Synthesis, Electrochemical Characterization Of MoO$_3$-CeO$_2$ Mixed Oxide Nano Particles

R.R. Muthuchudarkodi$^1$, S. Kalaiarasi$^2$

$^1$Department of Chemistry, V.O. Chidambaram College, Thoothukudi-628008, India
$^2$Department of Chemistry A.P.C. Mahalaxmi College Thoothukudi–628002, Tamilnadu, India

Abstract: Nano MoO$_3$-CeO$_2$ mixed oxides were prepared by wet chemical method by mixing equimolar solutions of Ammonium molybdate(0.1M) and Cerium nitrate(0.1M) in aqueous Sodium hydroxide and refluxed at elevated temperature. The prepared nano MoO$_3$-CeO$_2$ mixed oxides were characterized by UV-Vis, TEM and CV studies. The absorption peak for MoO$_3$-CeO$_2$ mixed oxide has been found to be at 348 nm. The blue shifted absorption peaks of simple and mixed metal oxide nano particles showed nano scale effect. The size of synthesized nano particles were further confirmed by TEM and it was found to be 170 nm. Cyclic Voltammetric studies exhibit good adherent behaviour on electrode surface and good electroactivity at pH 1.0.

Keywords: MoO$_3$-CeO$_2$, UV-Vis, Cyclic Voltammetry, TEM.