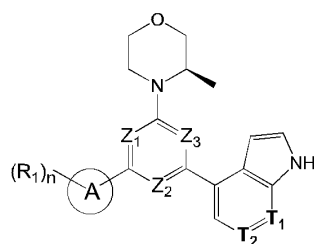


权利要求

1.式(I)所示化合物、其异构体或其药学上可接受的盐,



(I)

其中,

n 为 1、2、3 或 4;

Z₁、Z₂、Z₃ 分别独立地选自 CH 和 N, 其中至少有一个为 N;

T₁、T₂ 分别独立地选自 C(R₂)和 N;

环 A 选自 5~6 元杂芳基;

R₁ 分别独立地选自 H、F、Cl、Br、I、OH、NH₂、C₁₋₆ 烷基、C₁₋₆ 烷氧基和 C₃₋₆ 环烷基, 其中所述 C₁₋₆ 烷基、C₁₋₆ 烷氧基和 C₃₋₆ 环烷基任选被 1、2 或 3 个 R 取代;

R₂ 分别独立地选自 H、F、Cl、Br、I、OH、NH₂、COOH 和 C₁₋₃ 烷基, 其中所述 C₁₋₃ 烷基任选被 1、2 或 3 个 R 取代;

R 分别独立地选自 F、Cl、Br、I、OH、NH₂、C₁₋₃ 烷基和 C₁₋₃ 烷氧基, 其中所述 C₁₋₃ 烷基和 C₁₋₃ 烷氧基任选被 1、2 或 3 个 R'取代;

R'分别独立地选自 F、Cl、Br、I、OH 和 NH₂;

所述 5~6 元杂芳基包含 1、2、3 或 4 个独立选自 -NH-、-O-、-S-和 N 的杂原子或杂原子团。

2.根据权利要求 1 所述的化合物、其异构体或其药学上可接受的盐, 其中, R 分别独立地选自 H、F、Cl、Br、I、OH、NH₂、CH₃、Et 和 -O-CH₃。

3.根据权利要求 1 或 2 所述的化合物、其异构体或其药学上可接受的盐, 其中, R₁ 分别独立地选自 H、F、Cl、Br、I、OH、NH₂、C₁₋₃ 烷基、C₁₋₃ 烷氧基和环丙基, 其中所述 C₁₋₃ 烷基、C₁₋₃ 烷氧基和环丙基任选被 1、2 或 3 个 R 取代。

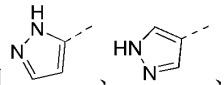
4.根据权利要求 3 所述的化合物、其异构体或其药学上可接受的盐, 其中, R₁ 分别独立地选自 H、F、

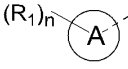
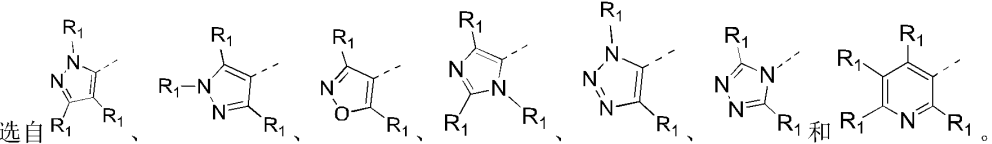
Cl、Br、I、OH、NH₂、CH₃、CH₂F、CHF₂、CF₃、Et、-CH₂OH、-O-CH₃、和。

