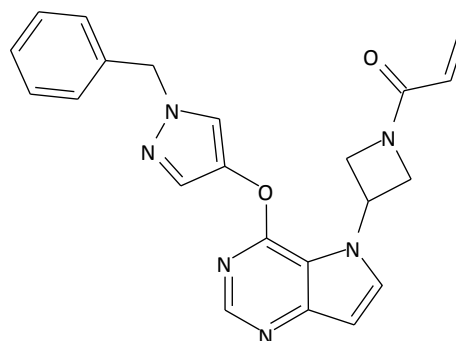
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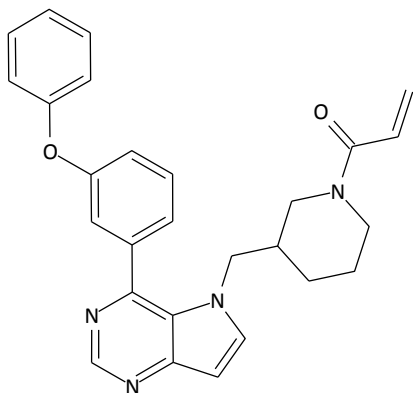
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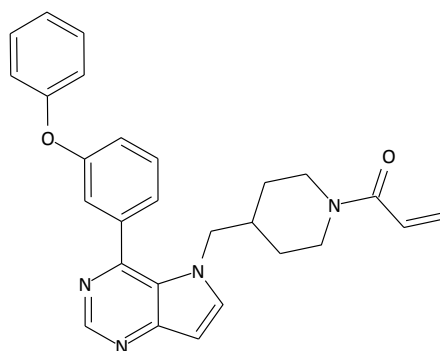
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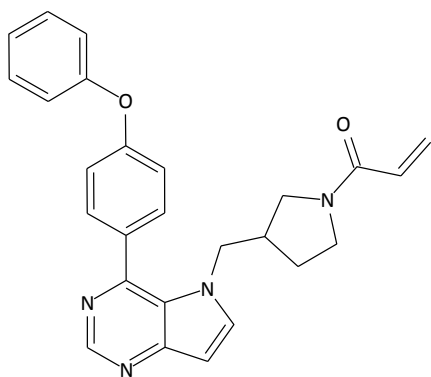
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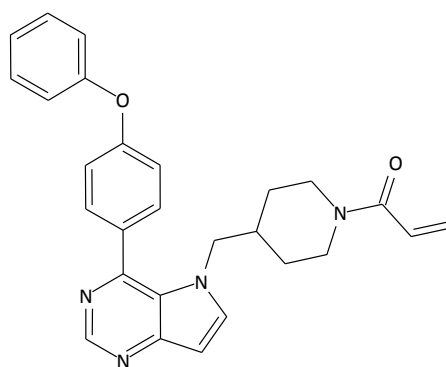
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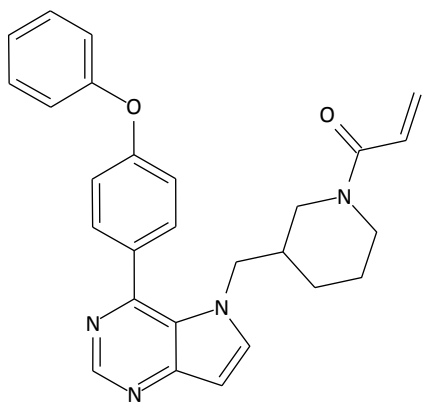
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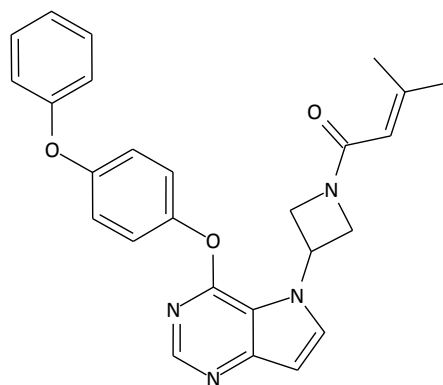
