Category

Synthesis of Materials and Unnatural Products

Key words

difluoromethylation

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organosilicates

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Bis(difluoromethyl)trimethylsilicate Anion: A Key Intermediate in Nucleophilic Difluoromethylation of Enolizable Ketones with Me₃SiCF₂H

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Nucleophilic Difluoromethylation of Enolizable Ketones with Me₃SiCF₂H

Significance: The authors report the catalyzed nucleophilic difluoromethylation of enolizable ketones with the pentaorganosilicate Me₃SiCF₂H. The substrate scope includes several aromatic and aliphatic ketones and aldehydes, phthalimide, and phthalide.

Comment: Me₃SiCF₂H is activated with an alkalimetal salt (CsF or *t*-BuOCs) and 18-crown-6 in catalytic amounts. [(18-crown-6)Cs]⁺ is essential for the stabilization of the intermediate [Me₃Si(CF₂H)₂]⁻ and for improving its nucleophilicity.

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