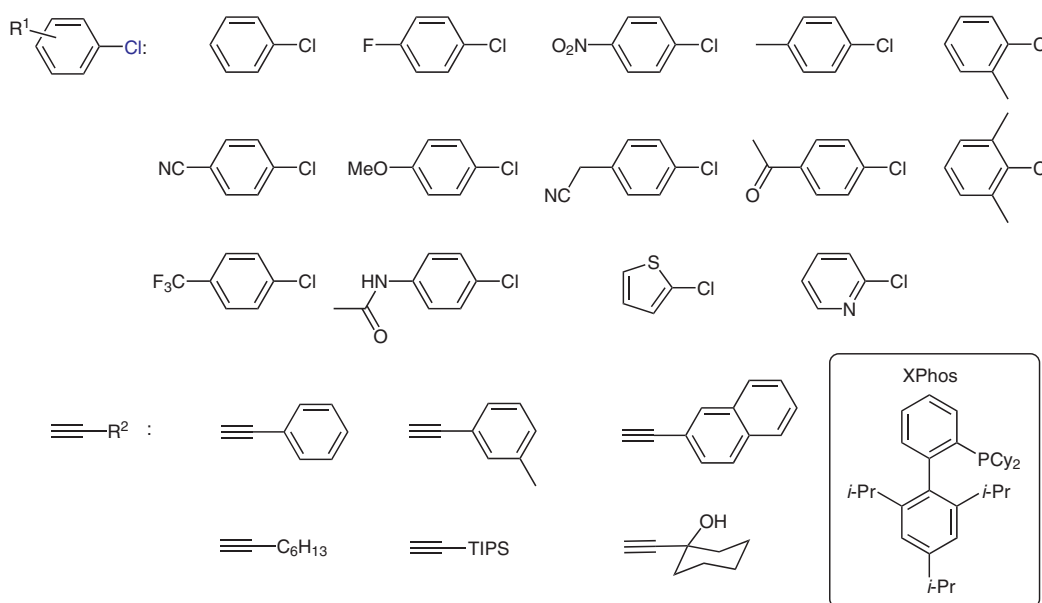
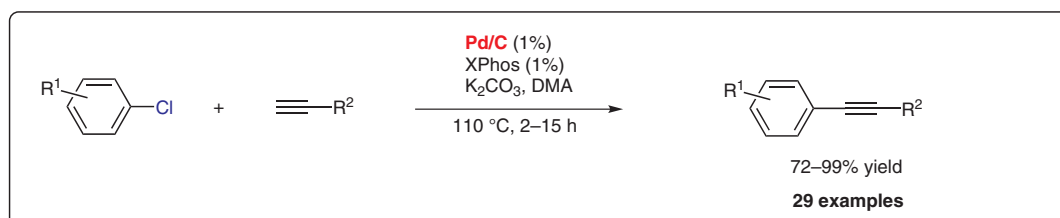


# Copper-Free Sonogashira Coupling of Aryl Chlorides with Pd/C



**Significance:** The Sonogashira coupling of aryl chlorides with terminal acetylenes under copper-free conditions in the presence of a palladium on charcoal catalyst were described. To a suspension of 10% Pd/C Selcat Q6 (5 mg, 0.005 mmol), XPhos (2.4 mg, 0.005 mmol) and  $\text{K}_2\text{CO}_3$  (97 mg, 0.75 mmol) in dimethylacetamide (0.25 mL) under argon were added an aryl chloride (0.5 mmol) and an alkyne (0.75 mmol). The reaction mixture was stirred at 110 °C to give the Sonogashira coupling product (29 examples: 72–99% yield).

**Comment:** The authors also showed recycling of the Pd/C catalyst (five times). The activity of the recycled catalyst decreased after each run. Prolonged reaction time realized full conversion in every repeated run (12, 16, 18, 20 and 24 h, respectively). The authors tested several commercially available Pd/C catalysts (Selcat Q6, Selcat H6, Selcat A6, Degussa E196 KP/D, Degussa E1702 KP/D, Degussa E196 WN/D, Hereaus K0218, Dutral, Panreac, Fluka, and Norit A). The type of the applied catalyst is essential for successful coupling.

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