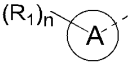
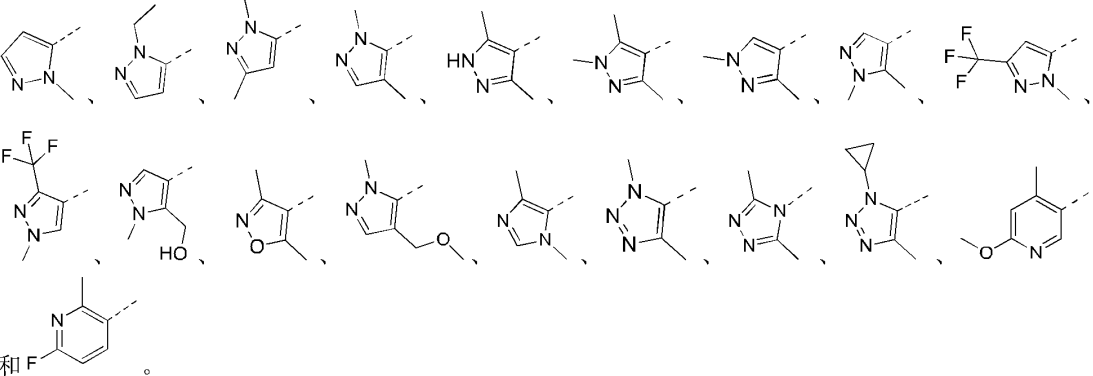
5.根据权利要求 1 或 2 所述的化合物、其异构体或其药学上可接受的盐, 其中, R₂ 分别独立地选自 H、F、Cl、Br、I、OH、NH₂、COOH、CH₃、Et 和 -CH₂-OH。

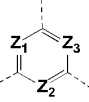
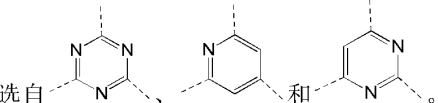
6.根据权利要求 1 或 2 所述的化合物、其异构体或其药学上可接受的盐, 其中, 环 A 选自吡啶基、异噁

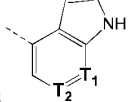
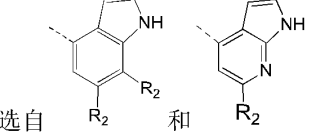
唑基、噁唑基、咪唑基、1,2,3-三唑基、1,2,4-三唑基和吡啶基。

7. 根据权利要求 6 所述的化合物、其异构体或其药学上可接受的盐, 其中, 环 A 选自 、、、、 和 。

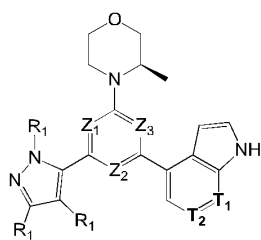
8. 根据权利要求 1 或 2 所述的化合物、其异构体或其药学上可接受的盐, 其中, 结构单元  选自 。

9. 根据权利要求 8 所述的化合物、其异构体或其药学上可接受的盐, 其中, 结构单元  选自 。

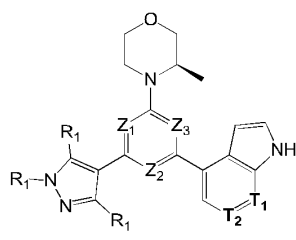
10. 根据权利要求 1 或 2 所述的化合物、其异构体或其药学上可接受的盐, 其中, 结构单元  选自 。

11. 根据权利要求 1 或 2 所述的化合物、其异构体或其药学上可接受的盐, 其中, 结构单元  选自 。

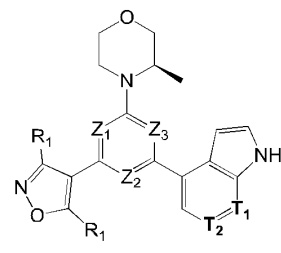
12. 根据权利要求 1~8 任意一项所述的化合物、其异构体或其药学上可接受的盐, 其选自



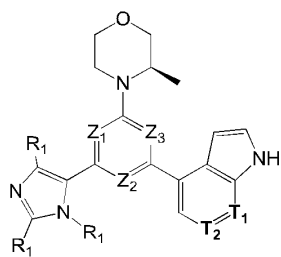
(II-1)



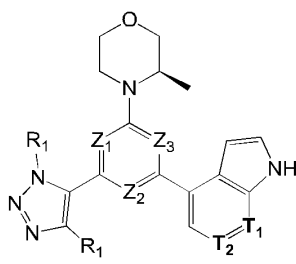
(II-2)



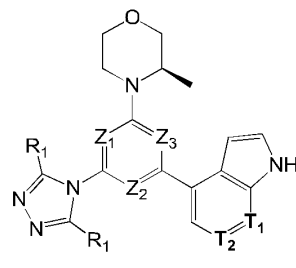
(II-3)



