M. M. UTEULIYEV, T. T. NGUYEN, D. M. COLTART* (UNIVERSITY OF HOUSTON, USA) Diastereoselective Addition of Grignard Reagents to α-Epoxy *N*-Sulfonyl Hydrazones *Nature Chem.* **2015**, *7*, 1024–1027.

Diastereoselective α -Alkylation of α -Epoxy N-Sulfonyl Hydrazones

n = 1, 2 $R^1, R^2 = H, Me$ $R^3 = Alk, Ph, vinyl, alkynyl$ X = Cl, Br

52–95% yield syn/anti up to >25:1

Proposed mechanism:

Selected examples:

Significance: Coltart and co-workers report the diastereoselective addition of Grignard reagents to α -epoxy N-sulfonyl hydrazones to give various β -hydroxy N-sulfonyl hydrazones with quaternary α -stereocenters in very high yields.

Comment: The alkoxide, which is generated in situ through base-induced ring-opening of the epoxide, selectively directs the addition *syn* in a 1,4-manner.

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Metal-Mediated Synthesis

Key words

Grignard reaction epoxides addition

