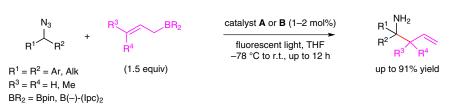
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Characterization and Utility of N-Unsubstituted Imines Synthesized from Alkyl Azides by Ruthenium Catalysis *Angew. Chem. Int. Ed.* **2012**, *51*, 10851–10855.

Ruthenium-Catalyzed Generation of N-Unsubstituted Imines



Selected examples:

NH₂

$$83\% \text{ yield}$$

$$86\% \text{ yield}$$

$$(syn/anti = 87:13)$$
NH₂

$$EtO_2C$$

$$80\% \text{ yield}$$

$$(syn/anti = 98:2)$$
NH₂

$$NH_2$$

$$NH_$$

Significance: The authors report, that N-unsubstituted imines can be efficiently generated from alkyl azides using a ruthenium catalyst and fluorescent light. Furthermore, an allylation reaction in a one-pot fashion was achieved, leading to homoallylic imines.

Comment: The mild reaction conditions allow an asymmetric allylation of in situ generated benzaldimine from benzyl azide. Using the chiral allyl bis(isopinocampheyl)borane reagent at –78 °C furnishes the homoallylic amine in 87% yield with an enantiomeric excess of 89%.

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Metal-Mediated Synthesis

Key words

allylation

azides

ruthenium