(II-4)

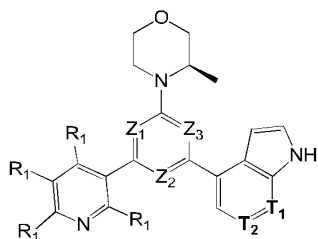


(II-5)



(II-6)

和



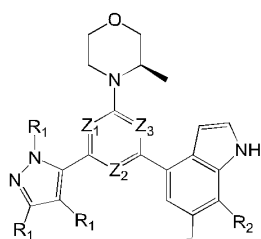
(II-7)

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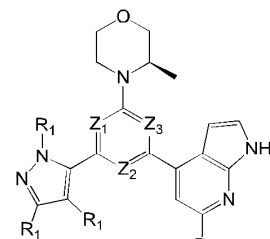
其中,

T₁、T₂ 分别独立地选自 C(R₂)和 N;Z₁、Z₂ 和 Z₃ 如权利要求 1 所定义;R₁ 如权利要求 1、2、3 或 4 任意一项所定义;R₂ 如权利要求 1 或 5 所定义。

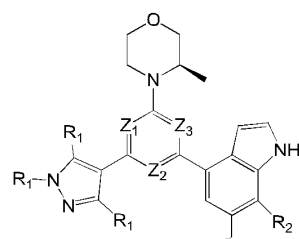
13. 根据权利要求 12 所述的化合物、其异构体或其药学上可接受的盐, 其选自



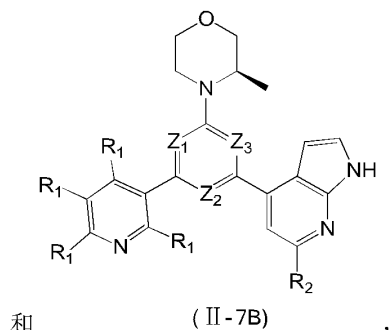
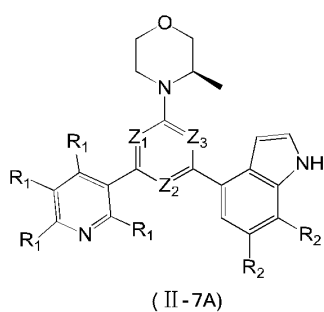
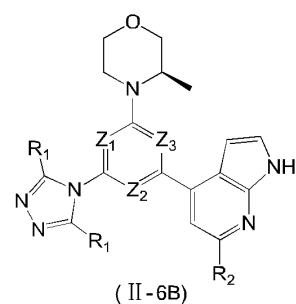
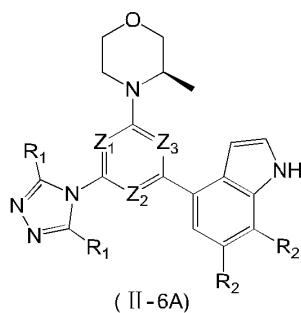
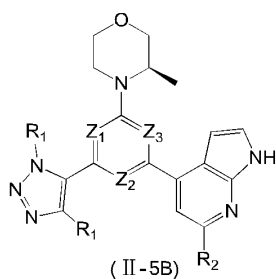
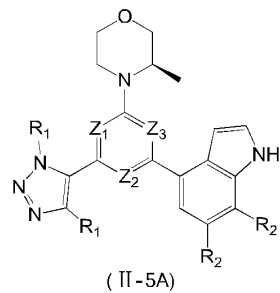
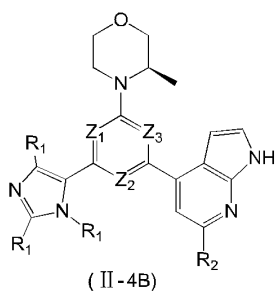
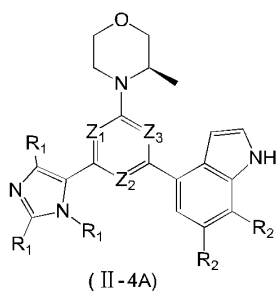
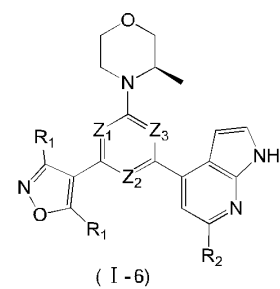
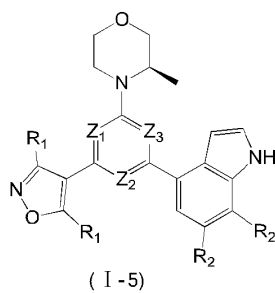
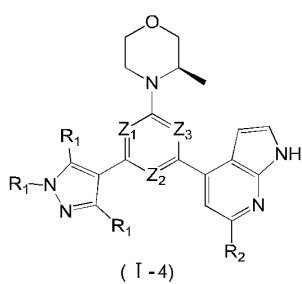
(I-1)



