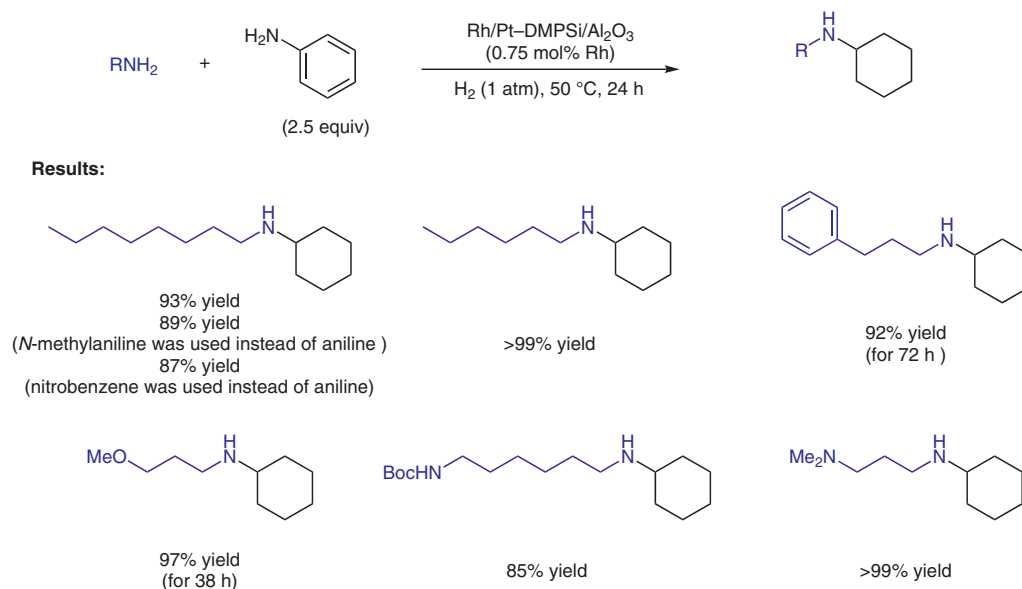


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Highly Selective Reductive Cross-Amination between Aniline or Nitroarene Derivatives and Alkylamines Catalyzed by
Polysilane-Immobilized Rh/Pt Bimetallic Nanoparticles
Synlett 2019, 30, 387–392.

Synthesis of *N*-Alkylcyclohexylamines on Supported Rh/Pt Nanoparticles



Significance: Rh/Pt bimetallic nanoparticles (NPs) supported on dimethylpolysilane and alumina (Rh/Pt–DMPSi/Al₂O₃) promoted the synthesis of *N*-alkylcyclohexylamines from anilines and the corresponding *N*-alkylamines to give the corresponding alkylcyclohexylamines in up to >99% yield. *N*-Methylaniline and nitrobenzene also underwent the reductive coupling with octylamine to afford *N*-octylcyclohexylamine in yields of 89% and 87%, respectively.

Comment: The authors previously reported the preparation of Rh/Pt–DMPSi/Al₂O₃ and its application in arene hydrogenation (*J. Am. Chem. Soc.* 2018, 140, 11325). In the reaction of aniline with octylamine, the catalyst was used four times without significant loss of its catalytic activity (fresh: 92% yield; fourth reuse: 90%).

Category

Polymer-Supported
Synthesis

Key words

rhodium catalysis

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amines

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