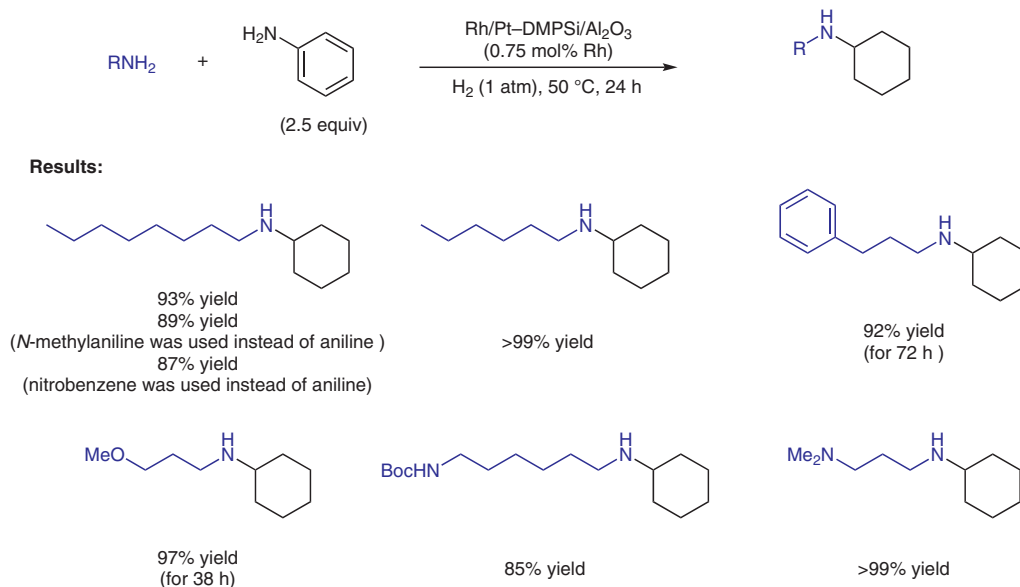


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Highly Selective Reductive Cross-Amination between Aniline or Nitroarene Derivatives and Alkylamines Catalyzed by  
Polysilane-Immobilized Rh/Pt Bimetallic Nanoparticles  
*Synlett* 2019, 30, 387–392.

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



**Significance:** Rh/Pt bimetallic nanoparticles (NPs) supported on dimethylpolysilane and alumina (Rh/Pt–DMPSi/Al<sub>2</sub>O<sub>3</sub>) 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/Al<sub>2</sub>O<sub>3</sub> 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

platinum catalysis

aniline

alkylcyclohexyl-  
amines

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of the  
Month

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