

Subphthalocyanine encapsulated within in MIL-101(Cr)-NH₂ as solar light photoredox catalyst for dehalogenation of α -haloacetophenones

Andrea Santiago-Portillo,^a Sonia Remiro-Buenamañana,^b Sergio Navalón,^a

Hermenegildo García^{a,b,c,*}

^a Departamento de Química, Universitat Politècnica de València, C/Camino de Vera s/n, 46022 Valencia, Spain.

^b Instituto Universitario de Tecnología Química, CSIC-UPV, Universitat Politècnica de València, Av. de los Naranjos, Valencia 46022, Spain

^c Center of Excellence for Advanced Materials Research, King Abdulaziz University, Jeddah, Saudi Arabia

Supporting Information

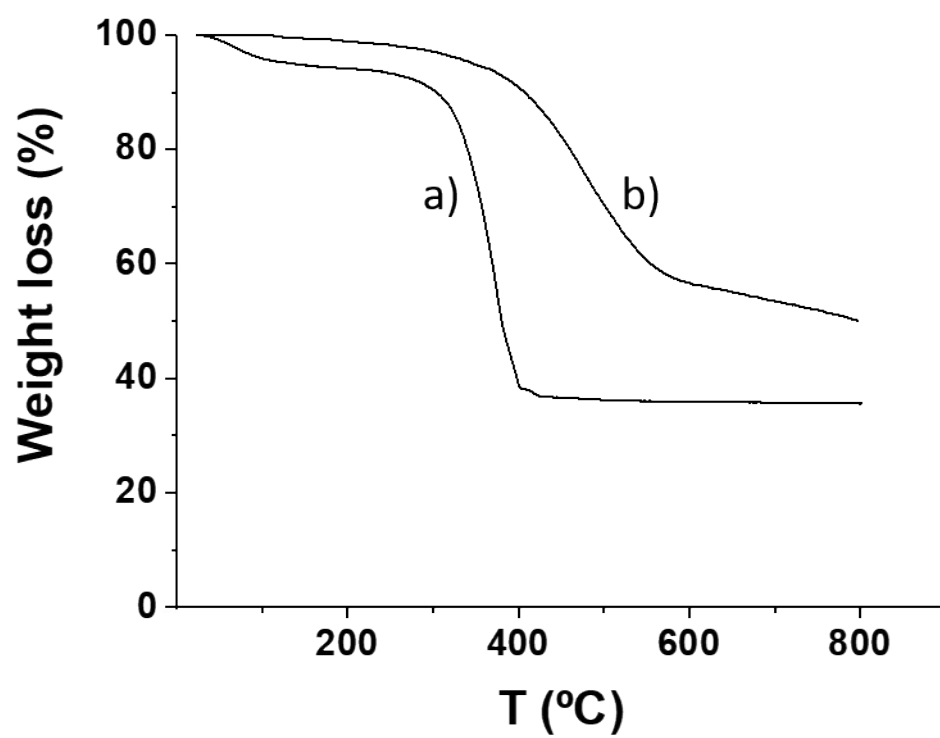


Figure S1. Thermogravimetric profile of a) MIL-101(Cr)-NH₂ and b) SubPc@MIL-101(Cr)-NH₂.

