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## An efficient and straight forward synthesis of 1, 4-dihydropyridines under solvent free conditions

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Now a day's researcher is focused on finding out alternative source of energy that works on green chemistry principles. Chemical reactions under solvent free conditions offers enhanced selectivity, efficiency, easy to manipulation and often avoid toxic, harmful and volatile solvents. Solvents-free approaches involve grinding, ultrasonic irradiations, microwave irradiations or catalysis by inexpensive and recyclable catalysts. Further heterocycles containing nitrogen have significance and most of them carry out some physiological functions in living cells as well as used in industrial and pharmaceutical fields. Among the various heterocycles, 1,4-dihydropyridines belong to a class of nitrogen containing heterocycles having a six-membered ring. Synthesis of these compounds is a keen area for researchers and attracts attention due to their noteworthy medicinal and biological activities. They are used in pharmaceutical (as antimalarial, vasodilator, anesthetic and anticonvulsant) dye and photo industries. They are also used for treatment of cardiovascular disorders and chemosensitizer as well as antitubercular agents. Observing the biological and medicinal properties of these 1,4-dihydropyridine derivatives, an efficient, simple, straightforward reaction involving ethyl acetoacetate, arylaldehyde and ammonium acetate in specific ratio in the presence of ammonium sulfate as catalyst has been described. The catalyst is easily available and recyclable. The method is advantageous in terms of excellent yields and short reaction times.

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