



THE USE OF CARBON NANOTUBES AS SUPPORT OF CATALYST: ONE-POT DIASTEREOSELECTIVE SYNTHESIS OF 3-MERCAPTO-2-PYRIDINONES

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Since their discovery, carbon nanotubes have attracted great attention because of their unique mechanical and electric properties arising from their special atomic and electron structure. Various potential applications involving carbon nanotubes including energy storage, hydrogen storage, reinforced materials, nanoelectric devices, field emission, and catalysts support have been proposed.¹ By controlling the length, diameter, opening and functionalization of the tubes, we can have a variety of materials capable of supporting various catalysts, metal nanoparticles, inside or outside and for different applications. The chemical and mechanical modification of carbon nanotubes has come to the frontline in the recent years as proved by the increasing number of papers in this topic. In this work, we have functionalized the carbon nanotubes by organic ligands that will stabilize metal nanoparticles (MNPs) such as: Ag, Cu, Co, Ni, and Pd, to prepare a series of hybrid materials CNTs@MNPs. Subsequently, we used these materials to catalyze the one-pot multi-component reaction of the synthesis of 3-mercapto-2-pyridinones. The results are very interesting with high yields, good diastereoselectivity and the catalysts are recoverable.