(I-2)



(I-3)



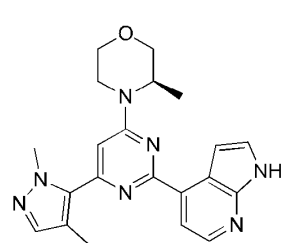
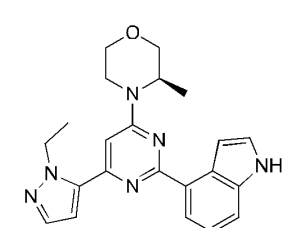
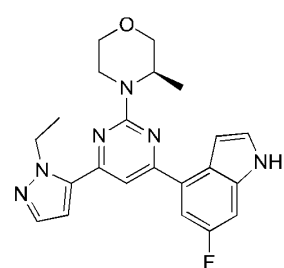
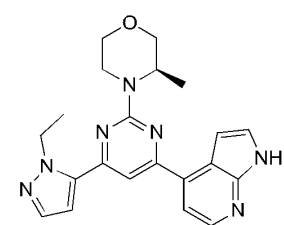
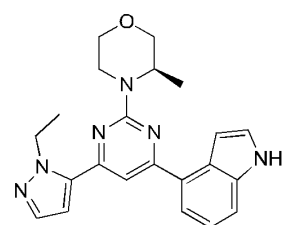
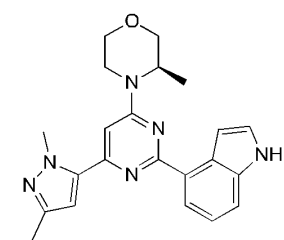
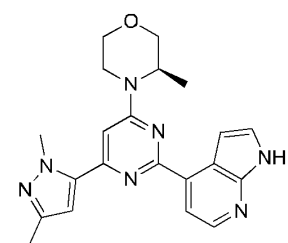
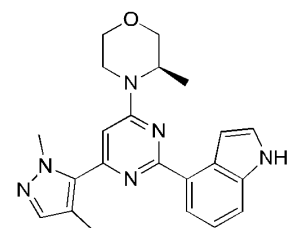
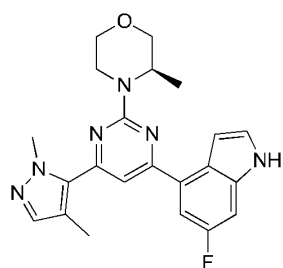
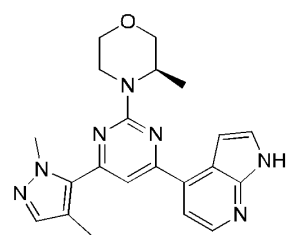
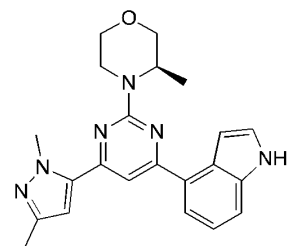
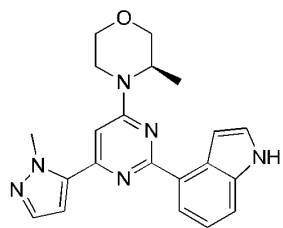
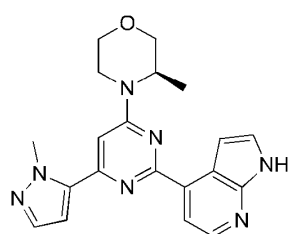
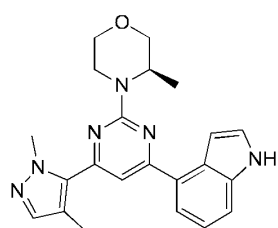
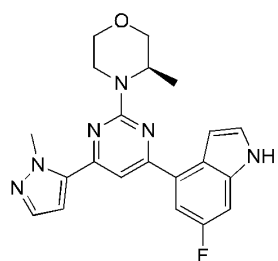
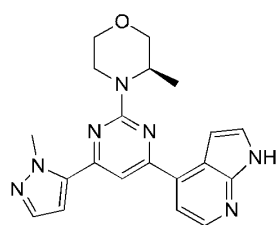
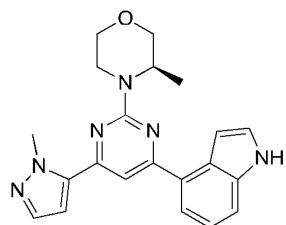
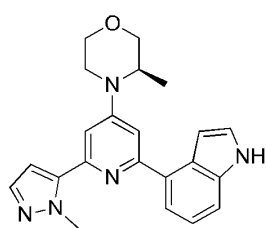
