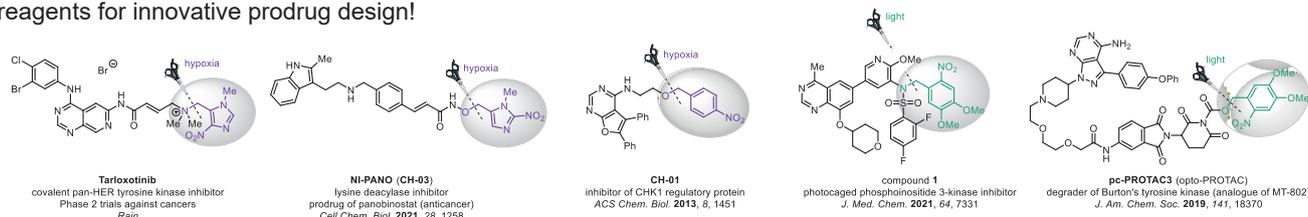


Nitrobenzyl Cages for Prodrug Design

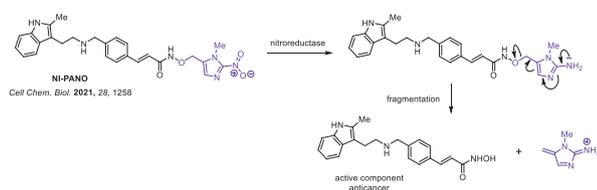
Introduction

Prodrugs are compounds designed to release their active drug component in a spatiotemporally controlled manner enhancing the drug's selectivity and improving its pharmacokinetic profile. Medicinal chemists have developed several prodrugs that utilize the hypoxia-induced reduction of nitro groups to release their active ingredients specifically within the reductive environment of cancer cells.^{1,2} One notable example is tarloxotinib, a tyrosine kinase inhibitor that has been evaluated in several Phase 2 clinical trials. This prodrug mechanism is conceptually similar to that of photo-caged compounds, which release their active components upon irradiation, enabling precision therapy.^{3,4} Discover our collection of cage-installing reagents for innovative prodrug design!

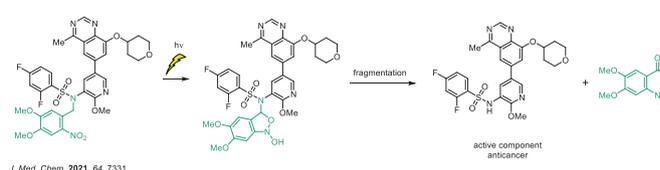


Case studies

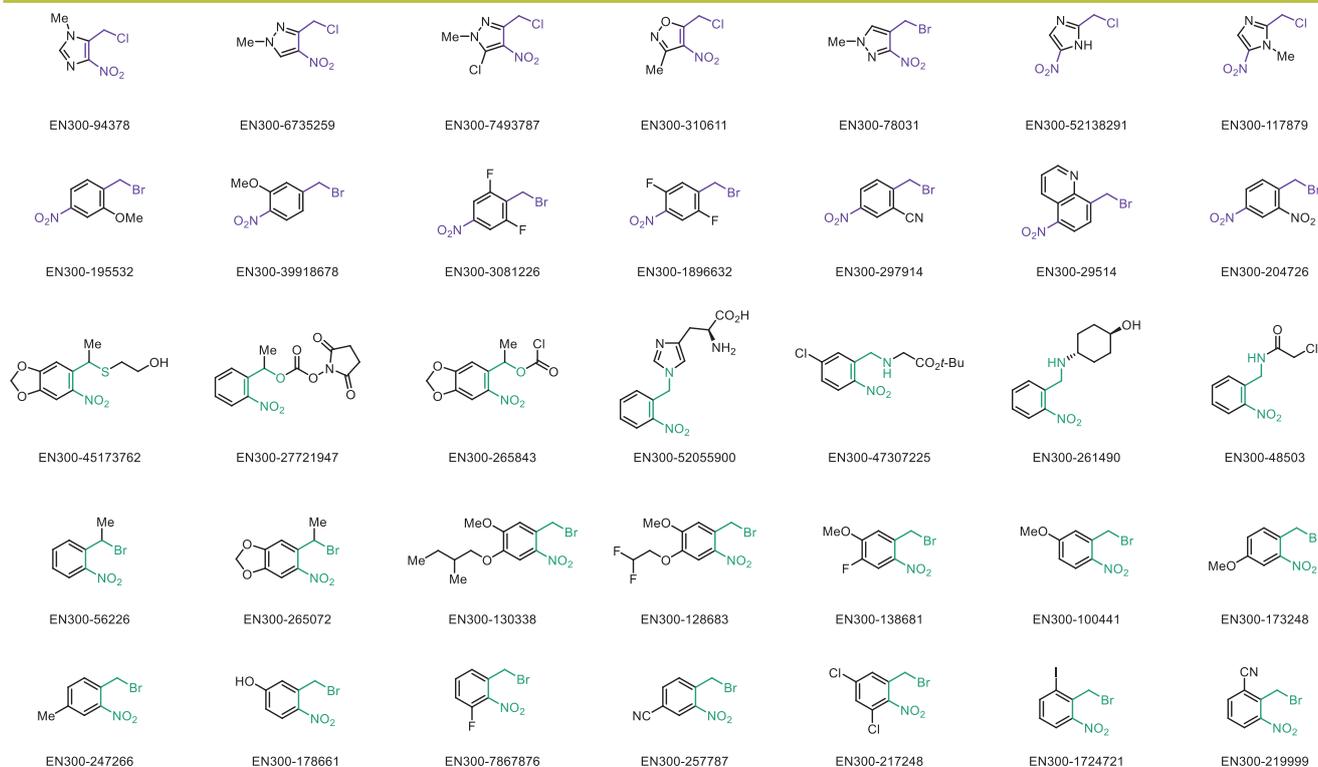
Hypoxia-Induced Cage Release



Photochemical Cage Release



We offer: over 100 nitrobenzyl caged compounds from stock on 5-10 gram scale.



References

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2. W. Denny. *Pharmaceuticals* 2022, 15, 187.

3. H. Xiong et al. *Chem* 2023, 9 29.
4. Y. Chen et al. *J. Med. Chem.* 2024, 67, 12033.



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