

Abstract

A highly efficient, green and simple solvent-free method for the synthesis of 1-amidoalkyl-2-naphthols *via* one-pot multi-components condensation of 2-naphthol, aromatic/aliphatic aldehydes and urea in the presence of catalytic amount of sulfur (S_8) nanoparticles under solvent free reaction condition (SFRC) at 50 °C is described. This simple protocol offers advantages such as shorter reaction times, cleaner reaction profiles, simple operative experimental condition, easy work-up procedures, good to high yields, cheap, less toxic and moisture stability of the catalyst, recovery and reusability of the catalyst and environmentally benign within the framework of green chemistry.

Key words: Sulfur nanoparticles, aromatic/aliphatic aldehyde, urea, β -naphthol, SFRC.