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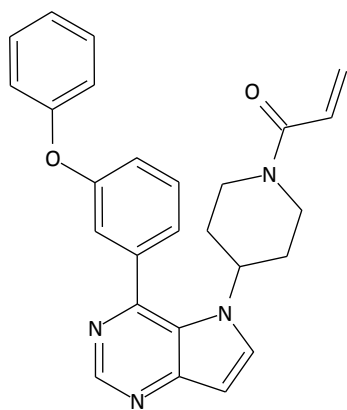
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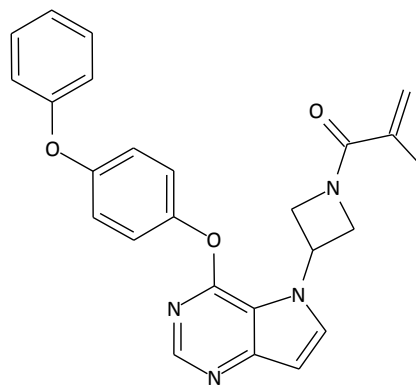
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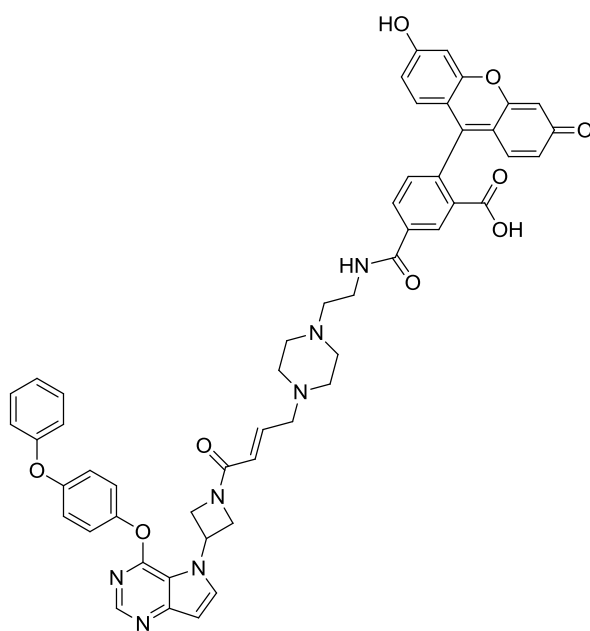
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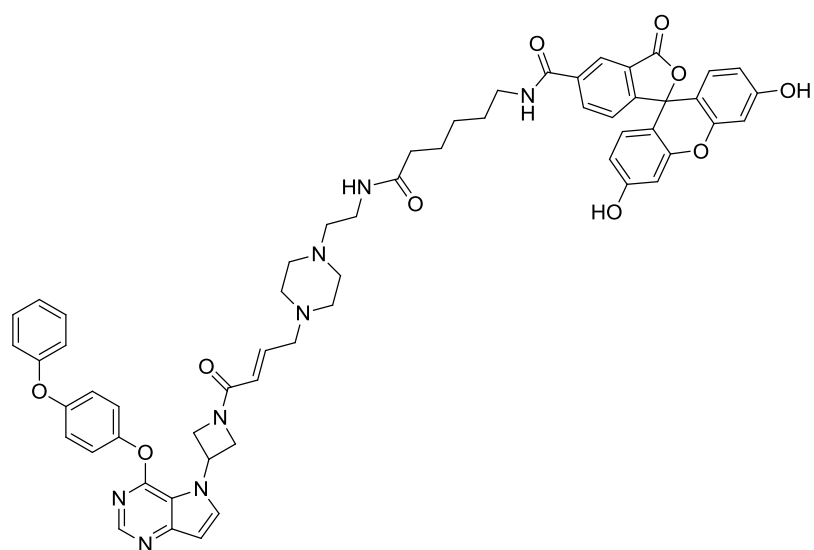
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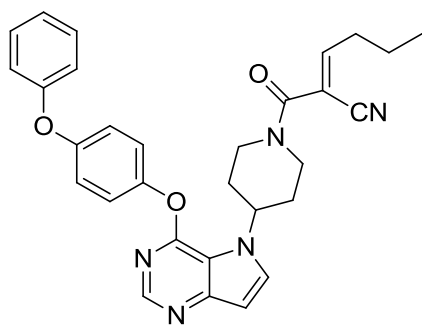
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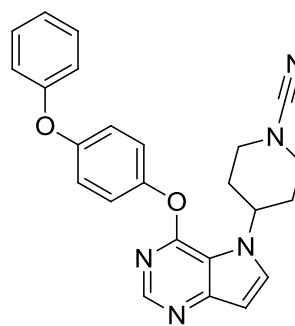
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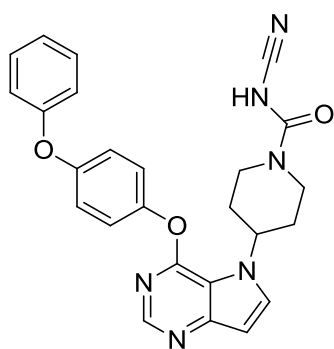
