A Highly Active Heterogeneous Palladium Catalyst Supported on a Synthetic Adsorbent

Yasunari Monguchi,1 Yuki Fujita,1 Koichi Endo,1 Shinobu Takao,2 Masatoshi Yoshimura,2 Yukio Takagi,2 Tomohiro Maegawa,1,3 and Hironao Sajiki1*

1Laboratory of Organic Chemistry, Gifu Pharmaceutical University
5-6-1 Mitahora-higashi, Gifu 502-8585, Japan
2N.E. Chemcat Corporation, 678 Ipponmatsu, Numazu, Shizuoka 410-0314, Japan
3Graduate School of Pharmaceutical Sciences, Osaka University, 1-6 Yamada-oka, Suita, Osaka, Japan
e-mail: monguchi@gifu-pu.ac.jp, sajiki@gifu-pu.ac.jp

Palladium on charcoal (Pd/C), which has been commonly used as a hydrogenation catalyst, is finding wide application in various types of reactions including cross-couplings.1 However, the catalyst activity is usually affected by the suppliers or even manufacturing lot numbers of the same product number (brand), since the charcoal is obtained from natural resources such as peat or sawdust and contaminated with ultratrace amounts of impurities as typified by metals derived from the soil, air, and/or water as the natural environment. In this symposium, we present the preparation of the highly dispersed 10% Pd/HP20 from Pd(OAc)₂ and a commercial synthetic adsorbent, DIAION® HP20, and its application to the hydrogenation and ligand-free Suzuki-Miyaura coupling reaction, indicating the comparable catalyst activity to typical Pd/Cs.2

References
