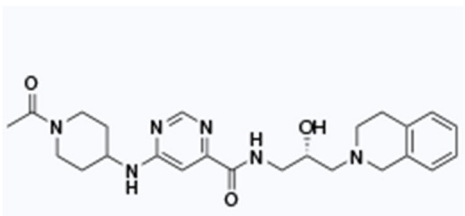
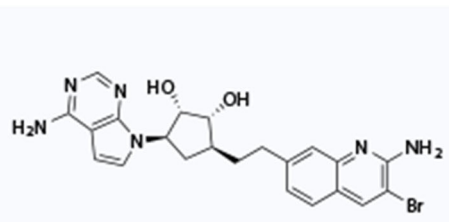
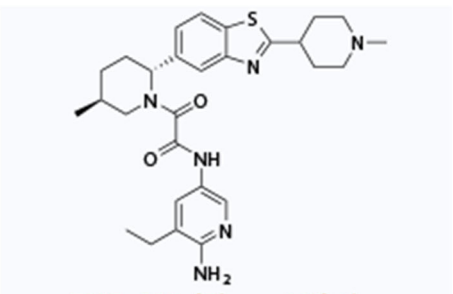
ChemScene
Chemical Reagents For Life Science

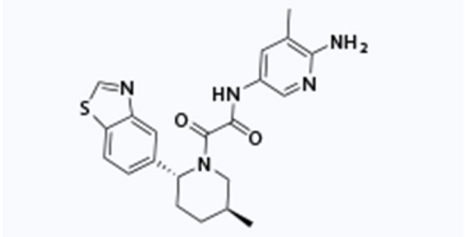
New Products - September 2023

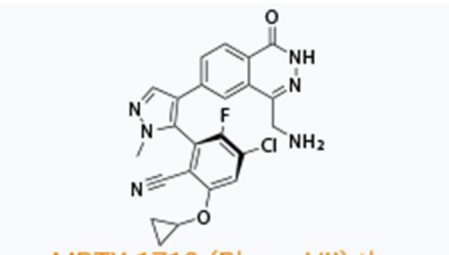
Protein arginine methyltransferase 5 (PRMT5) is a major type II arginine methyltransferase that catalyzes the formation of symmetric dimethylarginine in a number of nuclear and cytoplasmic proteins[1]. PRMT5 plays a critical role in regulating biological processes including transcription, cell cycle progression, RNA splicing, and DNA repair. Currently, an increasing number of studies have identified the roles of PRMT5 as a tumor-promoting factor in several cancers. PRMT5 promotes the carcinogenicity of various solid tumors including colon, breast, prostate, lung, liver, bone, ovarian, gastric, and pancreatic cancers with poor clinical outcomes. In recent years, novel inhibitors of the PRMT5/MTA complex have been developed for the treatment of MTAP-deleted cancers. To date, no PRMT5 inhibitors have been approved by FDA and more than fourteen PRMT5 inhibitors have entered into clinical trials[2-10].

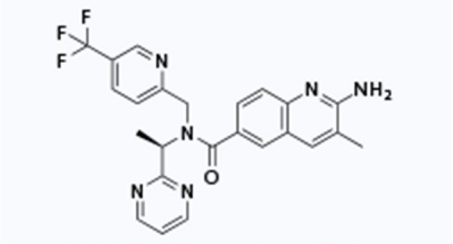

GSK-3326595 (Phase II) the first-generation PRMT5 inhibitor


JNJ-64619178 (Phase I) the first-generation PRMT5 inhibitor


TNG-462 (Phase I/II) the second-generation PRMT5 inhibitor

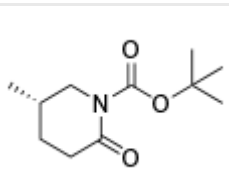

TNG-908 (Phase I/II) the second-generation PRMT5 inhibitor


MRTX-1719 (Phase I/II) the second-generation PRMT5 inhibitor


AM-9747 (pre-clinical) the second-generation PRMT5 inhibitor

A series of building blocks will be used as molecular fragments in the design of PRMT5 inhibitors.

