

Supplementary Materials

Photoelectrocatalytic Degradation of Congo Red Dye with Activated Hydrotalcites and Copper Anode

Sara Argote-Fuentes ¹, Rosy Feria-Reyes ², Esthela Ramos-Ramírez ^{2,*},
Norma Gutiérrez-Ortega ^{3,*} and Gustavo Cruz-Jiménez ⁴

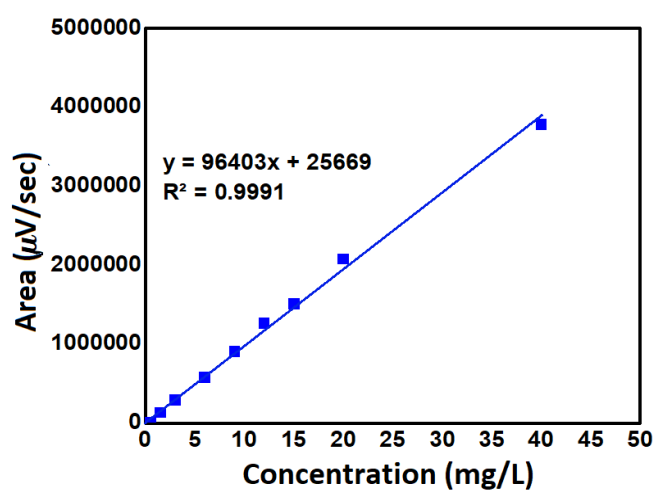
¹ Doctoral Program in Water Science and Technology, Engineering Division, Guanajuato Campus, University of Guanajuato. 77 Juárez St, Downtown, Guanajuato, GTO 36000. Mexico; sg.argotefuentes@ugto.mx

² Chemistry Department: Natural and Exact Sciences Division, Guanajuato Campus, University of Guanajuato. w/n Noria Alta, Guanajuato, GTO 36000, Mexico; rosyfr@gmail.com

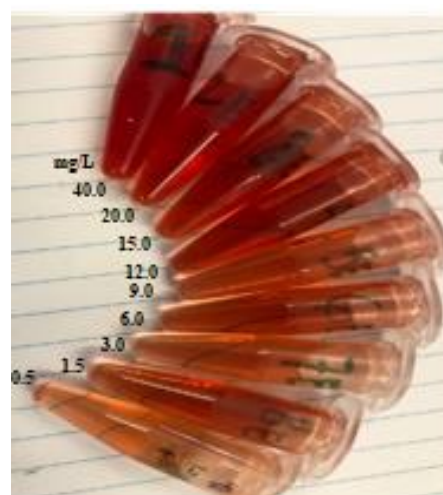
³ Department of Civil and Environmental Engineering, Engineering Division, Guanajuato Campus, University of Guanajuato. 77 Juárez St, Downtown, Guanajuato, GTO 36000. Mexico.

⁴ Pharmacy Department, Natural and Exact Sciences Division, Guanajuato Campus, University of Guanajuato. w/n Noria Alta, Guanajuato, GTO 36050, Mexico, cruzg@ugto.mx

* Correspondence: ramosre@ugto.mx (E.R.-R.); normagut@ugto.mx (N.G.-O.);
Tel.: +52-4737320006 (1457 and 2227 telephone extension number)



(a)



(b)

Figure S1. (a) Linear correlation of the calibration curve by high-performance liquid chromatography (HPLC) of the industrial-grade synthetic dye Congo Red and (b) solution of the calibration curve.

