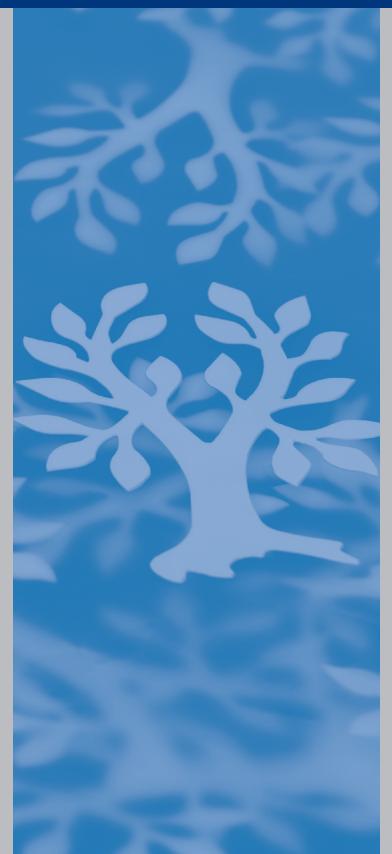
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SYNFACTS Highlights in Current Synthetic Organic Chemistry

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Category

Polymer-Supported Synthesis

Key words

cobalt catalysis

metal-organic framework

ammonia borane

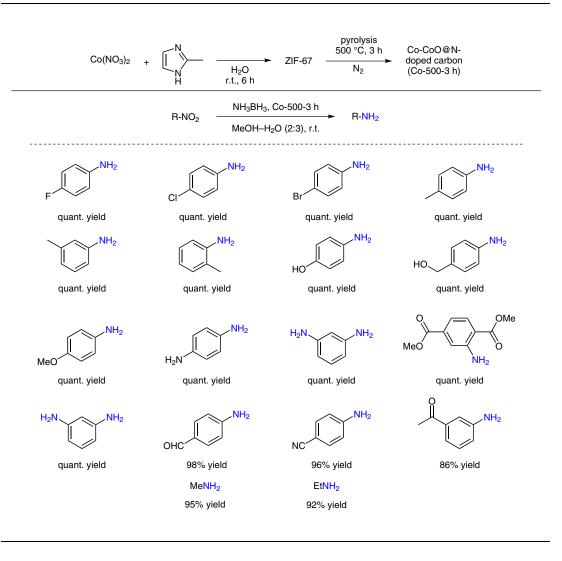
hydrogenation

nitro compounds

amines

X. MA, Y-X. ZHOU, H. LIU, Y. LI, H.-L. JIANG* (UNIVERSITY OF SCIENCE AND TECHNOLOGY OF CHINA, HEFEI, P. R. OF CHINA) A MOF-Derived Co-CoO@N-Doped Porous Carbon for Efficient Tandem Catalysis: Dehydrogenation of Ammonia Borane and Hydrogenation of Nitro Compounds *Chem. Commun* **2016**, *52*, 7719–7722.

Hydrogenation of Nitro Compounds by Using a Porous Carbon–Cobalt Catalyst



Significance: An N-doped porous carbon-encapsulated Co–CoO nanocomposite (Co-500-3 h), prepared by pyrolysis of a zeolite-type cobalt metal–organic framework (ZIF-67) at 500 °C under N₂, promoted the hydrogenation of nitro compounds with hydrogen generated from NH_3BH_3 , to give the corresponding amines in 86% to quantitative yield. **Comment:** The Co-500-3 h catalyst was characterized by powder XRD, Raman spectroscopy, N_2 adsorption, ICP-AES, SEM, TEM, SAED, and XPS analyses. ICP-AES analysis indicated that the Co content of Co-500-3 h was 21.6%, and TEM images showed that the diameter of the Co nanoparticles in Co-500-3 h was generally in the range 6–20 nm.

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