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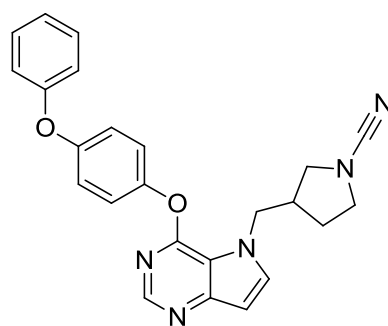
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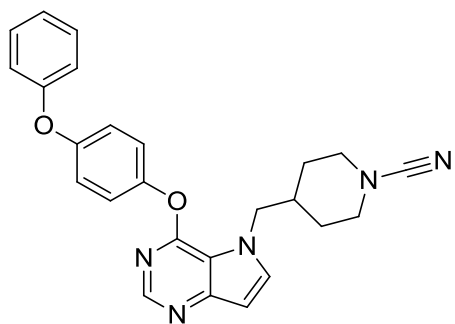
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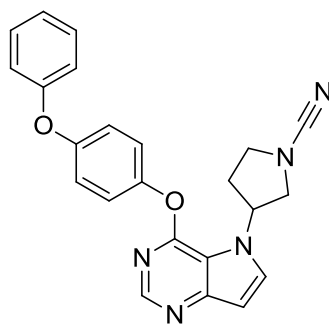
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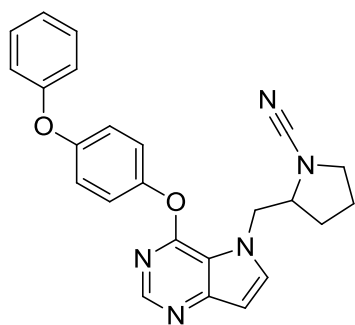
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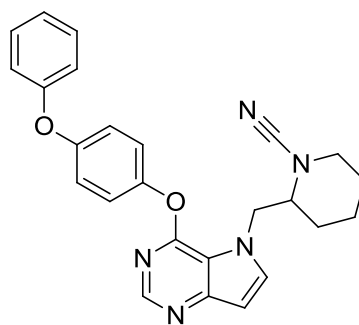
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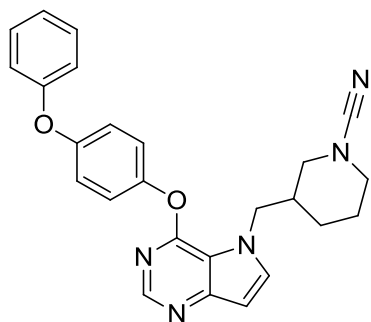
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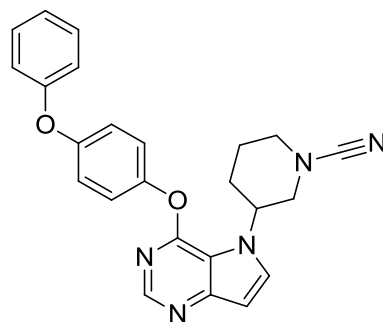
