

Palladium - dppb - borate-catalyzed regioselective synthesis of cinnamate esters by alkoxy carbonylation of phenylacetylene.

Tijani, Jimoh; Suleiman, Rami; El Ali, Bassam. Chemistry Department, King Fahd University of Petroleum & Minerals, Dhahran, Saudi Arabia. *Applied Organometallic Chemistry* (2008), 22(10), 553-559.

Abstract

The regioselective alkoxy carbonylation of phenylacetylene into various cinnamate esters was achieved with a catalyst system formed from palladium (II), 1,4-bis(diphenylphosphino) butane (dppb) and salicylborate complex in acetonitrile as a solvent. The influence of various parameters on the overall conversion of phenylacetylene and the selectivity of the reaction were studied systematically by varying the type of palladium complex, acids promoter, CO pressure, temp. and the reaction time. This investigation allowed us to obtain the predominant formation of cinnamate esters with excellent selectivity (90-96%).