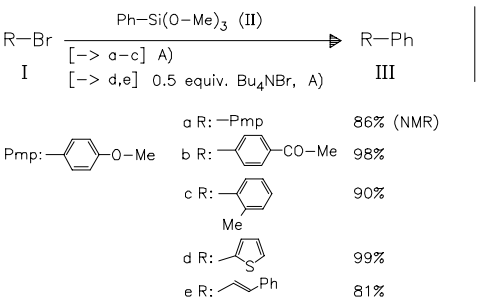
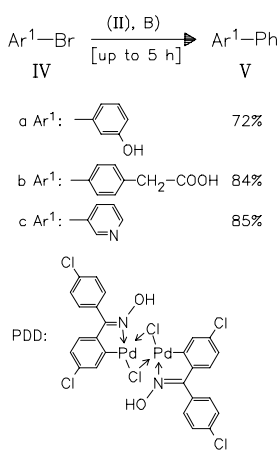
Polyphenyl derivatives

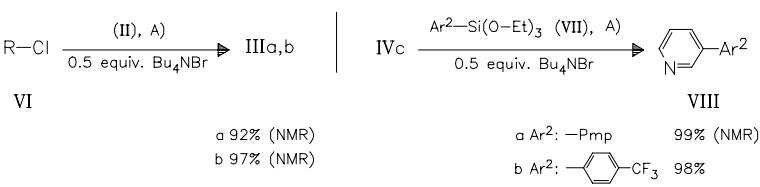
Q 0700

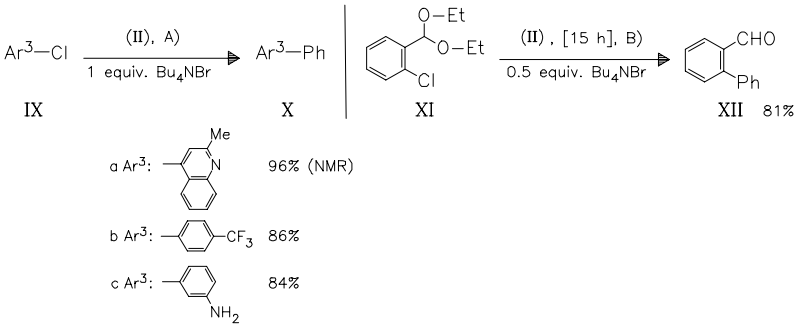
37- 086

Solvent-Less and Fluoride-Free Hiyama Reaction of Arylsiloxanes with Aryl Bromides and Chlorides Promoted by Sodium Hydroxide: A Useful Protocol for Palladium Recycling and Product Isolation. — Aryl bromides and chlorides are coupled with arylsiloxanes in the presence of very low loadings of dimeric palladium catalyst PDD (0.001-0.1 mol%) in concentrated aqueous NaOH solution to give biaryls and heterobiaryls, which are simply isolated by ether extraction. For some aryl halides, Bu_4NBr is necessary as additive for the cross-coupling. In most cases, the performance under microwave irradiation gives comparable yields of the biaryls in a significantly reduced reaction time compared to conventional heating in a pressure tube. The method allows the recycling of the palladium catalyst and its reuse. — (ALACID, E.; NAJERA*, C.; Adv. Synth. Catal. 348 (2006) 7-8, 945-952; Dep. Quim. Org., Fac. Cienc., Univ. Alicante, E-03080 Alicante, Spain; Eng.) — Klein








Ar3—Cl
(II), A)
1 equiv. Bu4NBr
Ar3—Ph
IX
X
O—Et
O—Et
Cl
XI
(II), [15 h], B)
0.5 equiv. Bu4NBr
CHO
Ph
XII 81%
a Ar3:
Me
N
96% (NMR)
b Ar3:
CF3
86%
c Ar3:
NH2
84%