## **Supporting informations:**

## New Insights into the Sensing Mechanism of Shape Controlled ZnO Particles.

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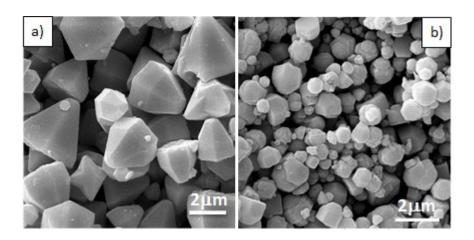
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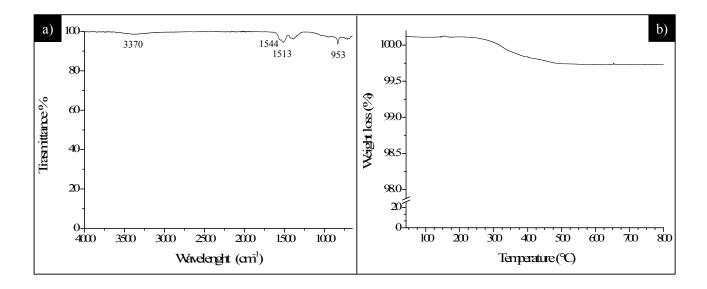
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Structural, morphological and spectroscopic characterization



**Figure S1**. SEM images of ZnO microcrystals obtained at  $200^{\circ}$ C for a) Zn/OA/OM = 1:2:8 and b) Zn/OA/OM = 1:8:2



**Figure S2.** a) ATR-FTIR spectrum and b) TGA curve of *EP* microcrystals after the washing treatment with EtOH, in order to purify the products from the surfactants residuals.

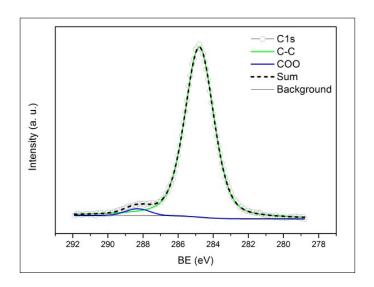
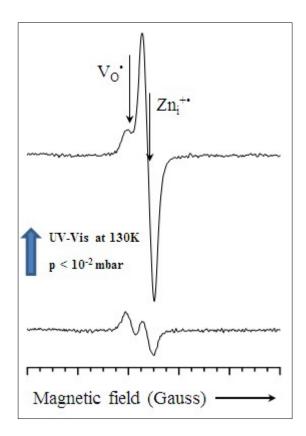


Figure S3. XPS spectrum in the C1s region for EP ZnO microcrystals

## ESR investigation



**Figure S4.** Experimental ESR spectra of ZnO® microcrystals at 130K before (bottom) and after (top) UV-Vis irradiation at  $p < 10^{-2}$  mbar.