

GS4-6 A Pd/C-catalyzed Sonogashira coupling reaction: Toward an environmentally benign process

○Shigeki MORI¹, Satoka AOYAGI¹, Takayoshi YANASE¹, Maiko TOTSU¹, Yasunari MONGUCHI¹, Tomohiro MAEGAWA¹, Hironao SAJIKI¹

¹Gifu Pharmaceutical University

Sonogashira reaction, a Pd-catalyzed cross-coupling between aryl halides and terminal alkynes, is a powerful tool for the synthesis of various aryl alkynes although the use of copper salts, toxic phosphine ligands, amines, and homogeneous Pd catalysts which are generally difficult to recover, reuse, and remove out from the reaction mixture is usually essential. Recently, much attention has been arrested for the development of the environmentally-benign Sonogashira reaction using heterogeneous Pd catalysts, which eliminate such difficulties. In this seminar, we wish to report that the use of only 0.4 mol% of commercial Pd/C efficiently catalyzed the Sonogashira cross-coupling between various aryl iodides and terminal alkynes under copper salt, phosphine ligand and amine-free reaction conditions.

