Thiourea-Assisted Iminium Catalysis

**Significance:** A thiourea-assisted iminium catalysis has been described. It was found that simple thioureas accelerate previously established reactions of \(\alpha,\beta\)-unsaturated aldehydes with MacMillan’s organocatalyst, presumably by binding to the counteranion of the iminium intermediate. The use of chiral thioureas did not have a significant effect on the enantioselectivity.

**Comment:** The profound influence of anions on reactivity and selectivity in asymmetric iminium catalysis is well established (S. Mayer, B. List *Angew. Chem. Int. Ed.* 2006, 45, 4193). Therefore, thioureas could be expected to influence the activity and selectivity by anion binding during the catalysis (see Review below). In the current report, a mild positive influence of thioureas on reactivity is demonstrated. Development of a chiral thiourea as the only source of asymmetric information remains as the true challenge of this approach.


---

**SYNFACTS Contributors:** Benjamin List, Ji Hye Kim

SYNFACTS 2013, 9(1), 0102 Published online: 17.12.2012

DOI: 10.1055/s-0032-1317904; Reg-No.: B11712SF