

Synthesis of Fluorescent oligo(p-phenyleneethynylene) (OPE3) via Sonogashira Reactions

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Abstract.

Sonogashira reactions of 4-(2,5-diiodobenzoyl)morpholine and 4-(5-bromo-2-iodobenzoyl)morpholine with arylacetylenes catalyzed by Pd₂(dba)₃ in DMSO allowed preparation of fluorescent oligo(p-phenyleneethynylene)s (OPE3) with fluorescence quantum yields up to 0.87. DMSO proved to be very efficient for this double Sonogashira coupling in which other solvents failed.

Key words: Sonogashira coupling, oligo(p-phenyleneethynylene)s, OPE3, fluorescence