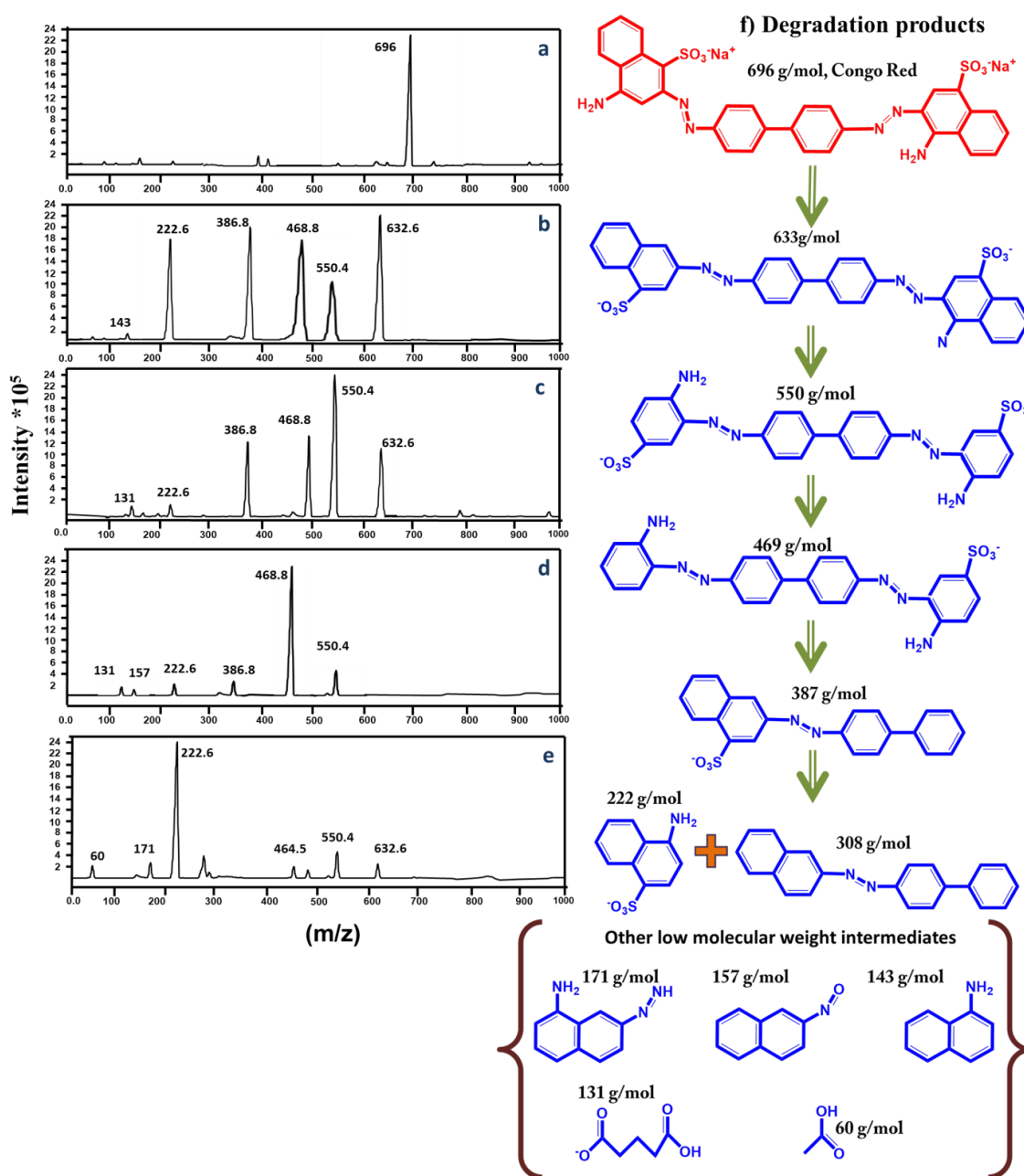


Figure S2. Chromatograms of the Liquid chromatography–mass spectrometry (LC–MS) analysis of Congo red after degradation (a) Congo Red standard, (b) catalyst, (c) photocatalyst, (d) electrocatalyst, (e) photoelectrocatalyst, and (f) possible degradation products of Congo red in the presence of hydrotalcites.

