

Large scale and facile synthesis of Sn doped TiO₂ aggregates using hydrothermal synthesis

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Abstract: Sn doped TiO₂ aggregates have been successfully prepared via one pot hydrothermal technique. Different methods 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 prepared TiO₂ aggregates is strongly influenced by the amount of added Sn doping. In addition, it was demonstrated that the prepared aggregates properties is influenced by the synthesis temperature. Furthermore, it was shown that the prepared Sn doped TiO₂ aggregates are of high crystallinity. The influence of added Sn dopant amount on the optical and structural properties of the prepared Sn doped TiO₂ aggregates have been investigated.

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