[1] Journal of Medicinal Chemistry (**2022**), 65, 3, 1749-1766.
[2] Journal of Medicinal Chemistry (**2020**), 63, 17, 9977-9989.
[3] Journal of Medicinal Chemistry (**2021**), 64, 7, 3911-3939.
[4] Journal of Medicinal Chemistry (**2022**), 65, 20, 13793-13812.
[5] Journal of Medicinal Chemistry (**2023**), 66, 13, 8407-8427.
[6] European Journal of Medicinal Chemistry (**2019**), 164, 317-333.
[7] European Journal of Medicinal Chemistry (**2022**), 244, 114842.
[8] Bioorganic & Medicinal Chemistry (**2022**), 71, 116947.
[9] ACS Medicinal Chemistry Letters (**2018**), 9, 7, 612-617.
[10] ACS Medicinal Chemistry Letters (**2020**), 11, 9, 1688-1693.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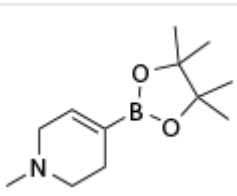
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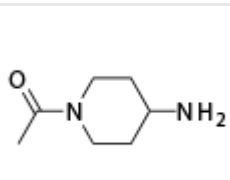
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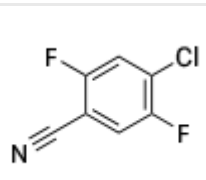
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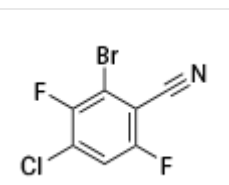
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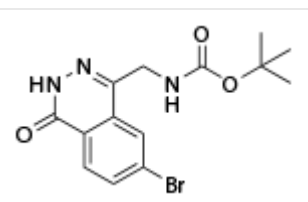
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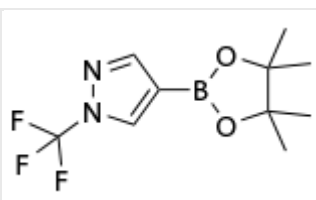
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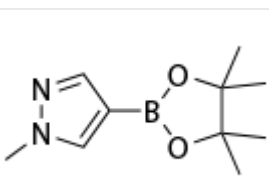
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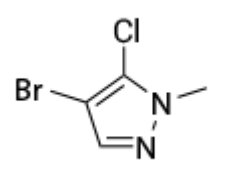
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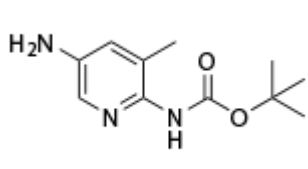
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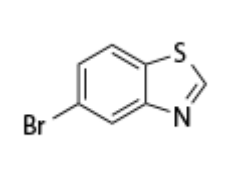
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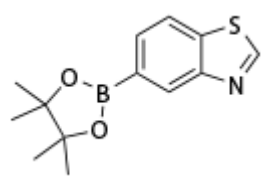
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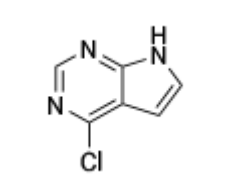
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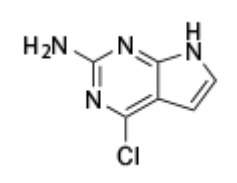
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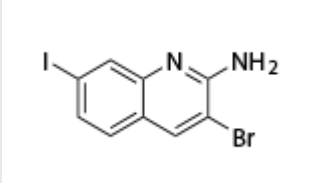
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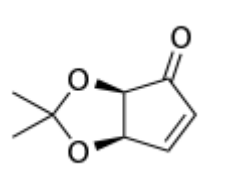
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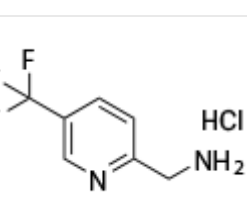
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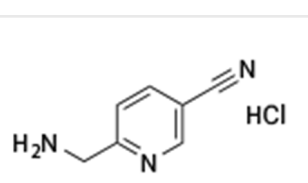
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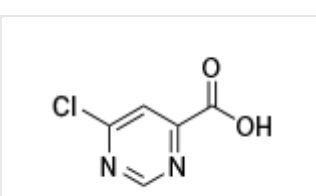
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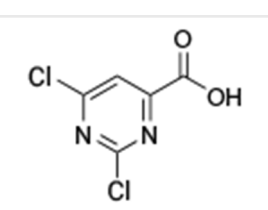
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