

Supporting Information

Controlled Formation of α - and β -Bi₂O₃ with Tunable Morphologies for Visible-Light-Driven Photocatalysis

Thomas Cadenbach^{1,*}, María Isabel Loyola-Plúa¹, Freddy Quijano Carrasco,² Maria J. Benitez³, Alexis Debut⁴ and Karla Vizuite⁴

¹ Universidad San Francisco de Quito, Colegio Politécnico de Ciencias e Ingenierías, Departamento de Ingeniería Ambiental, Instituto de Energía y Materiales, Quito, Ecuador

² Universidad San Francisco de Quito, Colegio Politécnico de Ciencias e Ingenierías, Departamento de Ingeniería Química, Quito, Ecuador

³ Departamento de Física, Facultad de Ciencias, Escuela Politécnica Nacional, Ladrón de Guevara E11-253, Quito 170517, Ecuador

⁴ Centro de Nanociencia y Nanotecnología, Universidad de las Fuerzas Armadas ESPE, Av. Gral. Rumiñahui s/n, Sangolquí, PO Box 171-5-231B, Ecuador

* Correspondence: tcadenbach@usfq.edu.ec

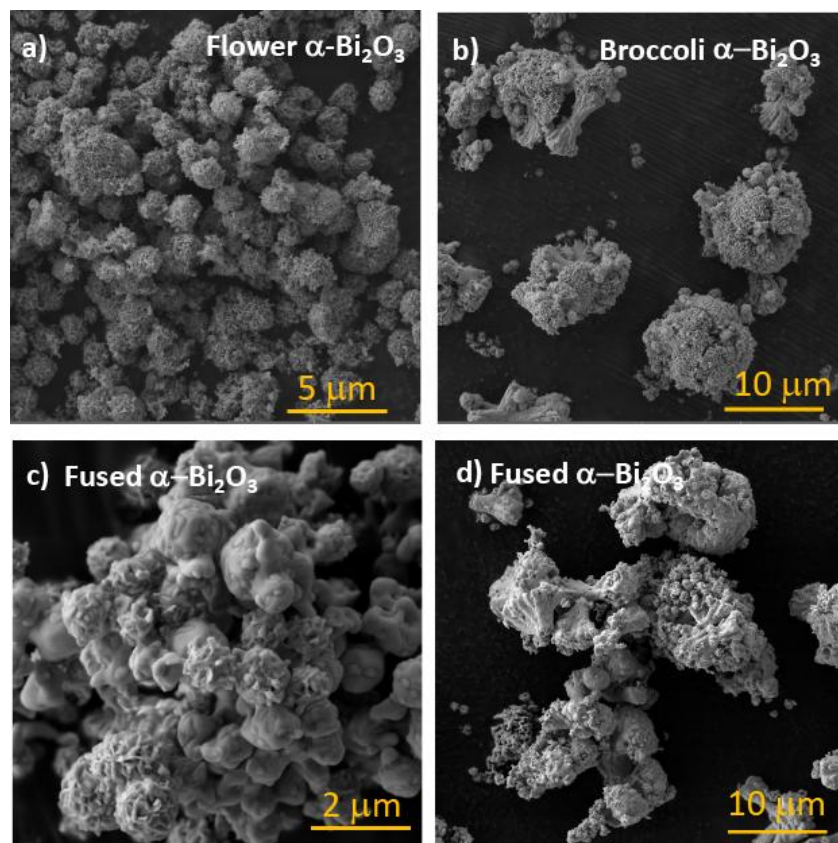


Figure S1. SEM images of α - Bi_2O_3 . a) flower-like assemblies of α - Bi_2O_3 , b) broccoli-like superstructures of α - Bi_2O_3 . c) fused, coarsened flower-like assemblies of α - Bi_2O_3 , d) fused, coarsened broccoli-like superstructures of α - Bi_2O_3

