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Enantioselective, Catalytic Trichloromethylation through Visible-Light-Activated Photoredox Catalysis with a Chiral Iridium Complex

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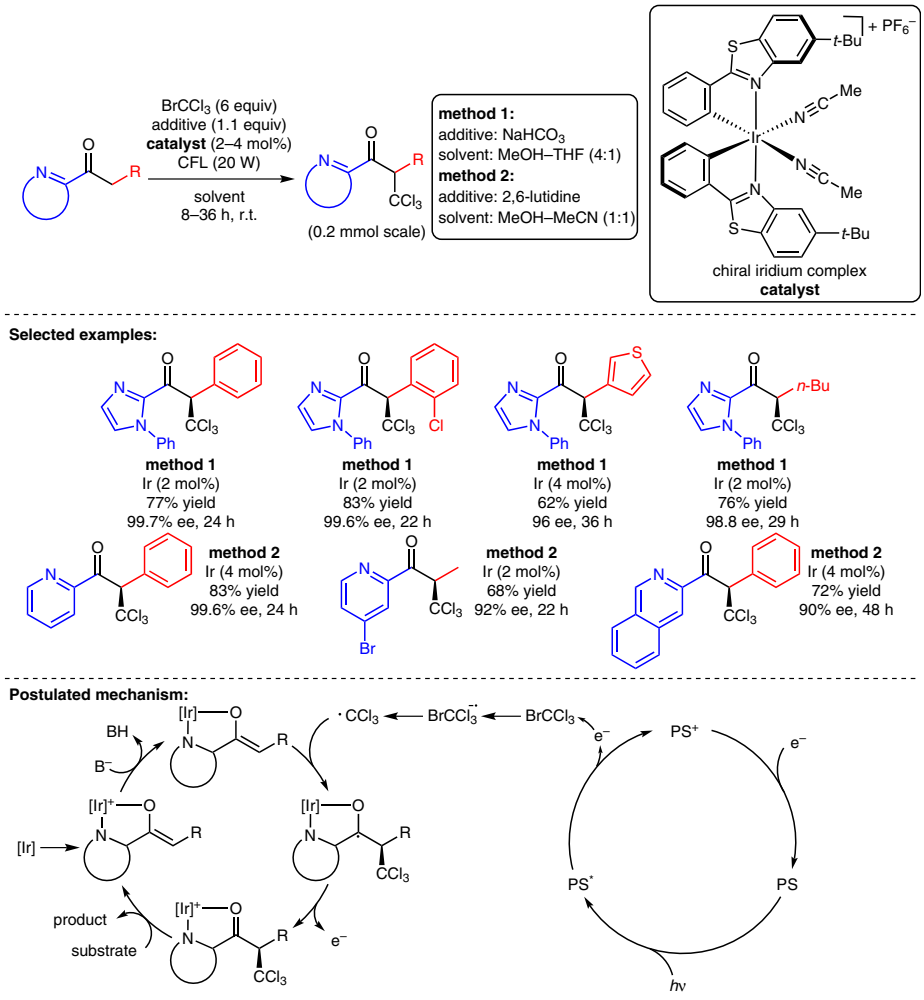
Iridium-Catalyzed Trichloromethylation of 2-Acylimidazoles and Pyridines



Significance: Trichloromethyl groups are present within natural products, however, asymmetric transition-metal-catalyzed installation of these functional groups has been limited. Here, the authors report an asymmetric photoredox iridium-catalyzed trichloromethylation of 2-acylimidazoles and pyridines.

Comment: The chiral iridium catalyst has a dual function of being a chiral Lewis acid and a photoredox catalyst. The reaction proceeds in moderate to high yields and consistently excellent ee. The imidazole was generally obtained in higher ee than the pyridine.

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