CHEMISTRY

Paraffin–Ni(cod)$_2$ Capsule for Use in Ni-Catalyzed Cross-Couplings on the Benchtop

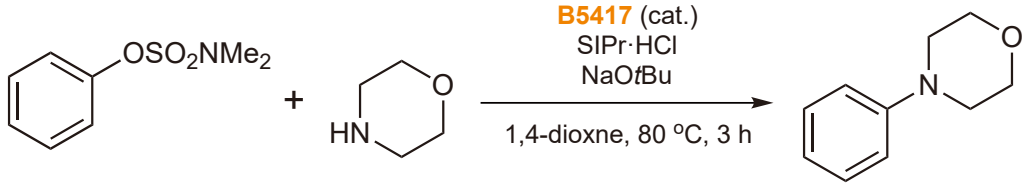
Ni(cod)$_2$ (Wax encapsulated)
(*ca.* 0.05 mmol/capsule)
5each
[B5417]

Advantages

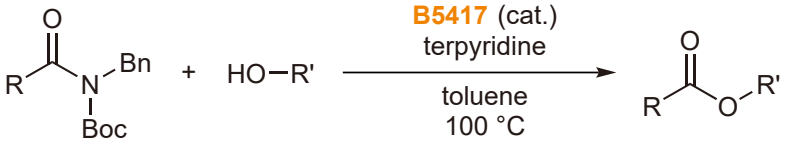
- No Glovebox Handling Required
- General Use in Ni(cod)$_2$-Mediated Reactions
- Long-Term Air and Moisture Stability

Application

Amination of Sulfamate [1)]



Esterification of Aliphatic Amide [2)]



Reference 1) J. E. Dander, N. A. Weires, N. K. Garg, *Org. Lett.* **2016**, *18*, 3934. https://doi.org/10.1021/acs.orglett.6b01758
2) L. Hie, N. K. Garg, *et al.*, *Angew. Chem. Inter. Ed.* **2016**, *55*, 15129. https://doi.org/10.1002/anie.201607856

Related Products

Ni(cod)$_2$ (= Bis(1,5-cyclooctadiene)nickel(0))	5g [B3095]
SIPr·HCl (= 1,3-Bis(2,6-diisopropylphenyl)imidazolinium Chloride)	500mg / 1g / 5g [B3157]

Paraffin–Ni(cod)$_2$ Capsules for Use in Ni-Catalyzed Cross-Couplings on the Benchtop

Introduction of the Researcher

Garg Research Group

Natural Product Synthesis & Reaction Discovery

Professor **Neil K. Garg, Ph.D.**
UCLA Chemistry and Biochemistry

Research Description

Prof. Garg's lab is interested in the development of catalytic methodologies to activate amide C–N bonds for subsequent manipulation. Toward this end, they have developed a number of nickel-catalyzed amide activation reactions to access esters, other amides, and ketones from this traditionally inert functional group. The general use of these methodologies has been fettered by the requirement of glovebox handling of the synthetically important, air sensitive Ni(cod)$_2$ precatalyst. As a means to eliminate glovebox requirements for use of this chemistry, Garg and Co. developed paraffin–Ni(cod)$_2$ capsules that enable the transformations to be performed entirely on the benchtop. The capsules have been demonstrated to work in the aforementioned amide activation reactions as well as a number of other Ni(cod)$_2$-mediated cross-coupling reactions. These capsules are expected to broaden the use of nickel catalysis in both academia and industry.

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