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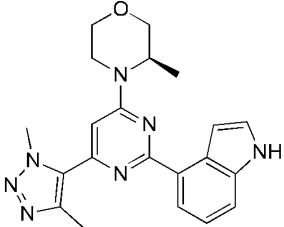
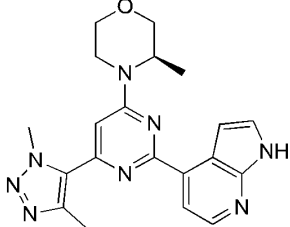
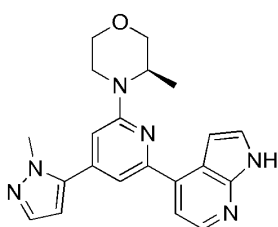
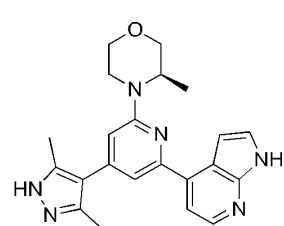
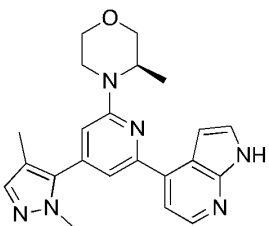
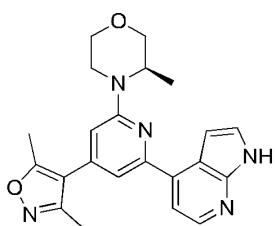
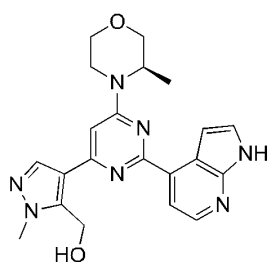
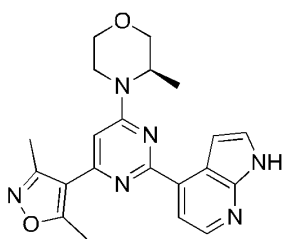
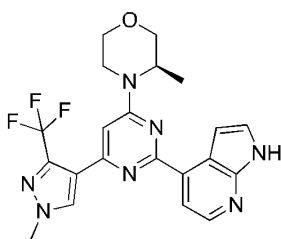
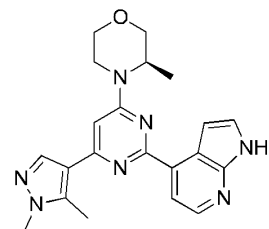
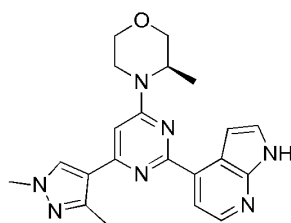
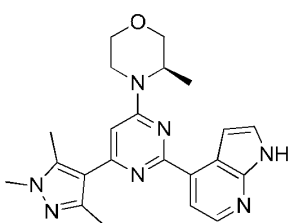
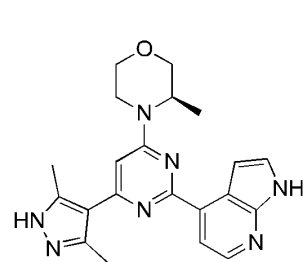
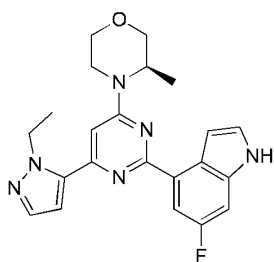
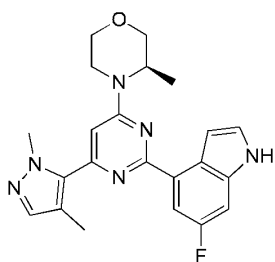
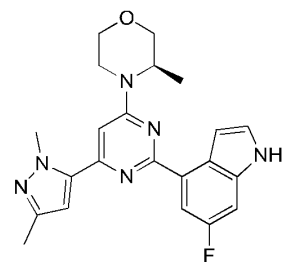
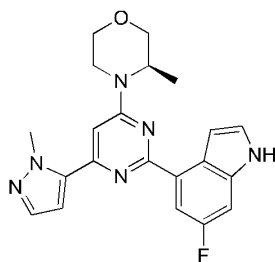
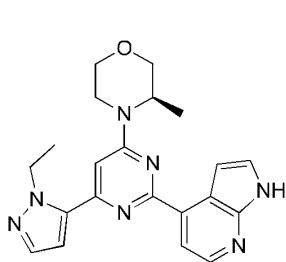
Z₁、Z₂、Z₃ 如权利要求 1 所定义;

