Electron Transfer-induced Aromatization of 1,4-Dihydropyridines

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A wide variety of 3,5-dicarboethoxy-1,4-dihydropyridines and 3,5-diacetyl-1,4-dihydropyridines are aromatized to the pyridine derivatives by 2,3-dichloro-5,6-dicyano-*p*-benzoquinone (DDQ) at room temperature and under microwave irradiation. An electron transfer-induced mechanism is proposed for this reaction which is influenced by the nature of the solvent, the nature of the substituents located on 3-, 4- and 5-positions of the 1,4-dihydropyridine ring, and the presence of oxygen or argon atmosphere.

Key words: Aromatization, 1,4-Dihydropyridines, DDQ, Electron Transfer, Oxidation