



Supporting Information

Innovative and Cost-Efficient BiOI Immobilization Technique on Ceramic Paper-Total Coverage and High Photocatalytic Activity

Zsolt Kása ^{1,*}, Eszter Orbán ², Zsolt Pap ^{3,4}, Imre Ábrahám ⁵, Klára Magyari ^{3,4}, Seema Garg ⁶ and Klara Hernadi ^{1,*}

¹ Department of Applied and Environmental Chemistry, University of Szeged, 6720 Szeged, Rerrich Béla sqr. 1, 6720, Szeged, Hungary

² Department of Organic Chemistry, University of Szeged, Dóm sqr. 8, 6720, Szeged, Hungary; eszterorban94@chem.u-szeged.hu

³ Institute of Environmental Science and Technology, University of Szeged, Tisza Lajos blvd. 103, 6720, Szeged, Hungary; pzsolt@chem.u-szeged.hu (Z.P.); klara.magyari@ubbcluj.ro (K.M.)

⁴ Nanostructured Materials and Bio-Nano-Interfaces Center Interdisciplinary Research Institute on Bio-Nano-Sciences, Babes-Bolyai University, Treboniu Laurian Str. 42, 400271, Cluj-Napoca, Romania

⁵ UniChem Ltd., T. 491, Kistelek, 6760, HUNGARY; abrahamimre@unichem.hu

⁶ Amity Institute of Applied Sciences, Amity University, Sector 125, Noida, Uttar Pradesh, 201313, India; sgarg2@amity.edu

* Correspondence: kasa.zsolt@chem.u-szeged.hu (Zs.K.); hernadi@chem.u-szeged.hu (K.H.); Tel.: +36304286022 (Zs.K.)