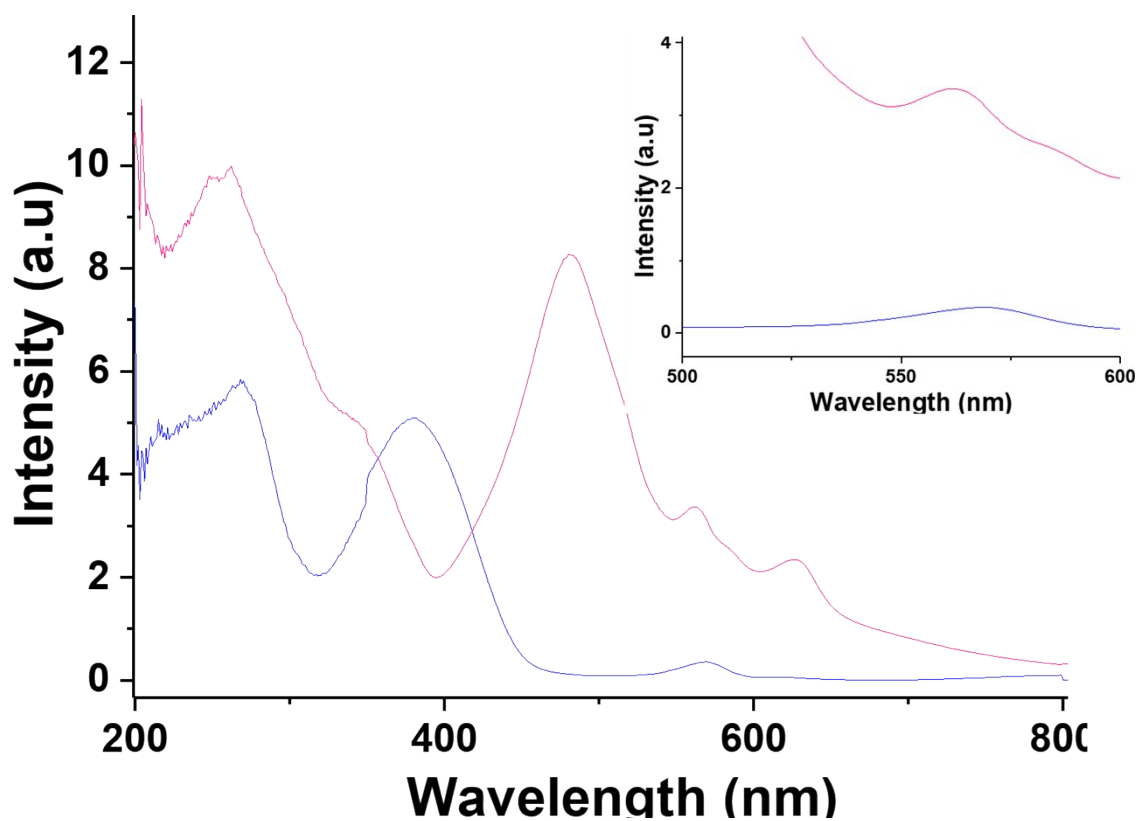


Figure S2. Diffuse reflectance UV-Vis spectra of SubPc-Cl (pink line) and SubPc@MIL-101(Cr)-NH₂ (blue line). The inset shows an expansion of the 600-800 nm region.

