

Hydrothermal Synthesis Of Bismuth Ferrite Hollow Spheres With Enhanced Visible-Light Photocatalytic Activity

Thomas Cadenbach ^{1,*}, Valeria Sanchez ², Daniela Chiquito Rios,¹ Alexis Debut ³, Karla Vizuete ³ and Maria J. Benitez ^{2,*}

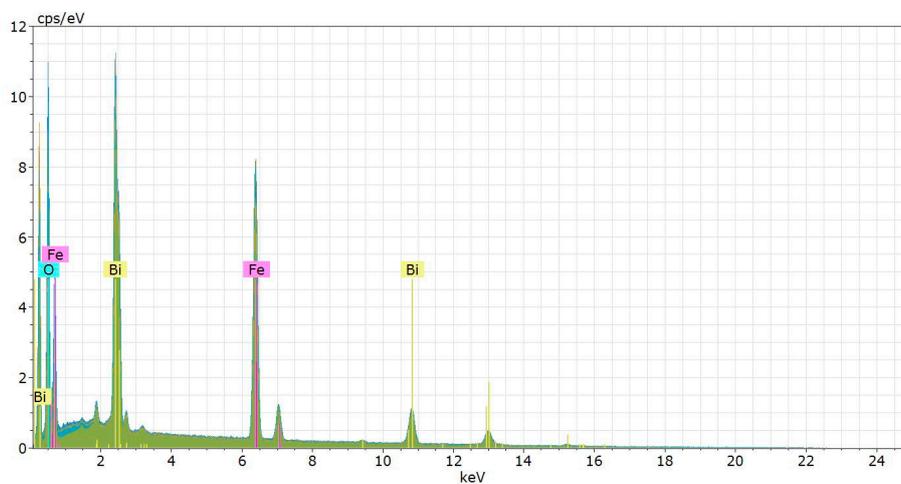
¹ Colegio de Ciencias e Ingenierías, Universidad San Francisco de Quito, Diego de Robles y Vía Interoceánica, Quito 170901, Ecuador

² Departamento de Física, Facultad de Ciencias, Escuela Politécnica Nacional, Ladrón de Guevara E11-253, Quito 170525, Ecuador

³ Centro de Nanociencia y Nanotecnología, Universidad de las Fuerzas Armadas ESPE, Av. Gral. Rumiñahui s/n, Sangolquí 171103, Ecuador; apdebut@espe.edu.ec (A.D.); ksvizuete@espe.edu.ec (K.V.)

* Correspondence: tcadenbach@usfq.edu.ec (T.C.); maria.benitezr@epn.edu.ec (M.J.B.)

Supporting Information



Atom	Theoretical Subtotal Mass (%)	Measured
Bi	66.81	67.59
Fe	17.85	17.21
O	15.34	15.74

Figure S1: EDS Spectrum of BiFeO₃ Hollow Spheres.

