Immobilization of Organic Functional Groups onto Silica

Significance: Functionalized vinylsilanes 3 were prepared by hydroacylation of dimethyldivinylsilane (2) with various aldehydes 1 in the presence of (Ph3P)2RhCl, 2-amino-3-picoline, and 4-(trifluoromethyl)benzoic acid (63–92% yield, 11 examples). Immobilization of 3 onto silica by using [IrCl(coe)2]2 and DMA·HCl gave the corresponding functionalized silica compounds 4 with 0.58–1.04 mmol/g of loading (11 examples).

Comment: The silica-immobilization method ([IrCl(coe)2]2; DMA·HCl) has been developed by the same authors (Org. Lett. 2007, 9, 4073). Surface modification of hydrophilic glass slides with vinylsilanes 3e–g gave the significantly hydrophobic glass slides 9e–g as estimated from contact angle measurements.

SYNFACTS Contributors: Yasuhiro Uozumi, Yoichi M. A. Yamada, Toshihiro Watanabe

SYNFACTS 2010, 9, 1077-1077 Published online: 23.08.2010
DOI: 10.1055/s-0030-1257987; Reg-No.: Y09210SF