Novel spirocyclic and fused cyclopropane scaffolds for medicinal chemistry

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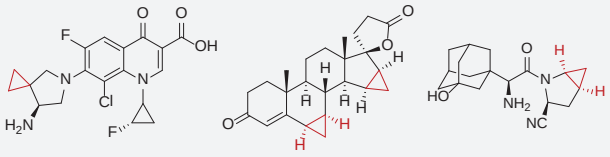
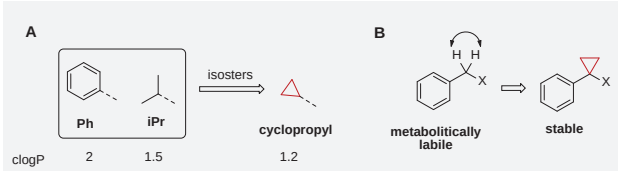
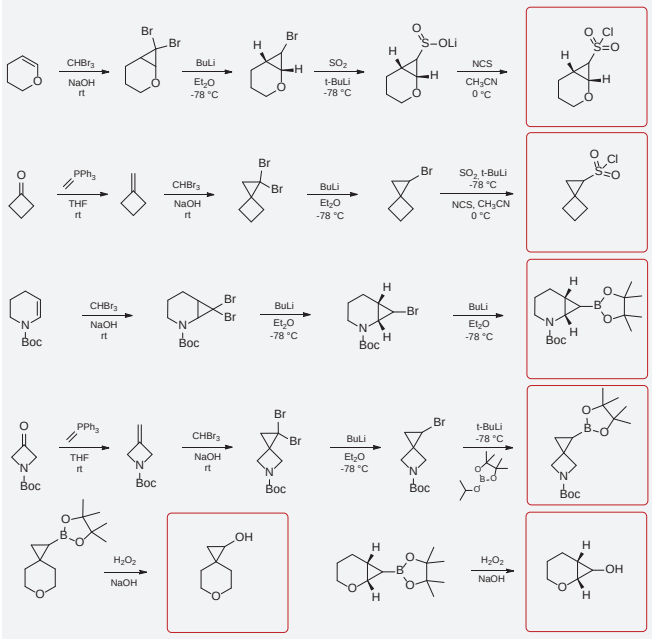
Introduction and Aim

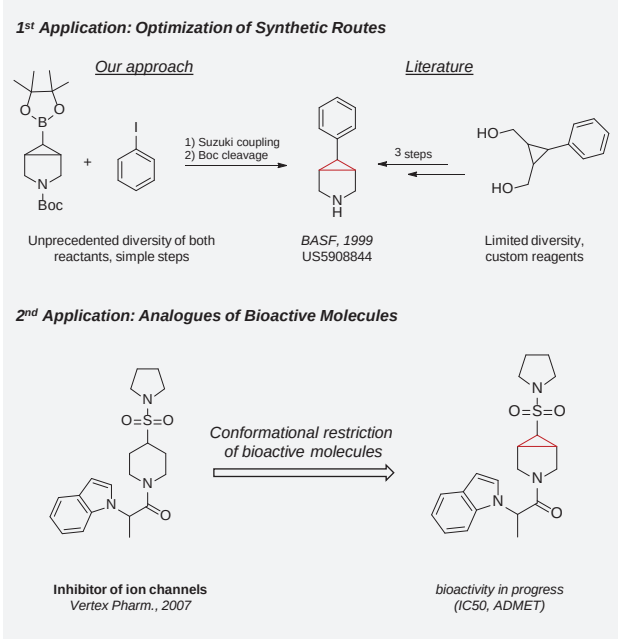
Designing novel bioactive molecules remains among the major challenges in modern drug discovery. Recent results emphasize the value of sp^3-rich compounds as highly potent yet underexplored molecular scaffolds.[1] Conformational rigidity and defined three-dimensional structure are among the key characteristics determining the overall physicochemical parameters of a drug candidate.[2,3] Not surprisingly, the smallest cycle – a cyclopropyl core – has been successfully exploited as a valuable structural motif vital for attaining the desired biological profiles in numerous approved and investigational drugs.[4] To further extend the scope of conformationally restricted compounds, we developed synthetic routes toward novel functional cyclopropane scaffolds.



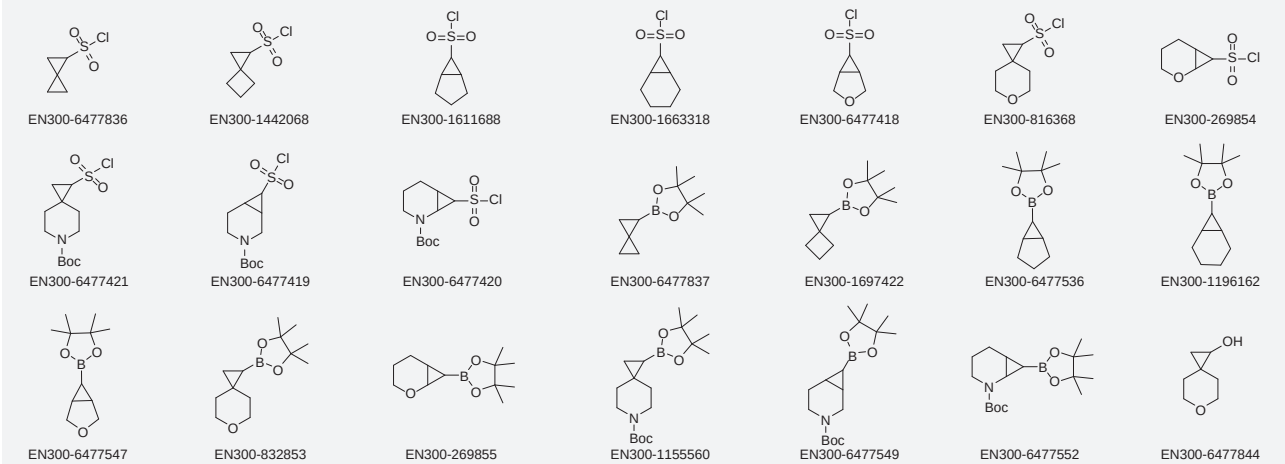


Synthesis





Results



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References

1. F. Lovering et al. *J. Med. Chem.* **2009**, 6752.
2. I. Kirichok et al. *Angew. Chemie - Int. Ed.* **2017**, 8865.
3. E. M. Carreira at al. *Chem. Rev.* **2014**, 8257.
4. T. T. Talele et al. *J. Med. Chem.* **2016**, 8712.