ABSTRACT

Pristine CeO_2, WO_3, binary CeO_2 – chitosan, WO_3 – chitosan and ternary CeO_2 – WO_3 – chitosan composites were synthesized by pyrolysis, hydrothermal and direct blending methods. Films of these materials were deposited on FTO substrate by drop casting method. These films were characterized by FTIR, XRD, Raman and SEM techniques which describe the presence of functional groups, structural and morphological studies. TGA and DSC exhibited the thermal studies of CeO_2 – WO_3 – chitosan composite. UV studies demonstrated the optical properties in which the band gap of CeO_2 – chitosan, WO_3 – chitosan and CeO_2 – WO_3 – chitosan are 2.17, 2.67 and 2.81eV respectively. Photo-degradation of binary and ternary composites were studied by using 2,7 – dichloflouroscene and Bromophenol dyes.