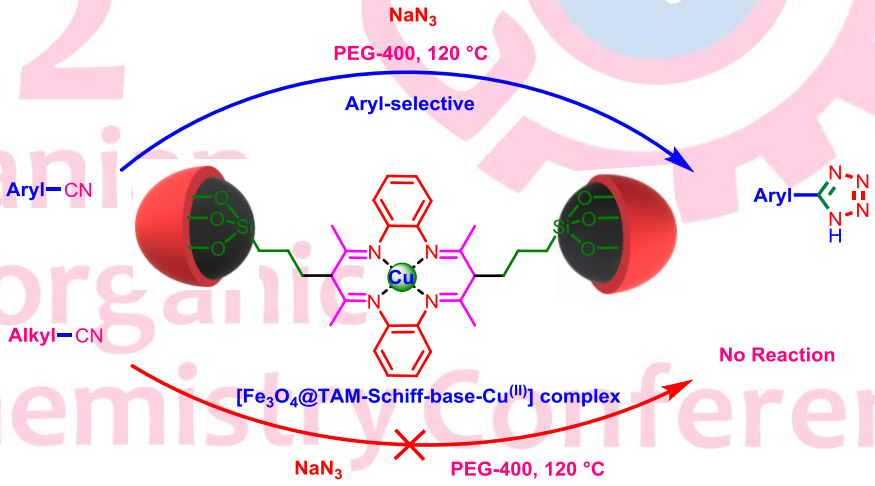
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Nanomagnetic Schiff Base Complex of Copper(II): Synthesis, Characterizations, and Its Catalytic Application in synthesis of 5-substituted-1H-tetrazole derivatives

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Homogeneous catalysts, which have been widely utilized to catalyze chemical processes, have low recoverability, reusability, and stability [1]. To circumvent these constraints, heterogeneous catalysts that are more efficient and environmentally benign are being investigated [2-3]. Several investigations have been carried out in which supported precious metals, such as palladium, gold and silver, were utilized as catalysts for the click functionalization of aryl nitriles to their corresponding 5-substituted-1H-tetrazoles (RCN_4H). Generally, the immobilization of transition metals on high-surface-area materials, such as nanomaterials, has been documented [4]. Herein, Fe_3O_4 is used as a support material for the ACAC functionalities. Afterwards, the corresponding Cu(II) Schiff base complex was synthesized using the template approach and, then, it was applied as a promoter to assist the sustainable synthesis of 5-substituted-1H-tetrazole derivatives in PEG-400 as a greener alternative for the traditional solvents (Scheme 1).

Keywords: Magnetic Nanoparticles, 5-substituted-1H-tetrazoles Immobilized Copper Complex.



Scheme 1. Synthesis of 5-substituted-1H-tetrazoles

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