

**Regioselective control of the thiocarbonylation of terminal acetylenes with aryl thiols catalyzed by Pd(II) and diphosphine ligands.**

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**Abstract**

Control of the regioselective thiocarbonylation of RC.tplbond.CH [R = Pr, pentyl, Me<sub>3</sub>C, (CH<sub>2</sub>)<sub>3</sub>NC, Ph] with 4-R<sub>1</sub>C<sub>6</sub>H<sub>4</sub>SH (R<sub>1</sub> = H, Me) was successfully achieved by using Pd(OAc)<sub>2</sub> and 1,4-bis(diphenylphosphino)butane (dppb) or 1,3-bis(diphenylphosphino)propane (dppp) as catalysts. The formation of the corresponding thioesters CH<sub>2</sub>:CRC(O)SC<sub>6</sub>H<sub>4</sub>-4-R<sub>1</sub> and RCH:CHC(O)SC<sub>6</sub>H<sub>4</sub>-4-R<sub>1</sub> depends mainly on the type of ligand (dppp or dppb) and the solvent (THF or CH<sub>2</sub>Cl<sub>2</sub>) under CO/H<sub>2</sub> or syngas mixt.