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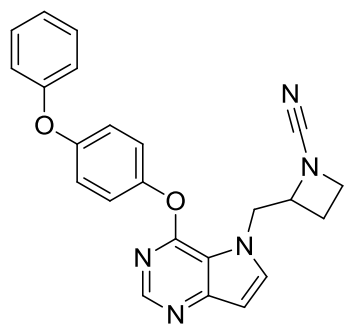
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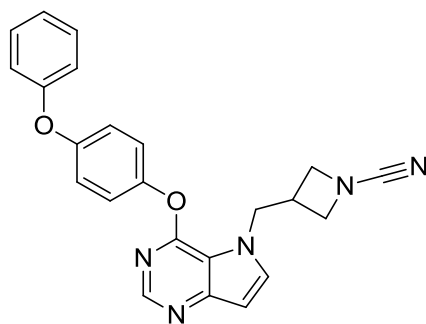
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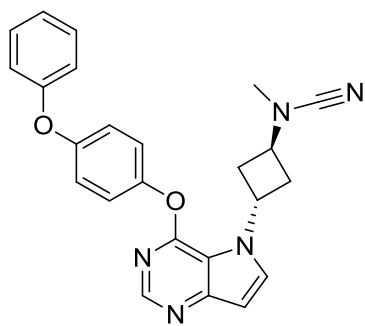
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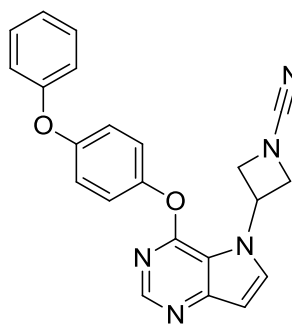
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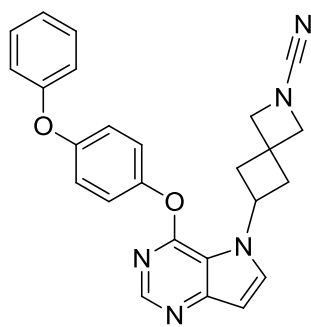
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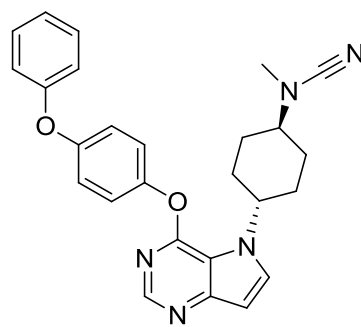
