Efficient Persulphate Mediated Electrooxidation of Substituted Benzyl Alcohols in Biphasic Media

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This paper discusses the electro oxidative conversion of *p*-methoxybenzylalcohol (*p*-MBA) to *p*-anisaldehyde which was effected at a graphite anode in a biphasic media using persulphate as the mediator. Electrolysis conditions were optimized based on current density, electrode material, temperature, solvent, inorganic salt mediator and pH of the reaction system. The present investigation endowed with excellent yield of *p*-anisaldehyde (97%) under the best reaction conditions by tuning the electrolysis conditions along with a simple reaction set up. The optimized conditions were extended for the oxidation of other substituted benzyl alcohols and promising yields were obtained. A plausible mechanism for the oxidation of *p*-methoxy benzyl alcohol has been proposed.

Keywords: Selective oxidation, Biphasic media, Green Chemistry, Electro oxidation, Redox reaction *p*-methoxybenzyl alcohol

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