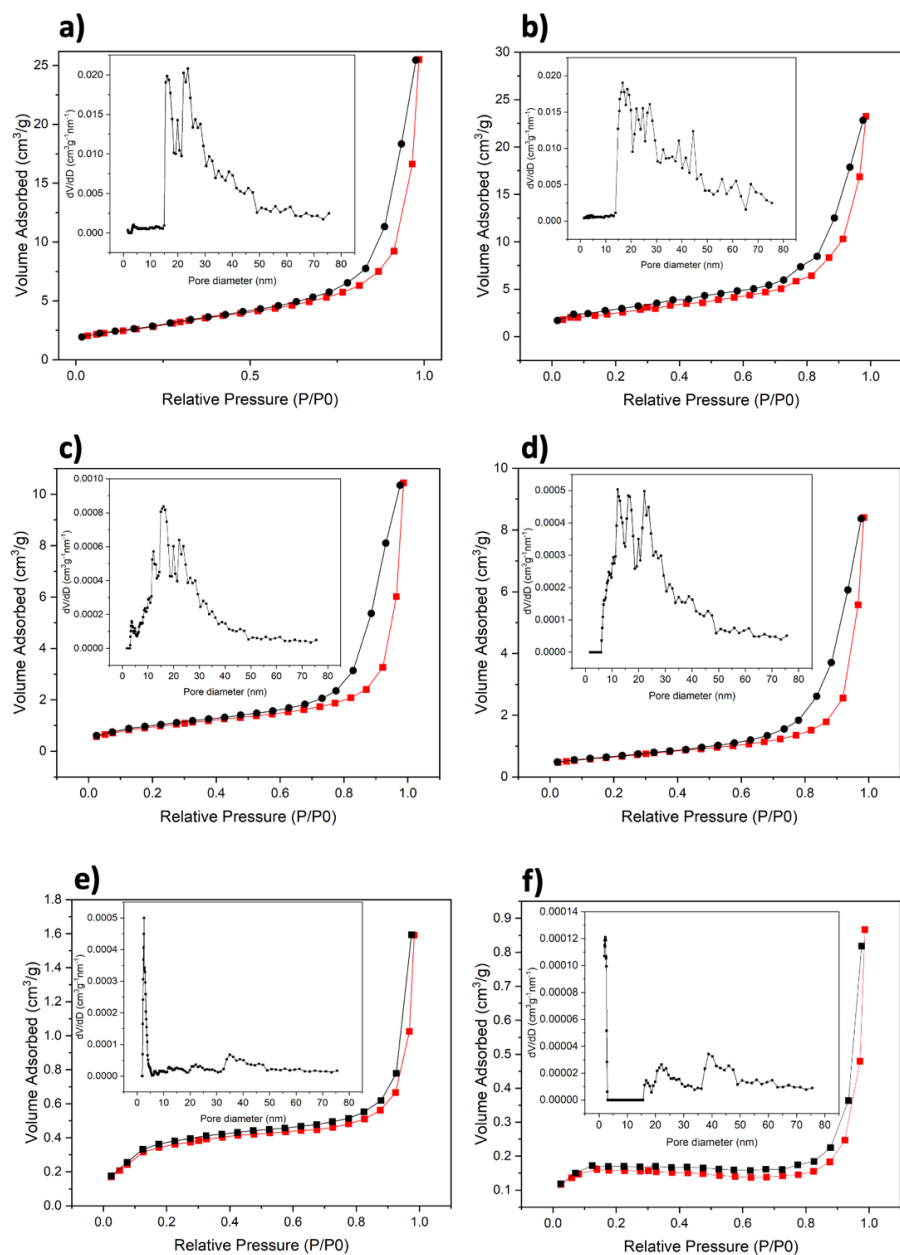


Figure S2: N₂ adsorption–desorption isotherm and pore size distribution (inset); a) Flower α -Bi₂O₃, b) Flower β -Bi₂O₃, c) Broccoli β -Bi₂O₃, d) Broccoli α -Bi₂O₃, e) Fused α -Bi₂O₃, f) Fused β -Bi₂O₃

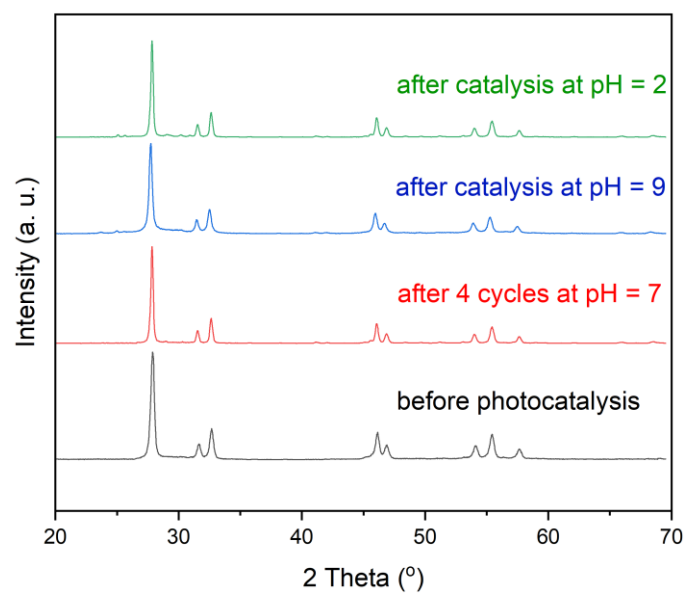


Figure S3: XRD patterns for Flower β - Bi_2O_3 before photocatalysis and after 5 catalytic cycles.