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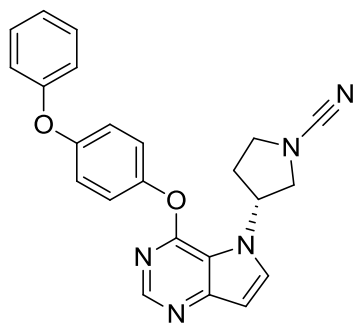
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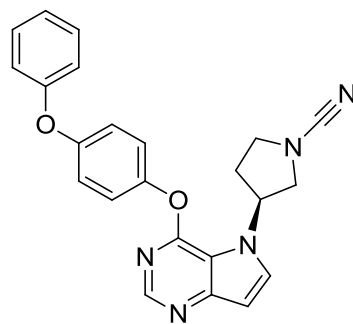
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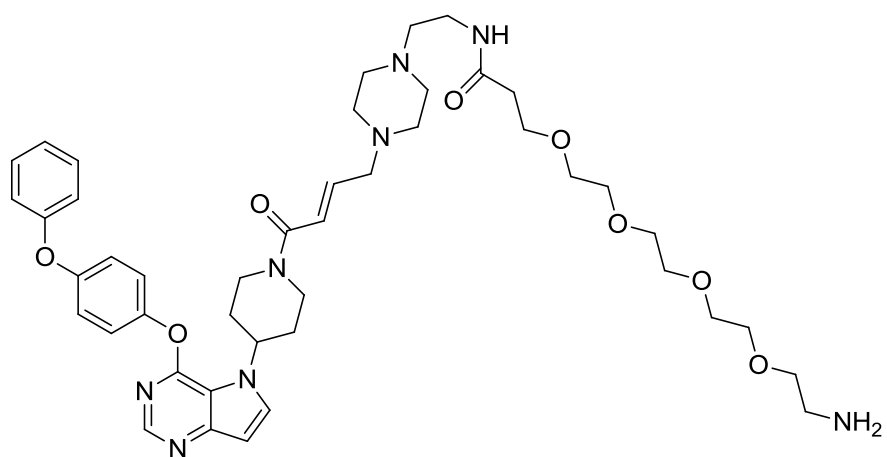
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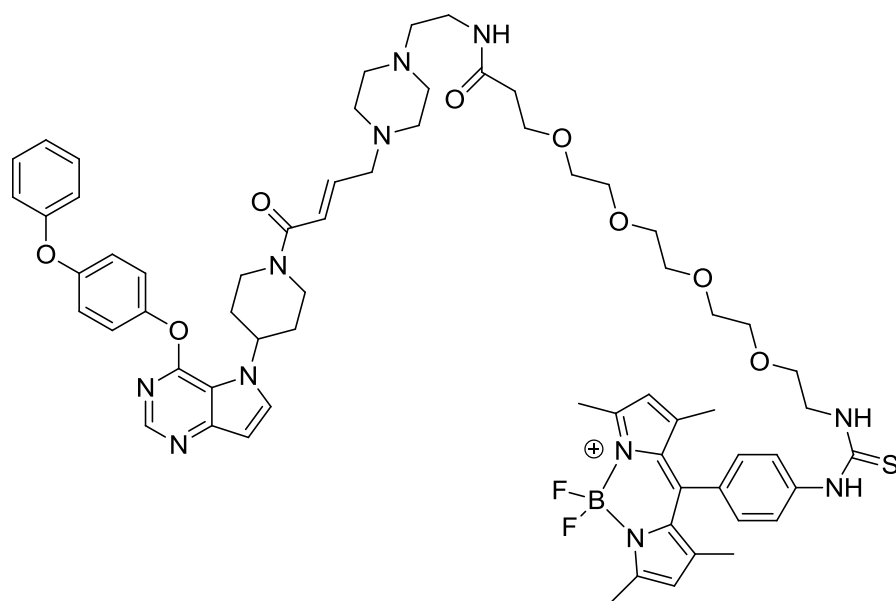
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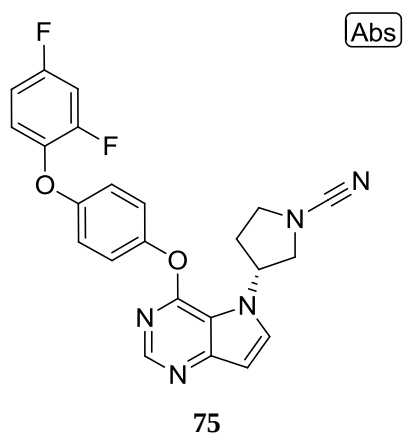
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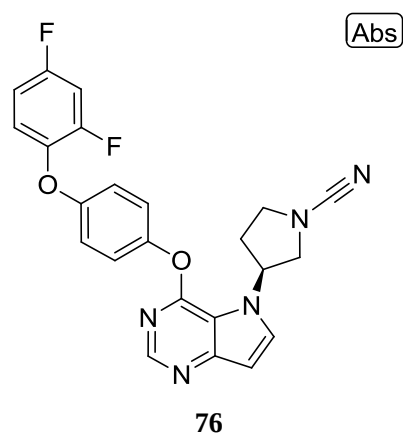
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75



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