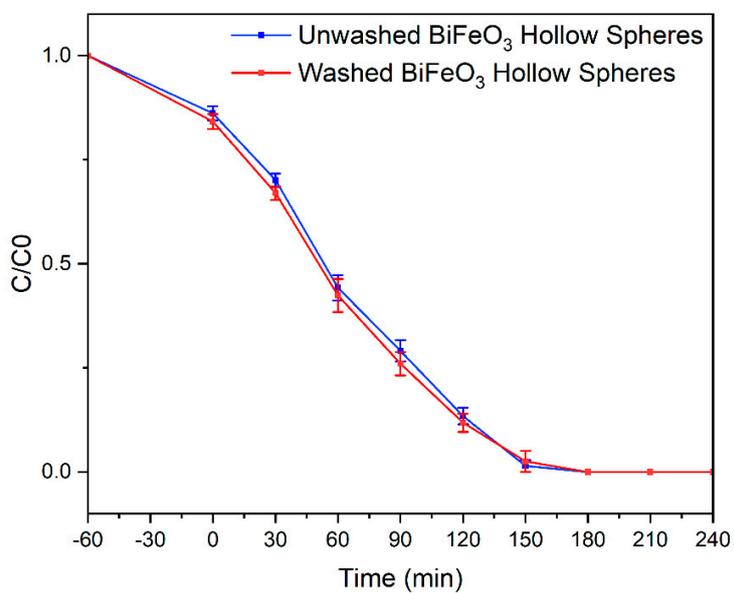


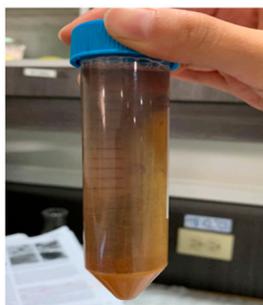
Figure S2. Removal of Rhodamine B as a function of irradiation time under visible-light using unwashed and washed BiFeO₃ hollow spheres



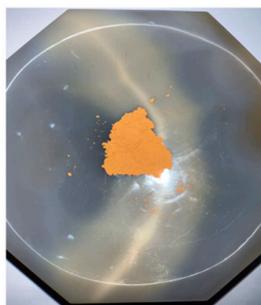
(a) Solution of metal nitrates in ethylene glycol/water



(b) 250 mL stainless steel autoclave after hydrothermal treatment



(c) Reaction mixture prior to centrifugation



(d) Sample after calcination

Figure S3. Schematic representation of experimental methods

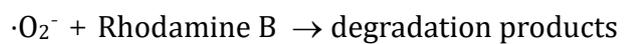
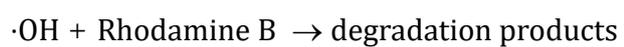
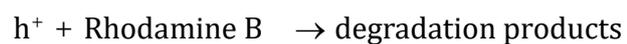
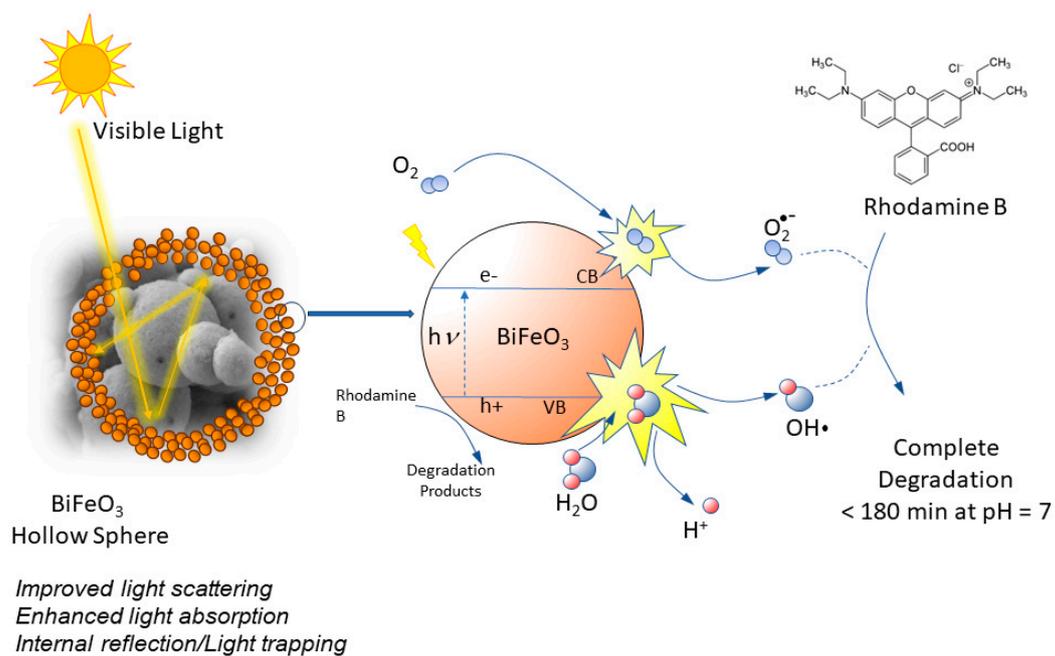


Figure S4. Photocatalytic mechanism of Rhodamine degradation using BiFeO_3 hollow spheres