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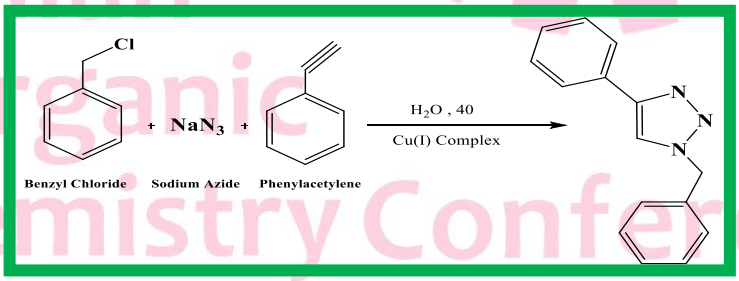
Synthesis, Characterization and Catalysis by Highly Active Cationic Copper(I) Complexes in the Cycloaddition of Azides and Alkynes

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Huisgen 1,3-dipolar azide−alkyne cycloaddition is an important reaction in click chemistry and is applied to the preparation of biologically active compounds and biomolecules toward preclinical and clinical applications.3 Meldal and coauthors4 and Sharpless and coauthors5 independently reported the copper-catalyzed azide−alkyne cycloadditions (CuAAC), in which a Cu(I) catalyst promotes the reaction regioselectively to afford 1,4-substituted 1,2,3-triazols [1]. Among the most genuine examples of "click chemistry" the copper-catalyzed Huisgen 1,3-dipolar cycloaddition of azides and terminal alkynes (CuAAC) (Scheme 1) has found wide chemical applications in many fields,3,4 rendering 1,2,3-triazoles under mild and neutral conditions with high efficiency [2]. After many years of research, it was proven that the Cu(I)-catalyzed azide-alkyne cycloaddition (CuAAC reaction) could be performed under various conditions according to the need of click chemistry using the catalysis of various copper salts that generate Cu(I) sources in situ [3,4]. In this work, we have investigated the synthesis, characterization and catalysis by highly active cationic complexes of copper (I) in the cycloaddition of azides and alkynes.



Keywords: CuAAC Reaction, Cycloaddition of Azides and Alkynes, Click Reaction, Cu(I) Complex

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