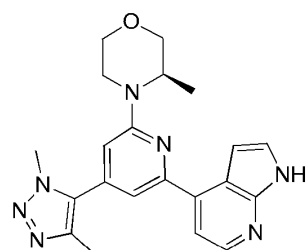
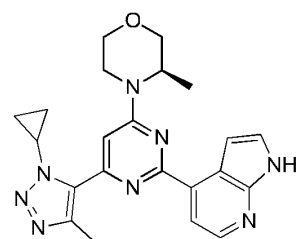
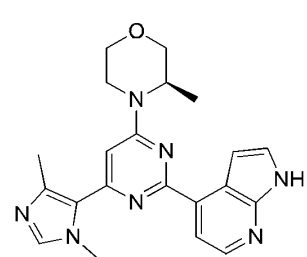
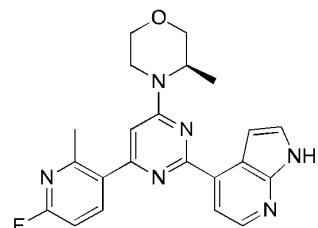
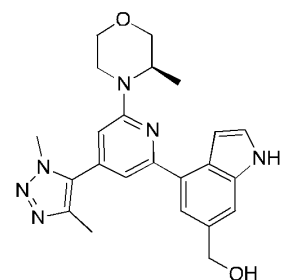
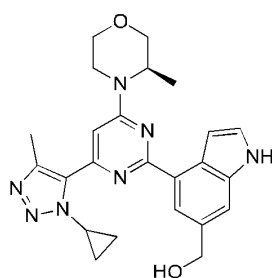
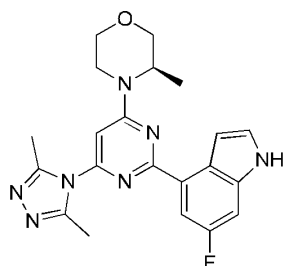
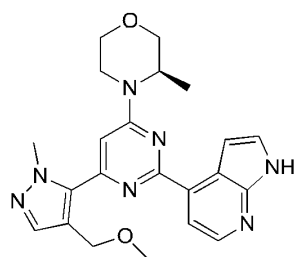
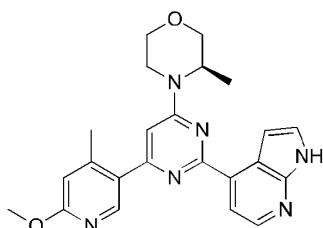
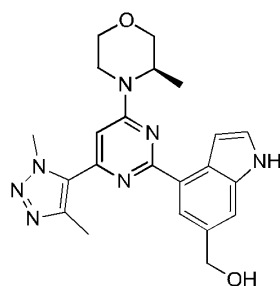
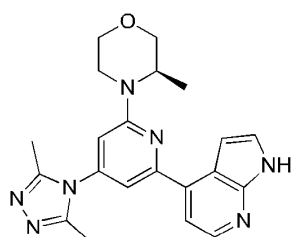
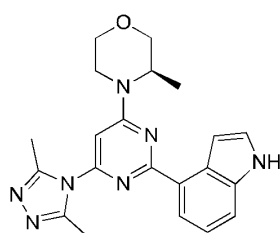
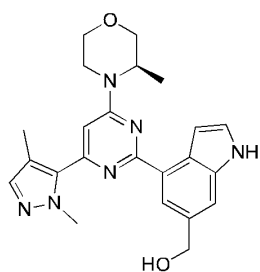
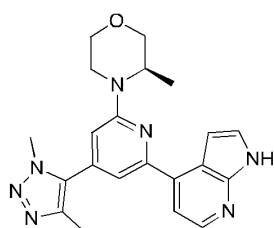
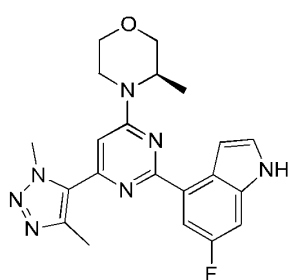
R₁ 如权利要求 1、2、3 或 4 任意一项所定义;