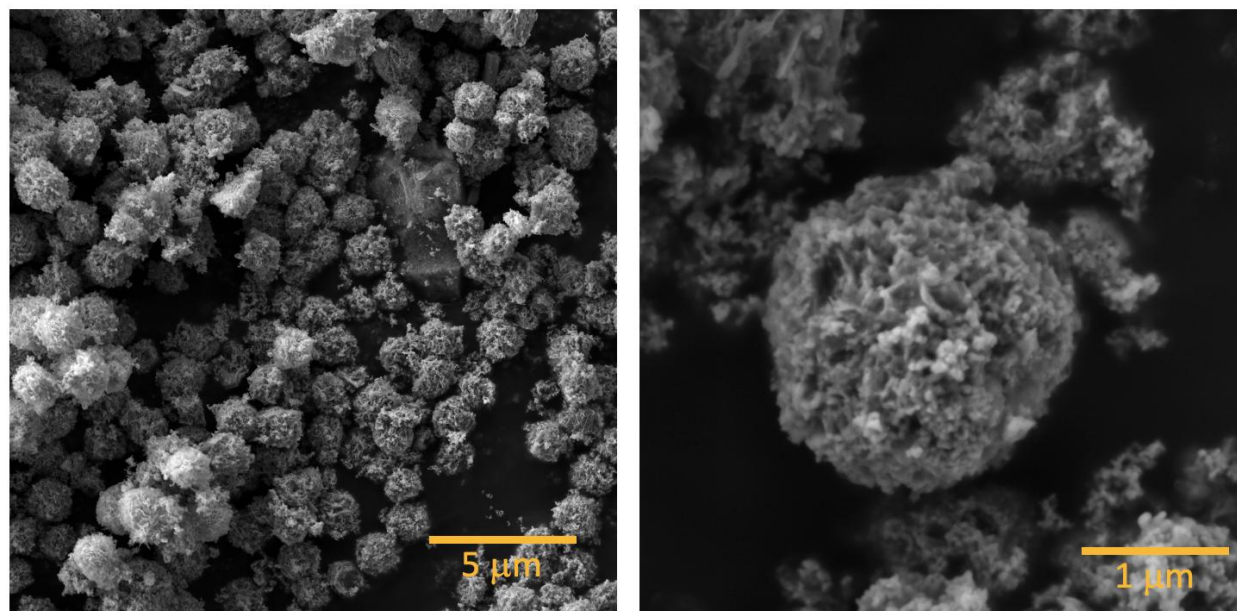


Figure S4: SEM images of Flower β - Bi_2O_3 after 4 photocatalytic cycles

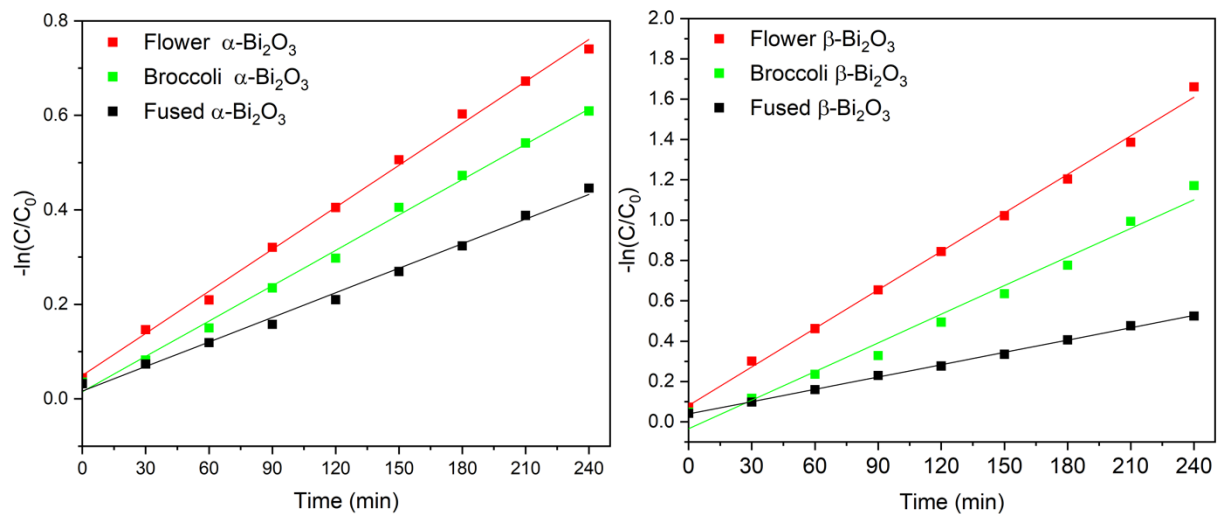


Figure S5: Kinetics of photocatalytic degradation of RhB using different catalysts

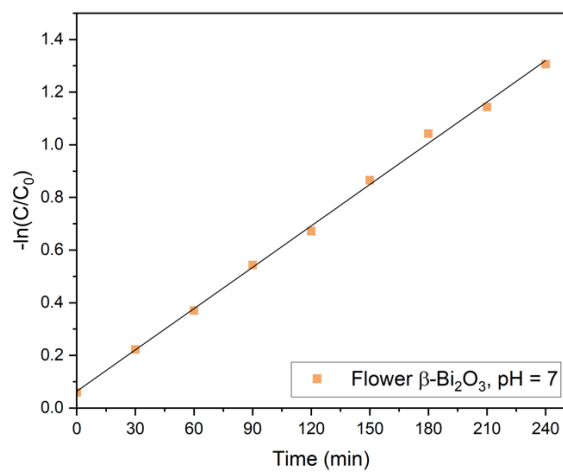


Figure S6: Kinetics of photocatalytic degradation of MO using flower β - Bi_2O_3