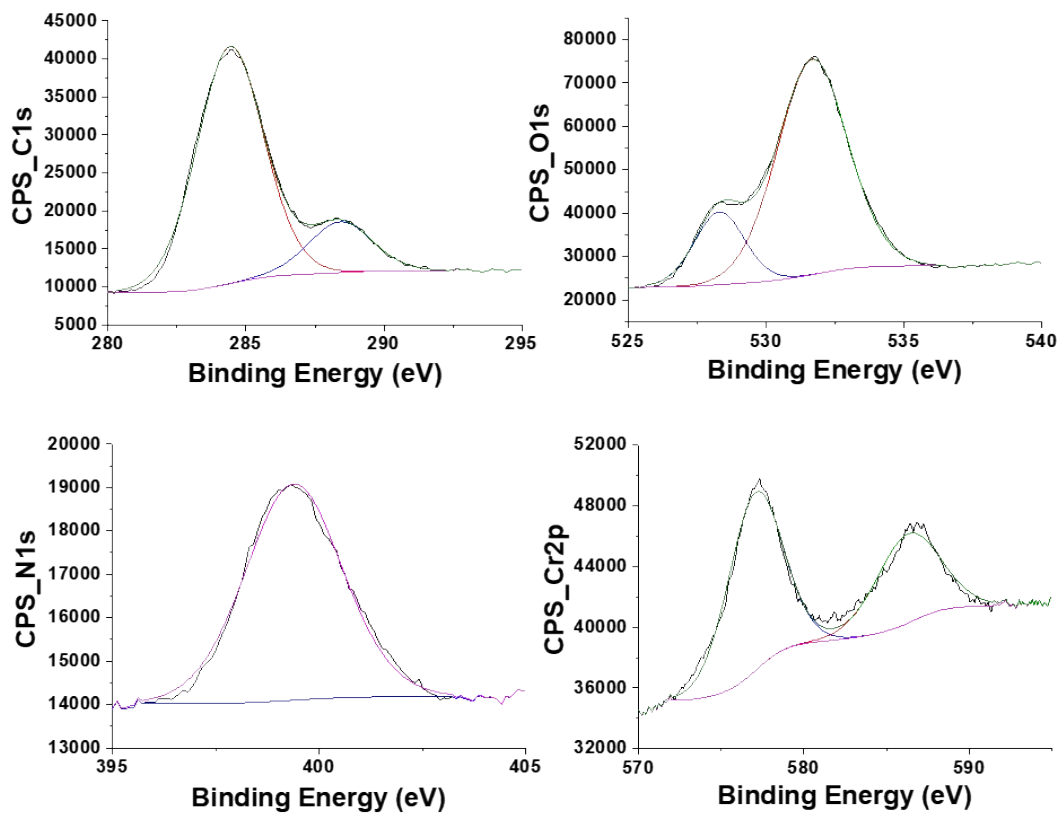


Figure S3. XP spectra of MIL-101(Cr)-NH₂.