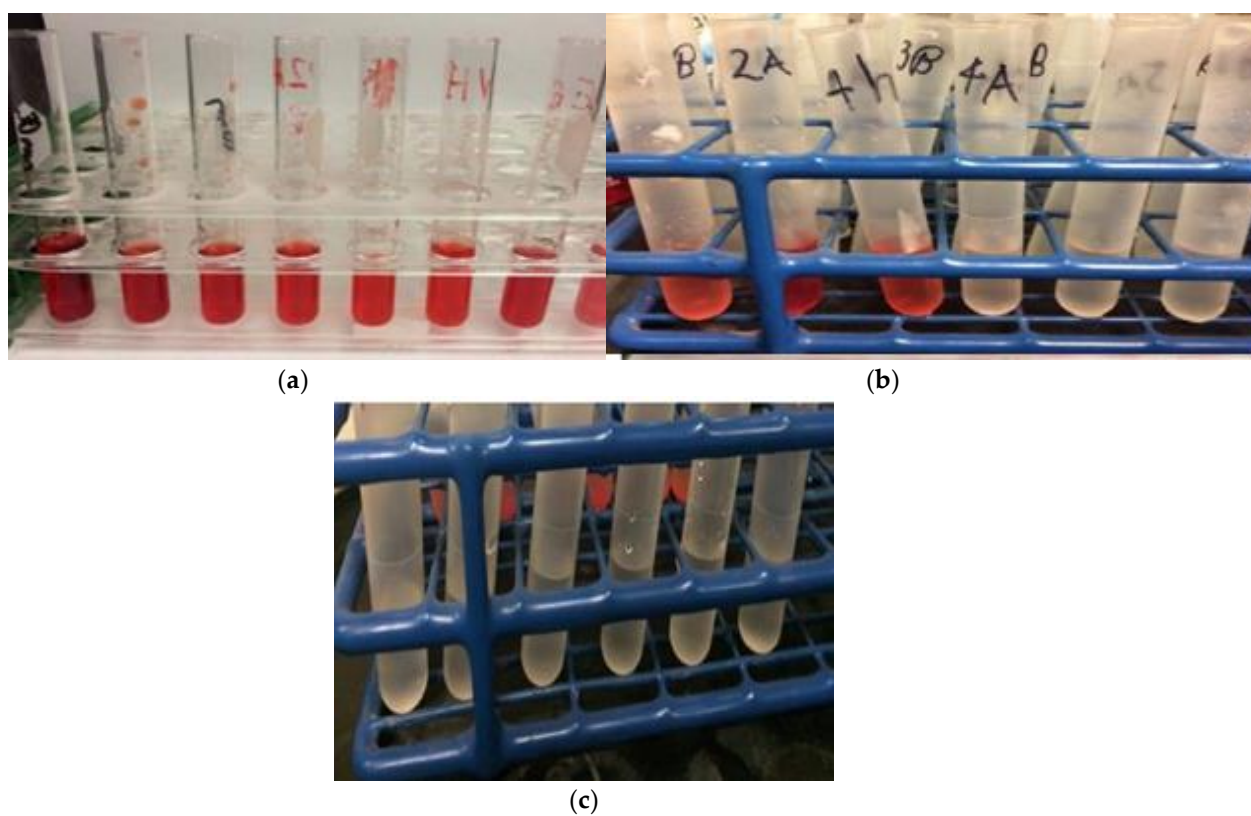


Figure S3. (a) Solutions of dye at different concentrations for degradation; (b) solutions after degradation by the process of photocatalysis; (c) solutions after degradation by photoelectrocatalysis.

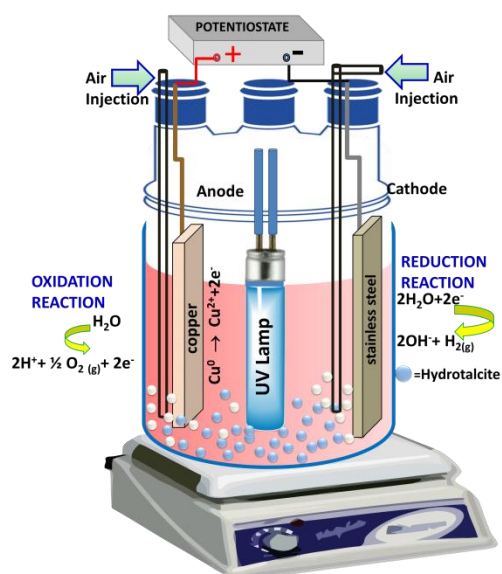


Figure S4. Diagram of the photoelectrocatalysis process.