



USING HIGH SPEED VIBRATION MILL TO RING BROMINATION OF BETA-NAPHTHOLE AND INVESTIGATION OF RELATED MIXING PARAMETERS EFFECTS ON THE YIELD AND REACTION TIMES

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Brominated arenes are important and versatile intermediates for the synthesis of a wide variety of biologically active compounds. The direct bromination of aromatic systems with Br₂ generates toxic and corrosive hydrogen bromide which causes serious environmental pollution. therefore a simple and better method is desirable N-Bromosuccinimide (NBS) is an important, popular and inexpensive reagent for the bromination and oxidation of organic compounds Solvent-Free organic reactions have been as useful protocols in organic synthesis. Because harmful effects of organic solvents, they are not involved in the production process. Some novel products can be obtained only from solvent-free reactions rather than from the liquid phase reactions. Another's advantages of this method are easier workup, shorter reaction time and high yields. Therefore solid state reactions or solvent free reactions are one of the most important synthesis techniques in green chemistry. Recently, a mechanical technique called High Speed Vibration Mill (HSVM) has been popular in organic synthesis. In this work we report the solvent-free Ring Bromination of beta-naphthole using HSVM. This reaction is take place in quantitatively yield and in a few minutes. The effects of the particle size of reactants, rate of vibration and mill ratio filling parameters are investigated.