Supplementary Material (ESI) for Green Chemistry

Supplementary Information for

Chlorine borrowing: an efficient method for an easier use of alcohols as alkylation agents.

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Synthesis of SnO_2NPs

Procedure with tin(IV) chloride;[1] 1.5 ml of tin (IV)chloride (Aldrich; 99%) were slowly added to 30 ml anhydrous benzyl alcohol (Aldrich; 99,8%). The reaction mixture was heated to 110°C for 24 hours in a closed reactor under stirring. The benzyl alcohol was transfused. The white precipitate was dispersed in acetone, washed with ether and dried at 60°C.

Procedure with tin(IV) tert-butoxide;[2] In a typical synthesis, tin(IV) tert-butoxide (500mg, 1,216 mmol) was added to 20 ml benzyl alcohol. The reaction mixture was transferred into a Teflon cup of 45 ml inner volume, placed in a steel autoclave and carefully sealed. The autoclave was heated in a furnace at 220°C for 2 days. The resulting turbid suspension was centrifuged, the precipitate washed with ethanol and subsequently dried at 60°C.

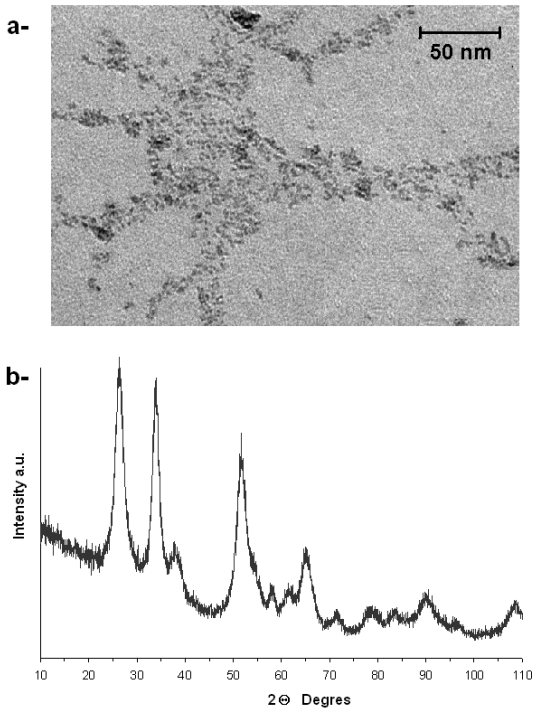

Fig. 1 a- Transmission electron micrographs of the used chlorine bearing SnO_2NPs. b- X-ray diffraction pattern of the same particles .

Evidences for the formation of benzyl chloride

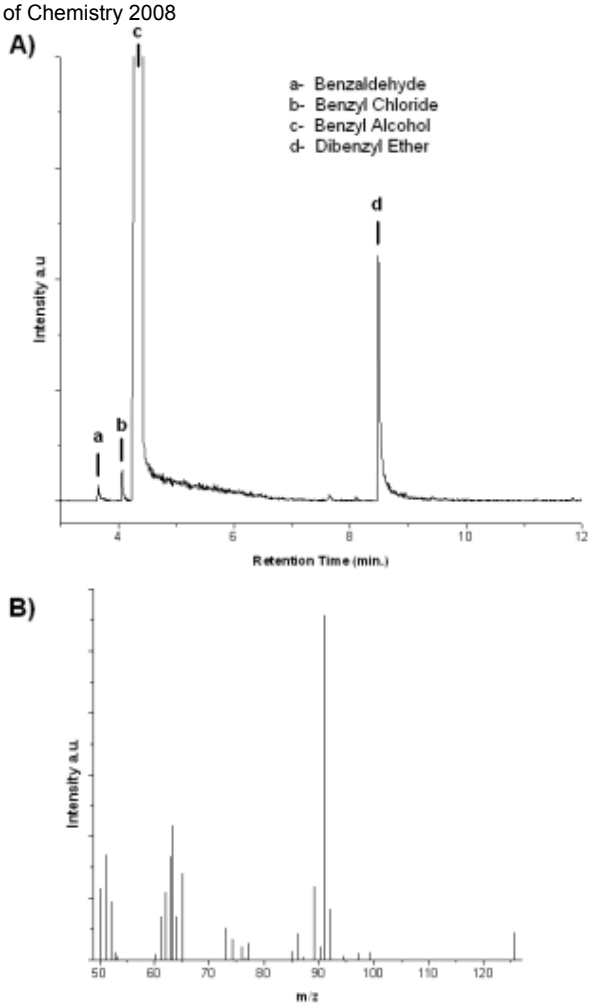

Fig. 2 Products detected in the reaction of benzyl alcohol (300mg) in presence of SnO2NPs (25mg) after 20h at 100°C. a- Chromatogram. b- Mass spectrum corresponding to product b.

1 J. H. Ba, J. Polleux, M. Antonietti, and M. Niederberger, *Advanced Materials*, 2005, **17**, 2509.

2 N. Pinna, G. Neri, M. Antonietti, and M. Niederberger, *Angewandte Chemie-International Edition*, 2004, **43**, 4345.