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Large scale and facile synthesis of Sn doped TiO2 aggregates usinghydrothermal synthesis

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Abstract: Sn doped TiO2 aggregates have been successfully prepared via one pot hydrothermal technique. Differentmethods were used to characterize prepared Sn doped TiO2 aggregates such as DRX, XPS, N2 adsorption (BET),FEGSEM and UV –Vis spectroscopy. It was illustrated that the size, the morphology and the phase of preparedTiO2 aggregates is strongly influenced by the amount of added Sn doping. In addition, it was demonstrated thatthe prepared aggregates properties is influenced by the synthesis temperature. Furthermore, it was shown thatthe prepared Sn doped TiO2 aggregates are of high crystallinity. The influence of added Sn dopant amount on theoptical and structural properties of the prepared Sn doped TiO2 aggregates have been investigated.

Keywords : Hydrothermal, Sn doping, TiO2, Nanoparticles assembly, optical properties