

A facile synthesis of mesoporous crystalline tin oxide films involving a base-triggered formation of sol-gel building blocks

Dorothee Irmgard Fried, Alesja Ivanova, Vesna Müller, Jiri Rathousky, Bernd M. Smarsly,
Dina Fattakhova-Rohlfing

SUPPORTING INFORMATION

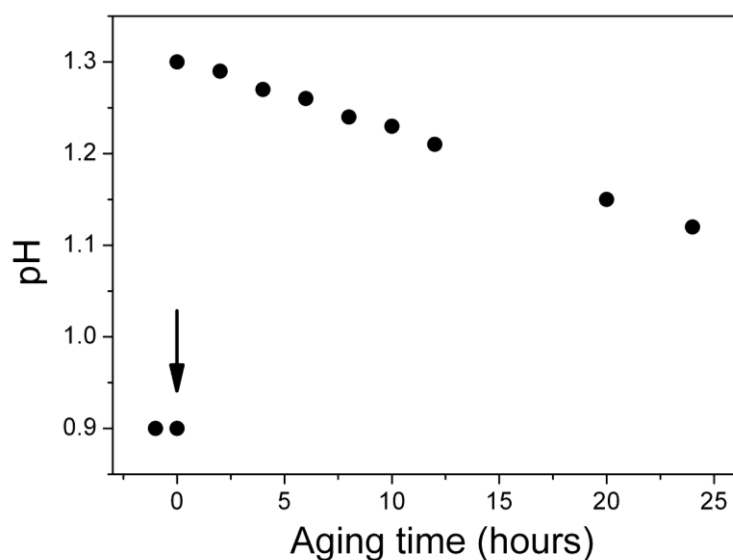


Figure S1. Change in pH of solution of SnCl₄ in a 1:1 mixture of EtOH and BuOH (concentration and solution preparation described in the Experimental part) after the addition of NH₄OH (OH/Sn = 2.6 mol/mol) and aging at room temperature. The arrow indicates the very moment of the NH₄OH addition.

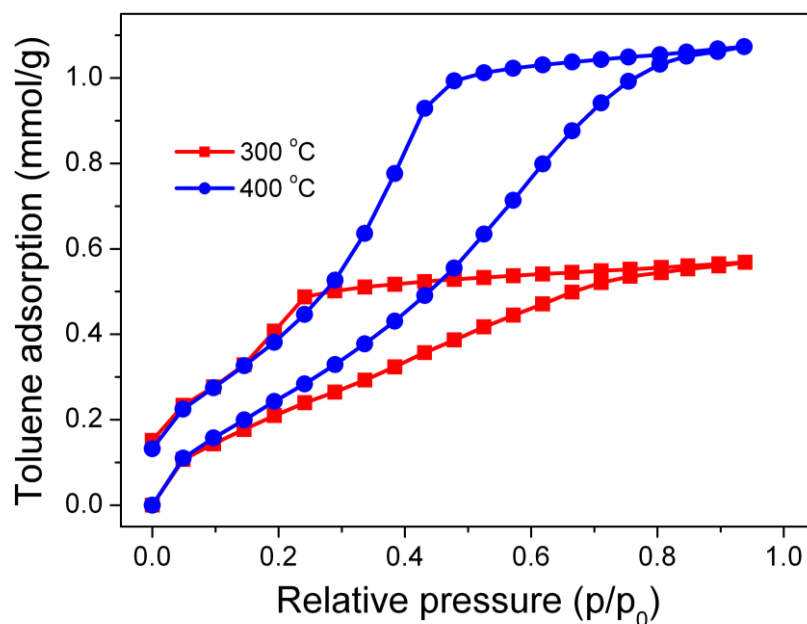


Figure S2. Adsorption isotherms of toluene at 298 K on SnO₂ films coated from OH-hydrolyzed solutions (OH/Sn molar ratio of 2.6, aged for one day at room temperature) calcined at 300 °C (red) and 400 °C (blue).

