

## **An efficient visible light photocatalyst based tin porphyrin intercalated between TiO<sub>2</sub>-graphene nanosheets for inactivation of *E. coli* and investigation of charge transfer mechanism**

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### **SEM analysis**

The structured morphology of the TiO<sub>2</sub>, TG (3%), and TGSP photocatalysts are shown in Fig. 1. It is clear that the graphene sheets were packed densely by TiO<sub>2</sub> nanoparticles with the average sizes of 38 nm. As it can be seen in the SEM image of the TG nanocomposite, significant aggregation of the TiO<sub>2</sub> nanoparticles is observed in the TG nanocomposite.

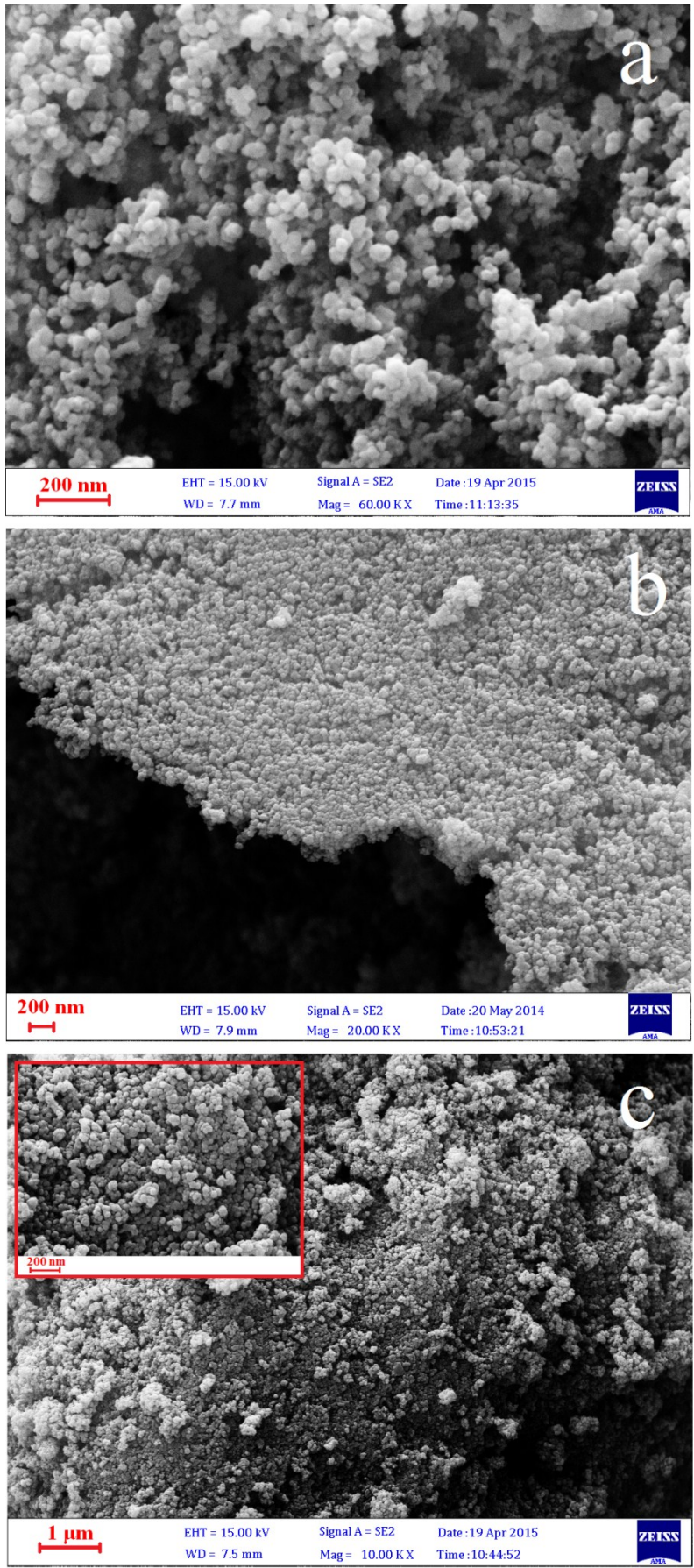


Fig. 1. SEM images of a)  $\text{TiO}_2$ , b) TG (3%), and c) TGSP