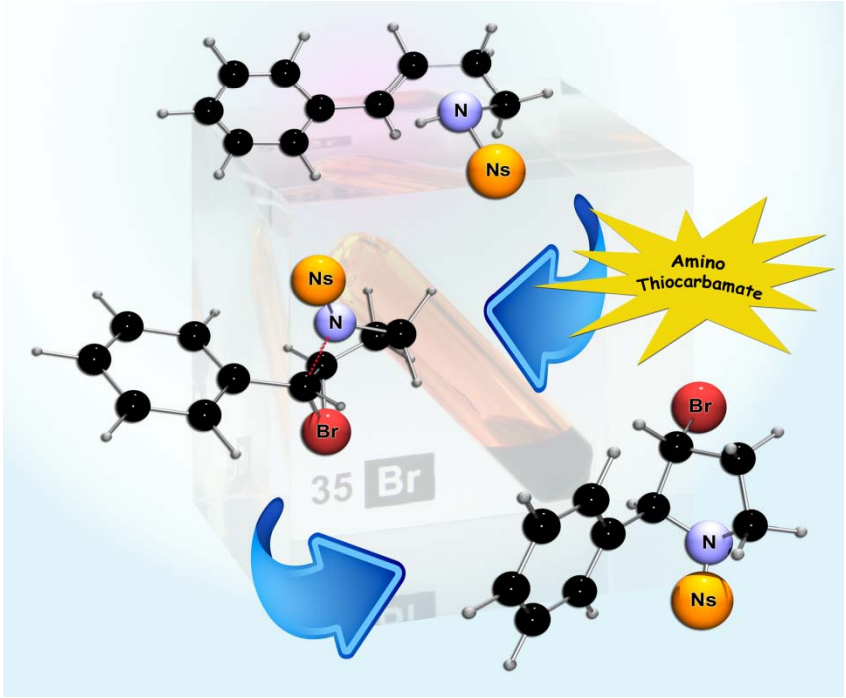
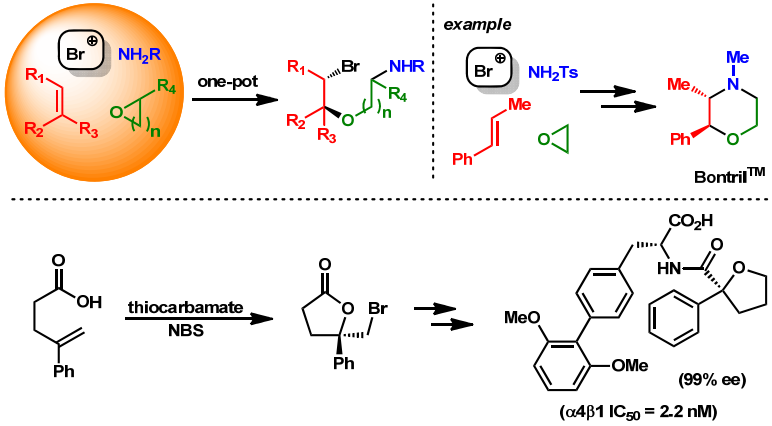
Thiocarbamate catalyzed enantioselective bromocyclization reactions

Halogenation is an important class of organic transformation. Over the pass decades, reactions including cohalogenation, haloetherification, halolactonization and polyene cyclization are well documented. These reactions have been applied in many natural products and drug molecules synthesis. One of the research focuses in our research group is on the development of novel bromination using *N*-bromosuccinimide (NBS), an inexpensive halogen source that can be handled easily. Recently, we have developed the use of chiral amino-thiocarbamate catalyst in asymmetric bromocyclization reactions. Various chiral, non-racemic lactones and pyrrolidines were prepared with good yields and ees.





- Zhou, Ling; Chen, Jie; Tan, Chong Kiat; Yeung, Ying-Yeung, Enantioselective Bromocyclization Using Amino-Thiocarbamate Catalysts, ***J. Am. Chem. Soc.*** *133, 9164-9167* (2011)
- Zhou, Ling; Tan, Chong Kiat; Jiang, Xiaojian; Chen, Feng; Yeung, Ying-Yeung, Asymmetric Bromolactonization Using Amino-thiocarbamate Catalyst, ***J. Am. Chem. Soc.*** *132, 15474-15476* (2010)
- Zhou, Ling; Tan, Chong Kiat; Zhou, Jing; Yeung, Ying-Yeung, Facile, Efficient, and Catalyst-Free Electrophilic Aminoalkoxylation of Olefins: Scope and Application, ***J. Am. Chem. Soc.*** *132*, 10245-10247 (2010)

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