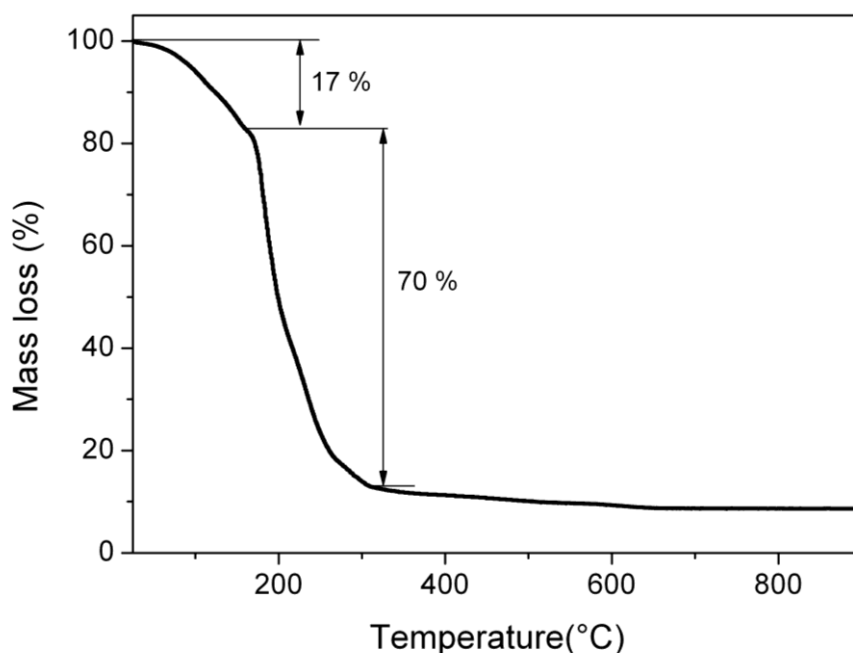


Figure S3. Thermogravimetry analysis (TGA) in air of the Pluronic F127-containing coating sol used for fabrication of mesoporous SnO₂ films. The mass loss at 0 – 160 °C and 160 – 300 °C corresponds to the removal of solvents and the combustion of Pluronic F127, respectively.

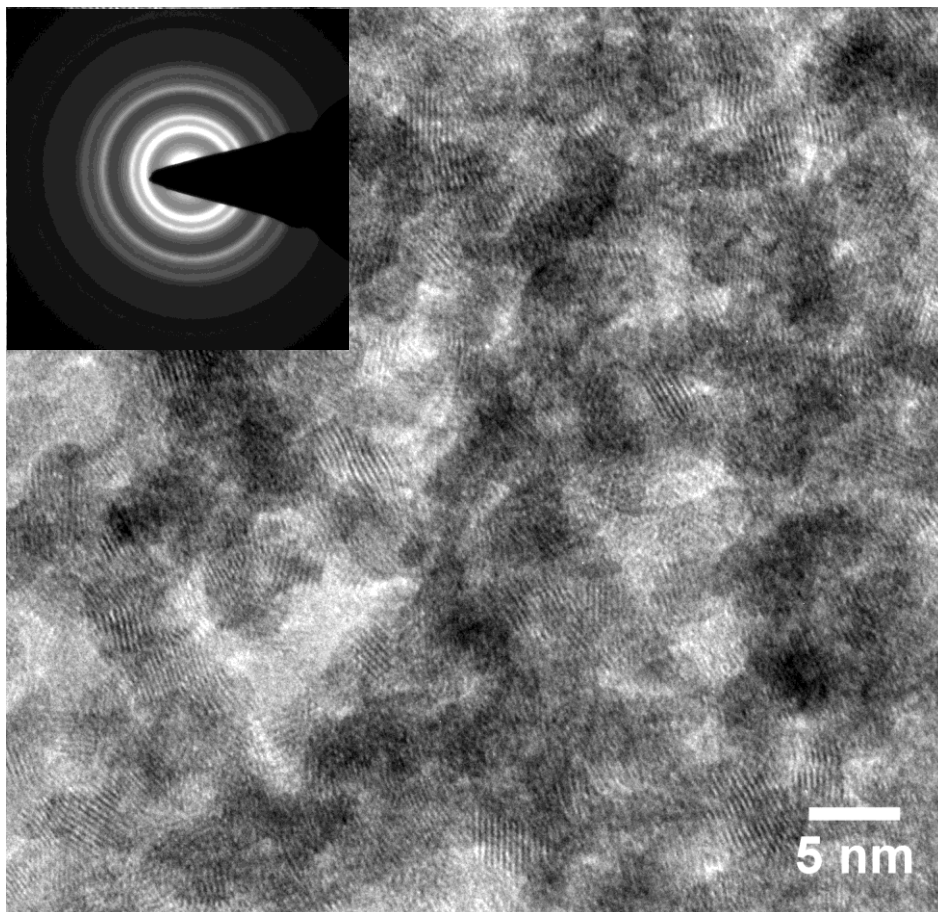


Figure S4. HR-TEM image with the corresponding SAED pattern in inset of the mesoporous SnO₂ films prepared from OH-hydrolyzed solution (OH/Sn molar ratio of 2.6, aged for one day at room temperature) calcined at 300 °C.