

## SUPPORTING INFORMATION

### Home-prepared anatase, rutile, and brookite TiO<sub>2</sub> for selective photocatalytic oxidation of 4-methoxybenzyl alcohol in water: reactivity and ATR-FTIR study

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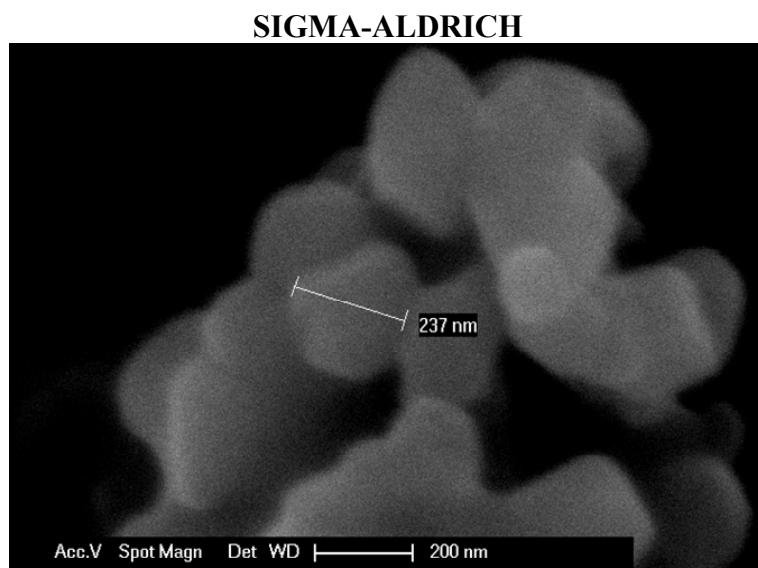
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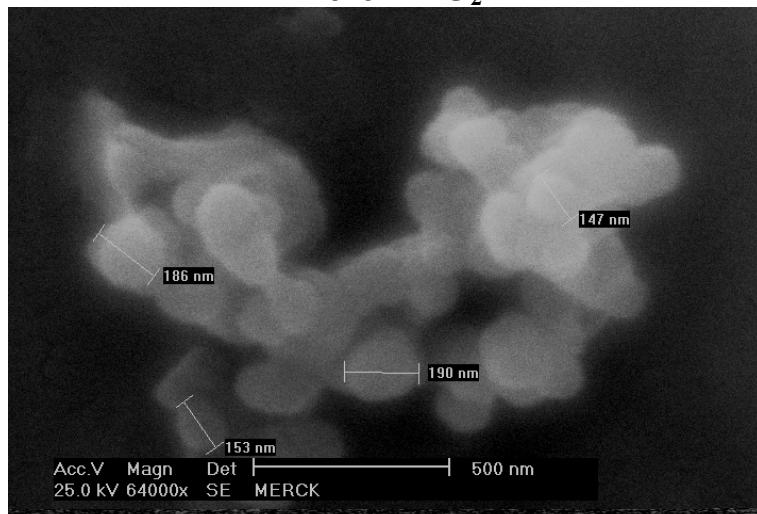
### SEM Images

SEM images were recorded in order to measure the particles agglomerations. SEM images of home-made rutile photocatalysts prepared at room temperature are presented in Figure S1 along with the commercial samples (Sigma Aldrich TiO<sub>2</sub> and Merck TiO<sub>2</sub>) used for the sake of comparison.



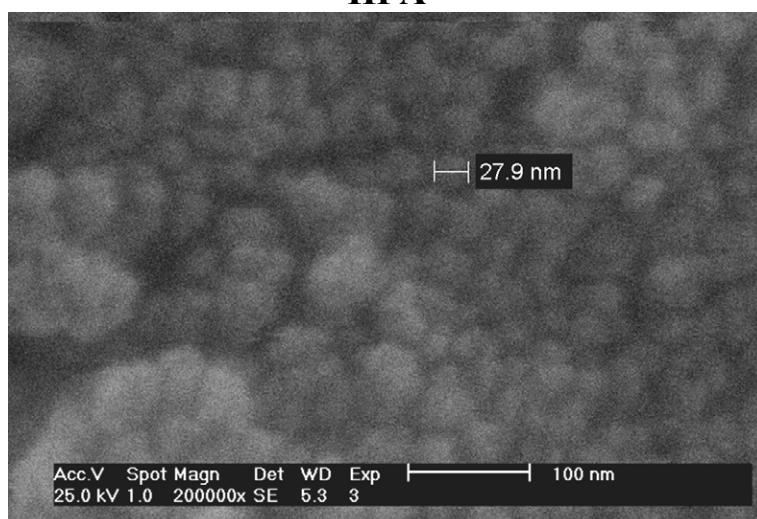
(a)

### Merck TiO<sub>2</sub>



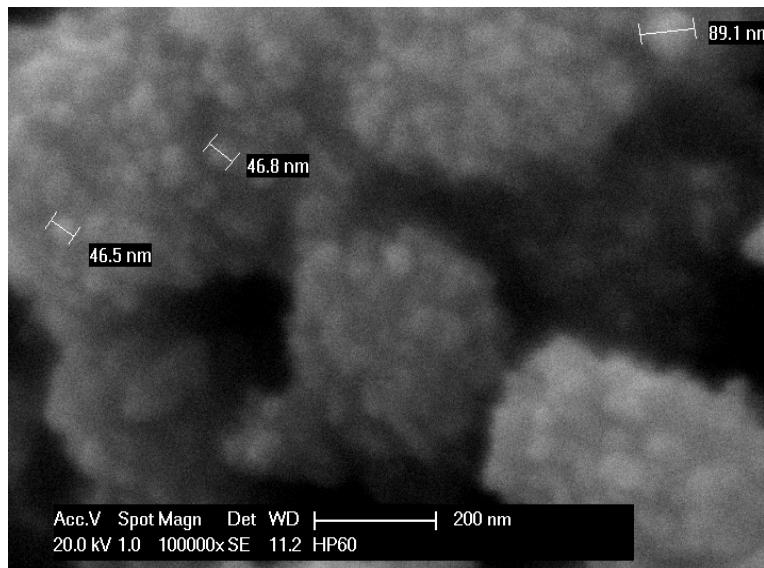
(b)

