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Organometallic Hollow Spheres Bearing Bis(N-Heterocyclic Carbene)–Palladium Species: Catalytic Application in Three-Component Strecker Reactions


Self-Supported NHC–Palladium Catalyst for the Strecker Synthesis

Significance: The organometallic hollow sphere (OMHS) catalyst was prepared by self-supporting of Pd(OAc)₂ and tetrahedral 1 having four imidazolium salts. The Strecker reaction of aryl methyl ketones 2 with OMHS gave the corresponding α-aminonitriles 3 in 3–91% yield.

Comment: The average diameter of OMHS was 1.50 ± 0.15 µm. OMHS was reused twice without loss of catalytic activity. The catalyst was characterized with SEM, TEM, EDS, TGA, elementary analysis, and solid-phase ¹³C NMR spectroscopy.