Received: 26 August 2020; Accepted: 29 September 2020; Published: date

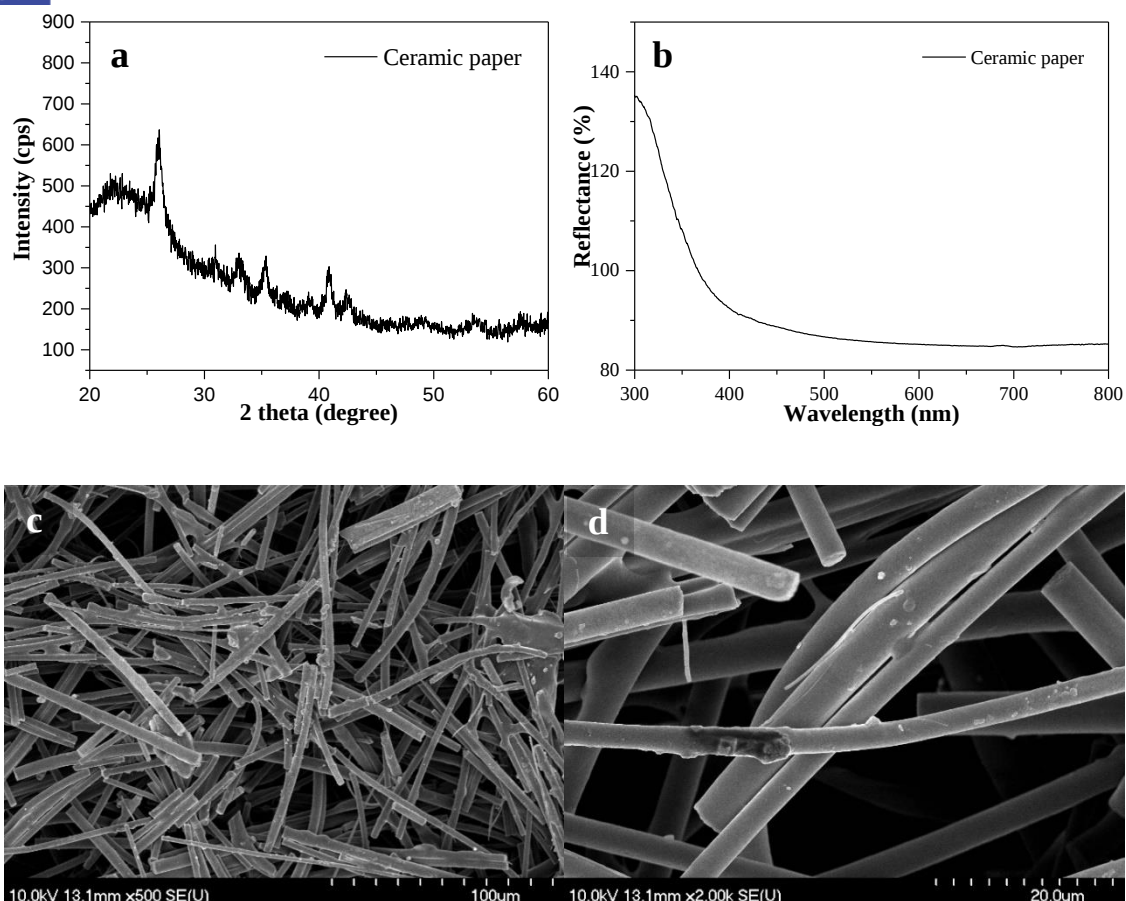


Figure S1. Crystallographic- (a), optical- (b) and morphological (c, d) properties of the bulk ceramic paper.

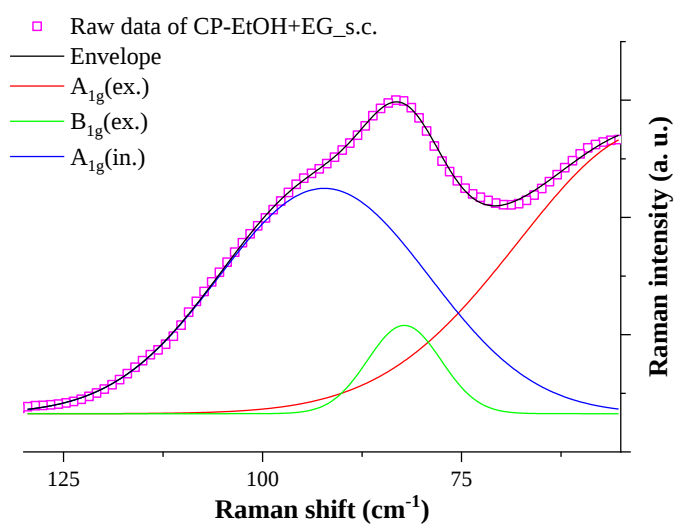


Figure S2. Deconvoluted Raman spectra of CP_EtOH+EG_s.c and identify the overlapped B_{1g} external Bi-I bond and the A_{1g} external bond.

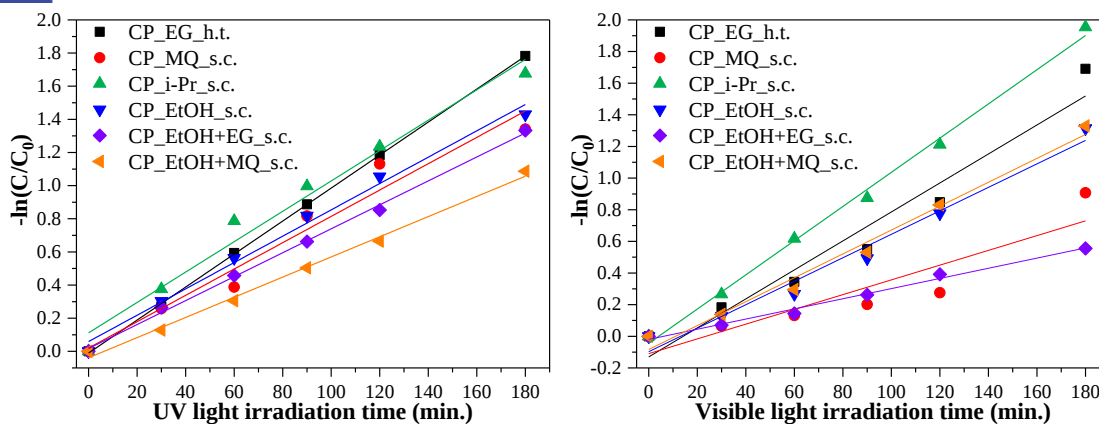


Figure S3. Kinetic linear simulation lines of RhB over the BiOI coated papers.

