**Effect of Ethylene Glycol:Citric Acid Molar Ratio and pH on the Morphology, Vibrational, Optical and Electronic Properties of TiO2 and CuO Powders Synthesized by Pechini Method**



**Figure S1**. pH as a function of NH4OH (a) TiO2 and (b) CuO



**Figure S2**. Results of the DTA and TGA thermal analysis of (a) 2:1 pH8 TiO2 and (b) 4:1 pH8 CuO



**Figure S3**. IR spectra zoom for the samples of CuO



**Figure S4**. Estimation of the direct band gap (a) TiO2 and (b) CuO



**Figure S4**. Wide energy range X-ray photoelectron spectroscopy (XPS) spectra of (a) TiO2 and (b) CuO.