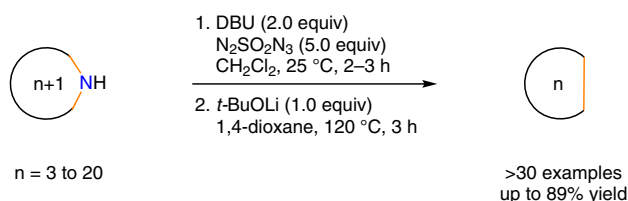
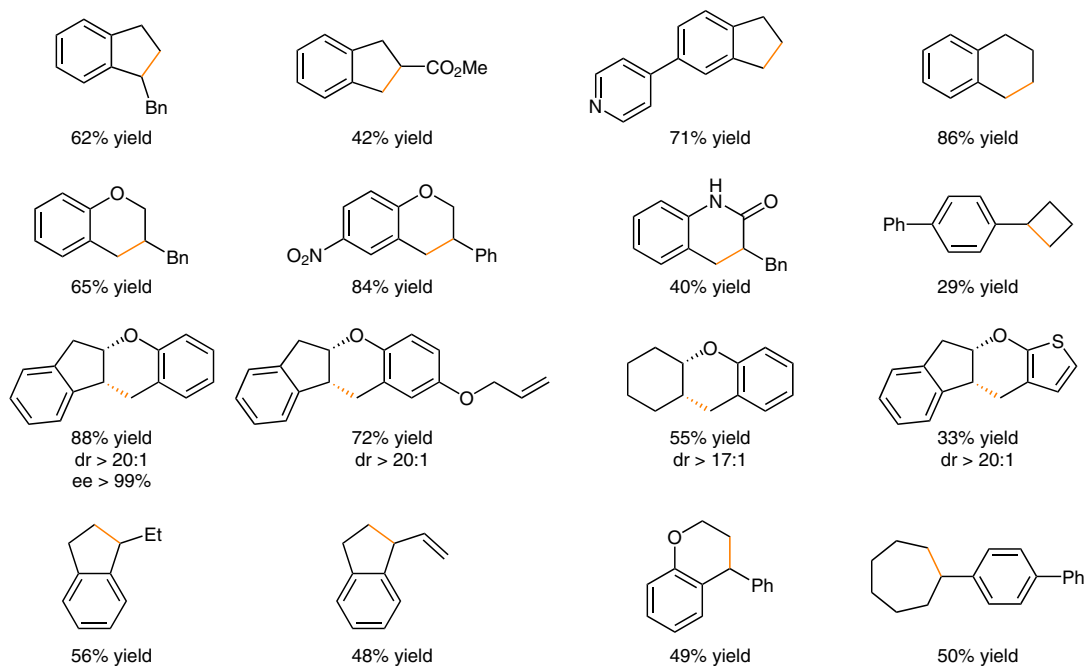


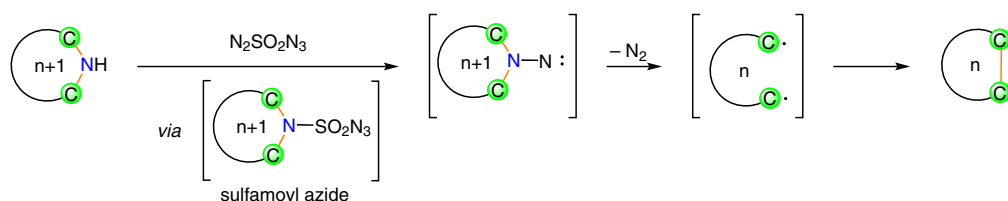
Denitrogenative Ring Shrinkage of Heterocycles



Selected examples:



Proposed mechanism:



Significance: Lu et al. report a versatile method for N-atom excision from N-heterocycles. Rings containing 3–20 members and various types of cyclic structures including carbocycles, O-heterocycles, and N-heterocycles were obtained in moderate to excellent yields.

Comment: The authors propose a mechanism involving an initial N-sulfonylazidation followed by a Curtius-type rearrangement to generate a 1,1-diazene intermediate. A second rearrangement gives a biradical intermediate that undergoes an intramolecular radical coupling reaction to give the desired product.