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# ARTICLE

# Influence of the porous texture of SBA-15 mesoporous silica on the anatase formation in $TiO_2 - SiO_2$ nanocomposites

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TableS 1. Structura	l and textura	l properties of the	e different mesoporous	hosts
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Sample	$S_{BET}^{a} / m^2.g^{-1}$	$V_{mes}^{a} / cm^{3}.g^{-1}$	$V_{micro}^{a}$ / cm <sup>3</sup> .g <sup>-1</sup>	Dp <sup>ª</sup> / nm	a₀ <sup>b</sup> /nm
0Tia@36	1022	0.58	0.22	4.4	9.9
0Tia@60	792	0.52	0.17	4.7	10.2
0Tia@90	1079	1.03	0.19	6.5	11.2
0Tia@130	641	1.20	0.05	7.8	11.9
0Tib@130	510	1.25	0.00	7.6	11.9

<sup>a</sup> S<sub>BET</sub> is the specific surface area obtained using the BET model,  $V_{micro}$  is the microporous volume extrapolated from the t-plots,  $V_{mecro} = V_{tot} - V_{micro}$  is the mesopore volume where  $V_{tot}$  is the total pore volume obtained at  $P/P_0 = 0.9$ ,  $D_p$  is the mean pore diameter obtained using the BJH model on the desorption branch.

<sup>b</sup>  $a_0$  is the lattice parameter calculated for a 2D hexagonal system,  $a_0 = (2d_{100})/V3$ , where  $d_{100}$  is the lattice spacing obtained using low angle XRD



Fig. S1. XRD patterns of the anatase phase and the internal standard chosen.

The areas of the peaks at 43.35 °20 for the corundum and at 48.04 °20 for the anatase was calculated after substraction of the background. We chose to study the areas instead of the peaks intensities in order to take into account the enlargement of the peak due to the anatase nanoparticles.

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Fig. S2. Calibration line obtained with the standard mixtures.



Fig. S3. SEM images of the SBA-15 type ordered mesoporous silicas synthesized at 36 °C (A), 60 °C (B), 90 °C (C) and 130 °C (D).



Fig. S4. TEM images with bright and dark field mode of 50Tia@60 (left) and 50Tia@90 (right).

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Fig. S5. Low-angles XRD patterns of a physical mixture (50 wt% of TiO<sub>2</sub> and SBA-15) and of the composite 50Tib@130.



Fig. S6. TEM images with bright and dark field mode of 25Tib@130 (left) and 80Tib@130 (right).



Fig. S7.  $(\alpha h\nu)^2$  versus photon energy (hv) for the different composites of series b.