Palladium(II) acetate catalyzed efficient synthesis of N-aryl α ,β -unsaturated amides via carbonylative addition of aniline derivatives to aromatic alkynes.

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Abstract

A series of new N-aryl α,β-disubstituted amides (gem or E1; trans or E2) were synthesized in good yields by carbonylative addn. of aniline derivs. to arom. alkynes, catalyzed by Pd(OAc)2 and 1,3-bis(diphenylphosphino)propane. The catalytic synthesis of tertiary α,β-unsatd. amides was also achieved. Traces of products were obsd. in the absence of p-toluenesulfonic acid, used as an additive. The reaction is sensitive to the type of phosphine ligand and solvent.