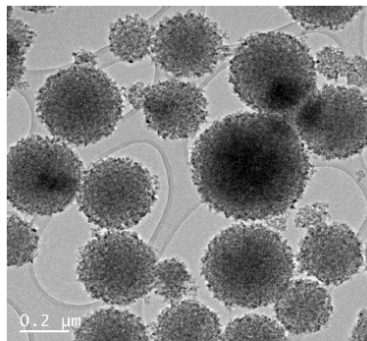


Application of recyclable TiO₂ spheres for photocatalytic degradation of emerging pollutants

P-201

M. Ilkaeva,¹ I. Krivtsov,¹ Z. Amghouz,¹ S. Khainakov,¹ J.R. García,¹ E. Díaz,² S. Ordóñez,² (1) Department of Organic and Inorganic Chemistry, University of Oviedo, Oviedo, Spain. (2) Department of Chemical and Environmental Engineering, University of Oviedo, Oviedo, Spain. UO247496@uniovi.es



A solvent-exchange approach for a template-free preparation of spherical TiO₂ particles, based on precipitation of hydrous titania from aqueous titanium peroxo complex by organic solvents, has been presented. The photocatalytic TiO₂-assisted decomposition of 2-(4-methylphenoxy)ethanol (MPET) has been studied in this work. The intermediate compounds of MPET photodegradation have been determined, and it has been found that the formation of p-cresol as intermediate is another challenge to tackle in this process. The synthesized TiO₂ spheres are recyclable and can be reused for four reaction cycles without losing their activity, while Aeroxide P25 fails to decompose MPET in the third run.