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Electronic Supplementary Information

ZnO nanorods covered with TiO_2 layer: simple sol-gel preparation, optical, photocatalytic and photoelectrochemical properties

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1. Experimental Results

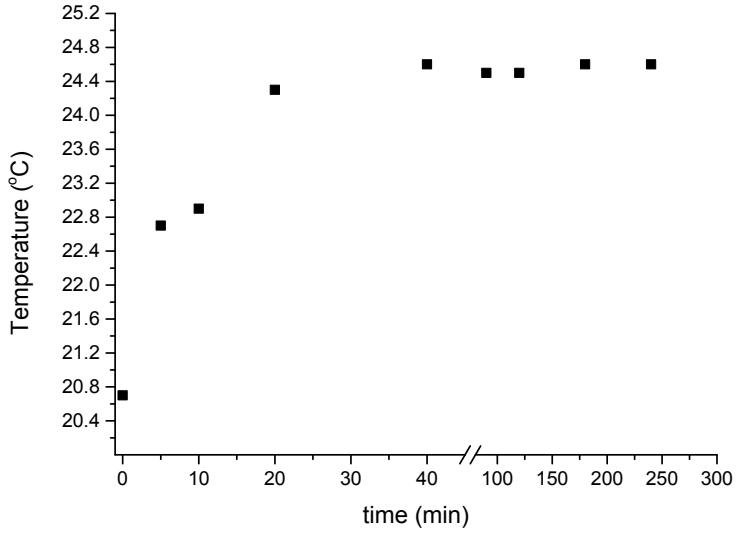

Fig. S1. Temperature change over time of aqueous solution in a cuvette placed at fixed distance of 1 cm from LED emitter.

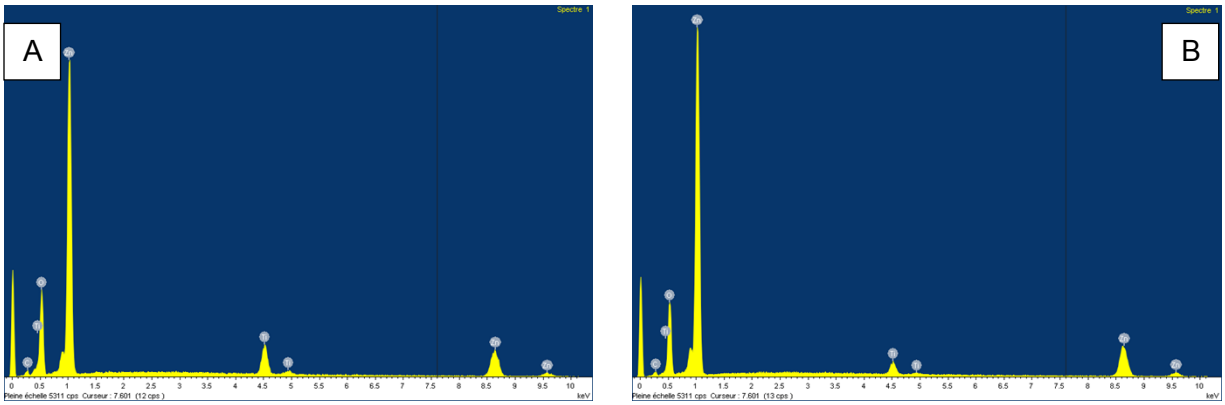

Fig. S2. EDX spectra of 3c-30min (a) and 1c-6h (b) samples.

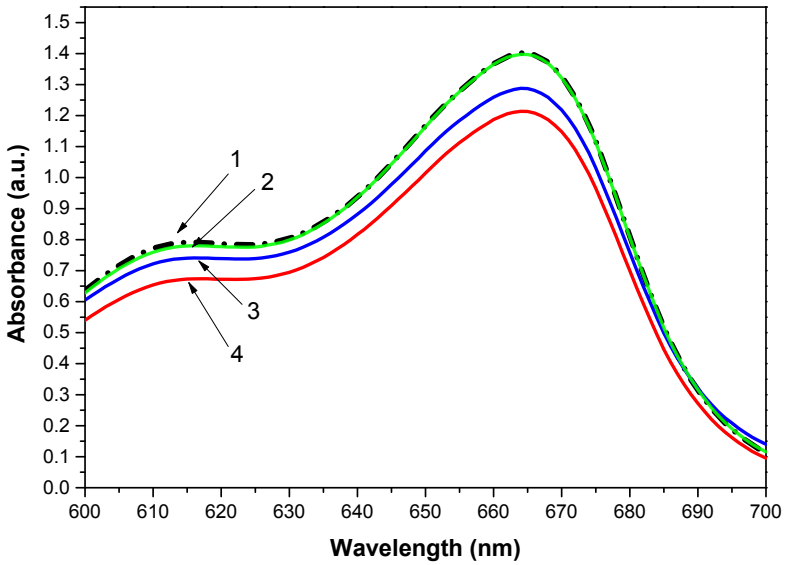

Fig. S3. The absorbance spectra of the initial MB conditioning solution (black curve, 1) and after 24 h of MB adsorption on ITO/ZnO (green curve, 2), 3c-30min (blue curve, 3) and 1c-6h (red curve, 4) samples.

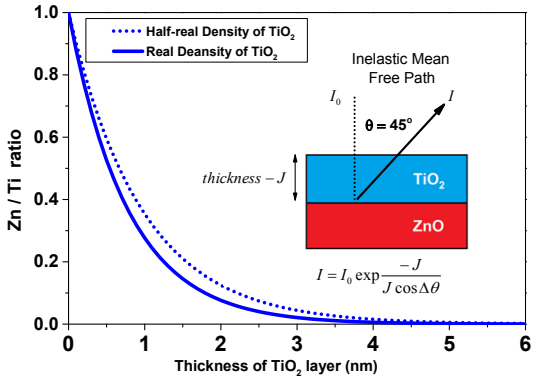

Fig. S4. Theoretical Zn/Ti atomic ratios in a function of thickness of TiO_2 layer deposited on ZnO, determined by calculations by means of QUASES-IMFP-TPP2M program. Scheme on the right side of the figure illustrates the basis of the analysis concept.

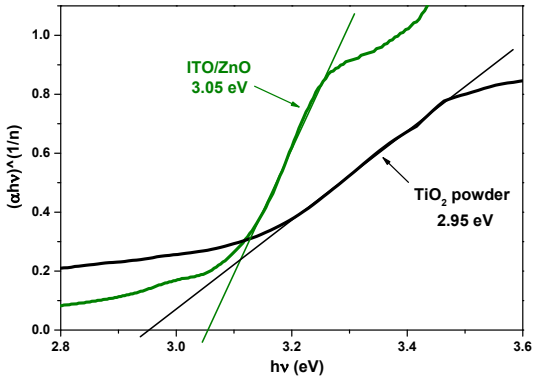

Fig. S5. $(\alpha h\nu)^{1/n}$ as a function of photon energy $(h\nu)$ calculated from diffuse reflectance spectra for determination of optical energy band gaps of the ITO/ZnO and the TiO_2 powder.