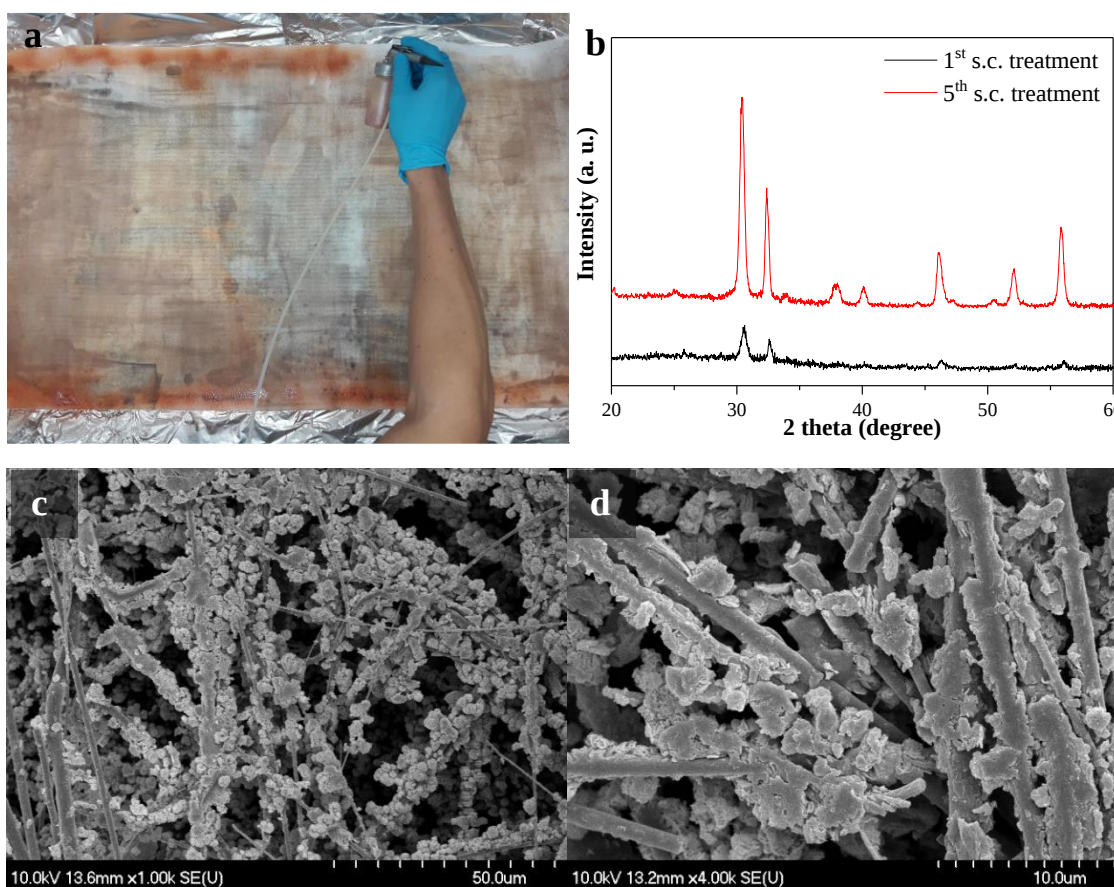


Figure S4. Scaling-up immobilization procedure (a), the caused changes on the XRD pattern (b), and SEM micrographs after the 5th spray-coating process (c, d).



Figure S5. Durability test with the scaled-up pilot bath reactor with 0.5 m² BiOI coated ceramic paper and 50 LRhB contaminated water as simulated photocatalytic test.

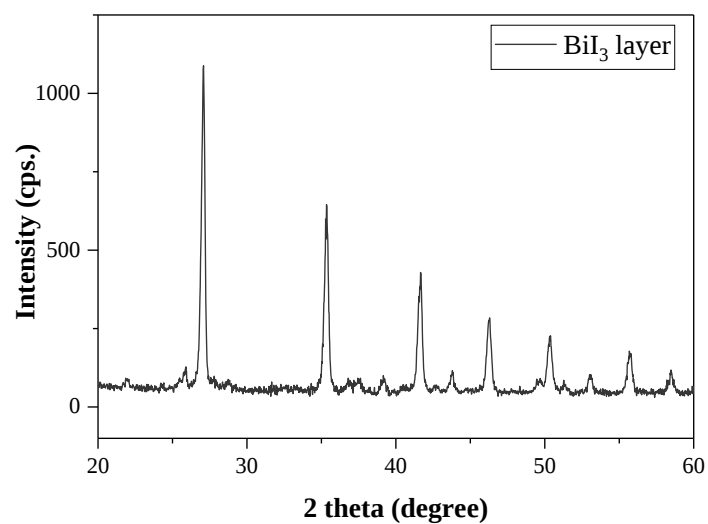


Figure S6. XRD pattern from the BiI₃ layer on the ceramic paper