### HPA



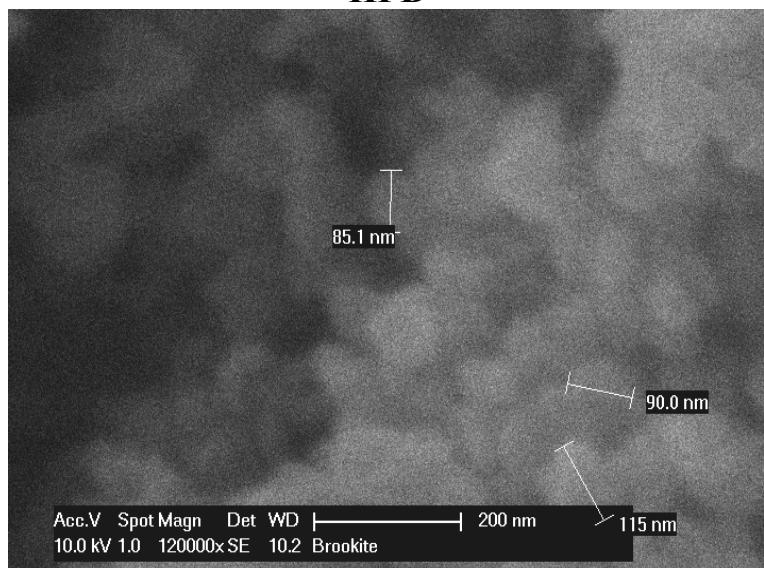
(c)

**HPR**



**(d)**

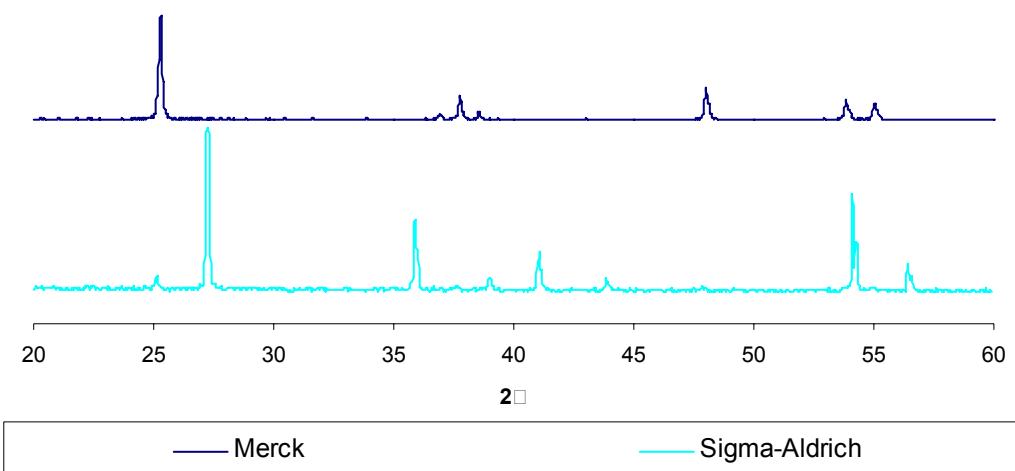
**HPB**



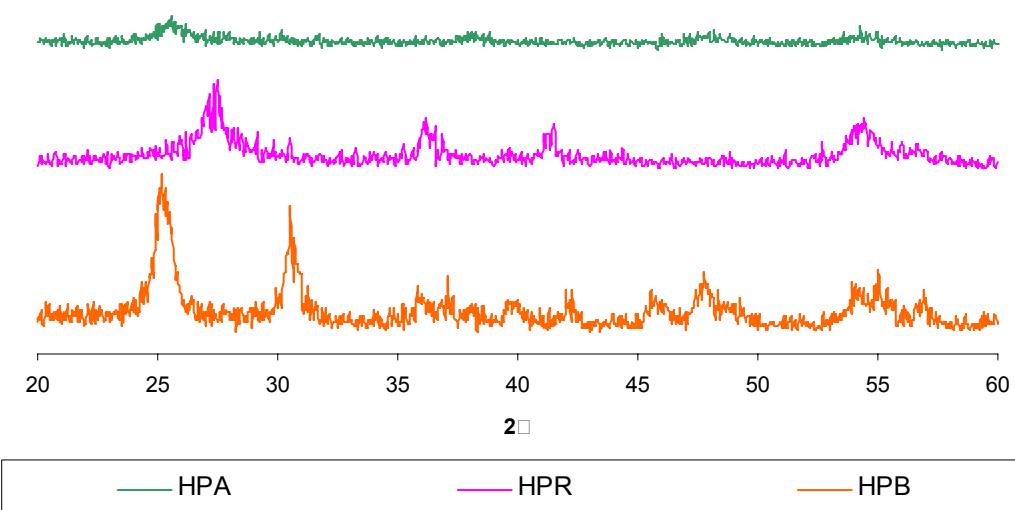
**(e)**

**Figure S1.** Selected SEM micrographs of Sigma Aldrich (a), Merck (b) and home prepared  $\text{TiO}_2$  (c-e) samples.

## XRD Diffractograms



(a)



(b)

**Figure S1** XRD patterns of commercial (a) and home-prepared (b) TiO<sub>2</sub> photocatalysts.