Category

**Metal-Catalyzed
Asymmetric
Synthesis and
Stereoselective
Reactions**

Key Words

**Friedel–Crafts
alkylation
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Lewis acids**

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Enantioselective Friedel–Crafts Alkylations with Benzoylhydrazones Promoted by a Simple Strained Silacycle Reagent
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Enantioselective Friedel–Crafts Alkylations by Strained Chiral Silacycle

Significance: A chiral silicon Lewis acid has been utilized for the enantioselective Friedel–Crafts alkylation. The strained silacycle is effective at promoting the reaction for electron-rich aromatic systems under mild conditions.

Comment: This is a nice use of a chiral silicon Lewis acid for the important synthesis of hetero-arylglycines. This paper provides another example of the proposed ‘strain-release Lewis acidity’ of silicon to promote reactions. The method uses a strain-induced effect of the five-member silacycle to give a significant increase in the acidity of the silicon center. This is proposed as the origin of the observed high reactivity and selectivity for the reaction. The method is not a truly catalytic reaction; however, the chiral amino alcohol is completely recoverable and reusable.

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