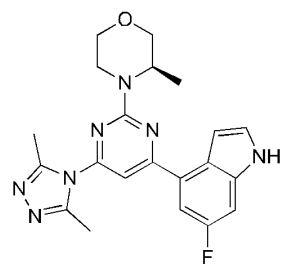
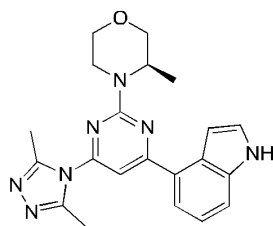
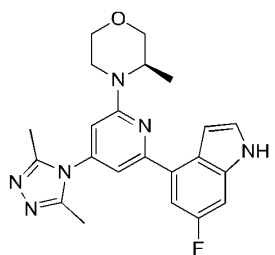
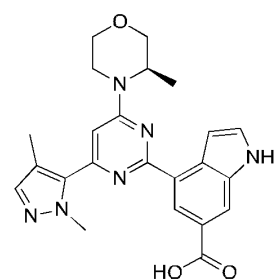
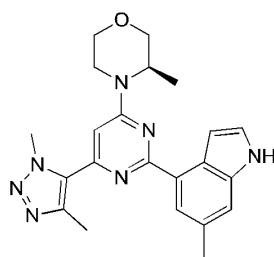
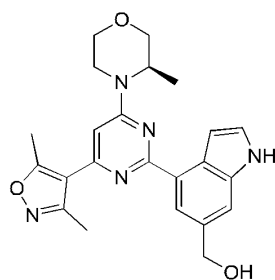
R₂ 如权利要求 1 或 5 所定义。

14. 下式化合物、其异构体或其药学上可接受的盐,

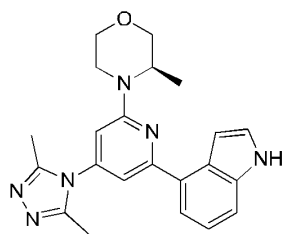








和



15. 根据权利要求 1~14 任意一项所述化合物或其药学上可接受的盐在制备治疗 ATR 相关疾病的药物中的应用。

16. 根据权利要求 15 所述的应用，其特征在于，所述药物是用于治疗实体瘤或血液瘤的药物。