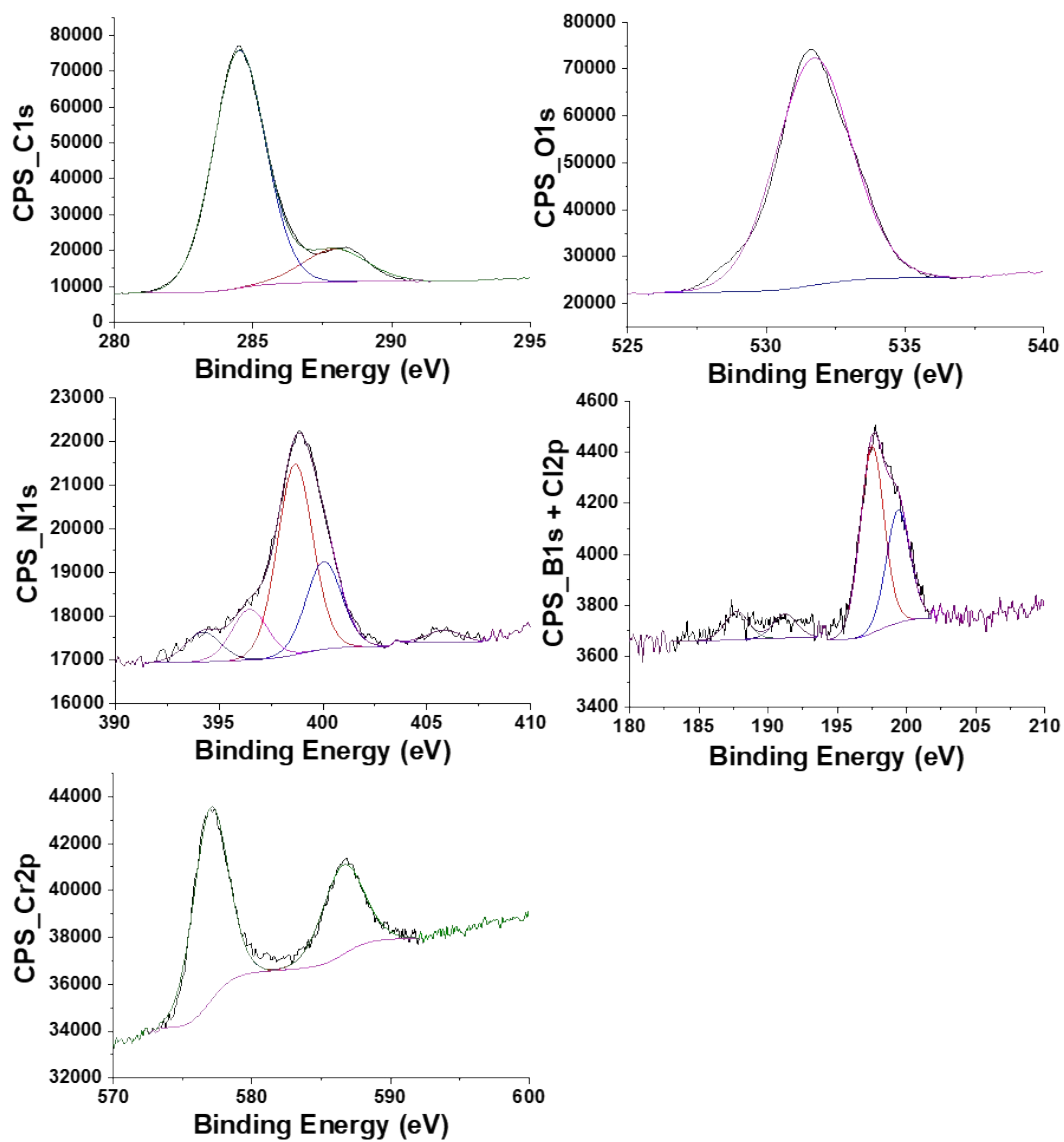


Figure S4. XP spectra of SubPc@MIL-101(Cr)-NH₂.

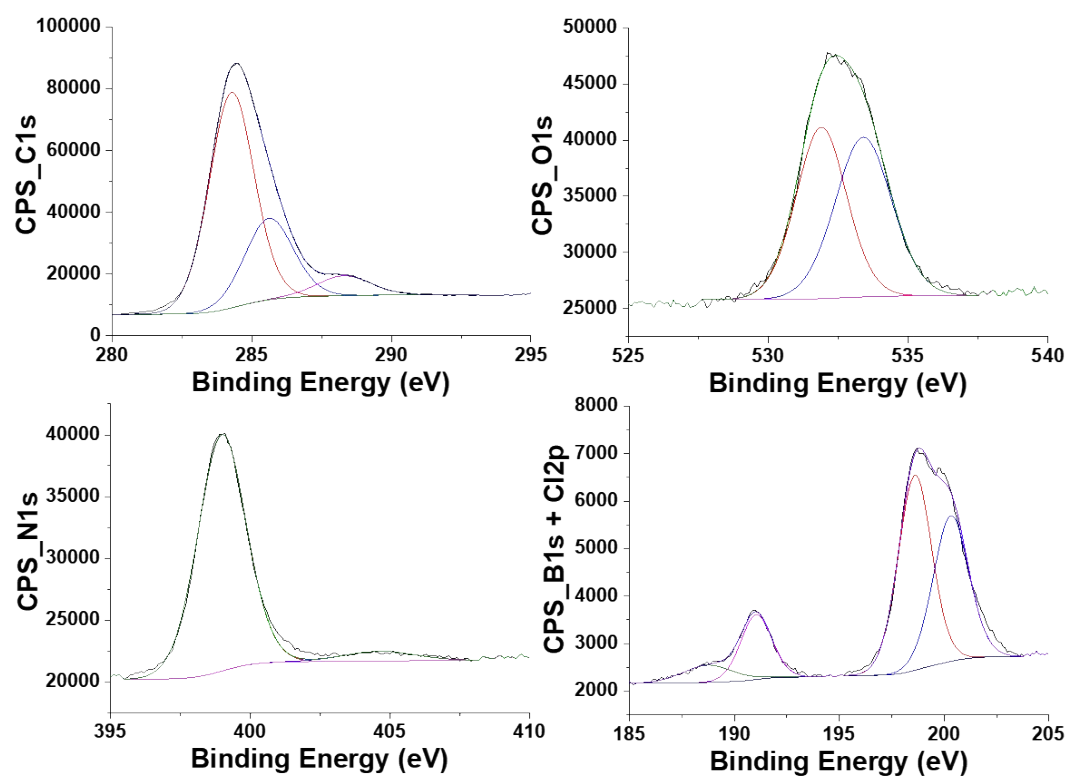


Figure S5. XP spectra SubPc-Cl.

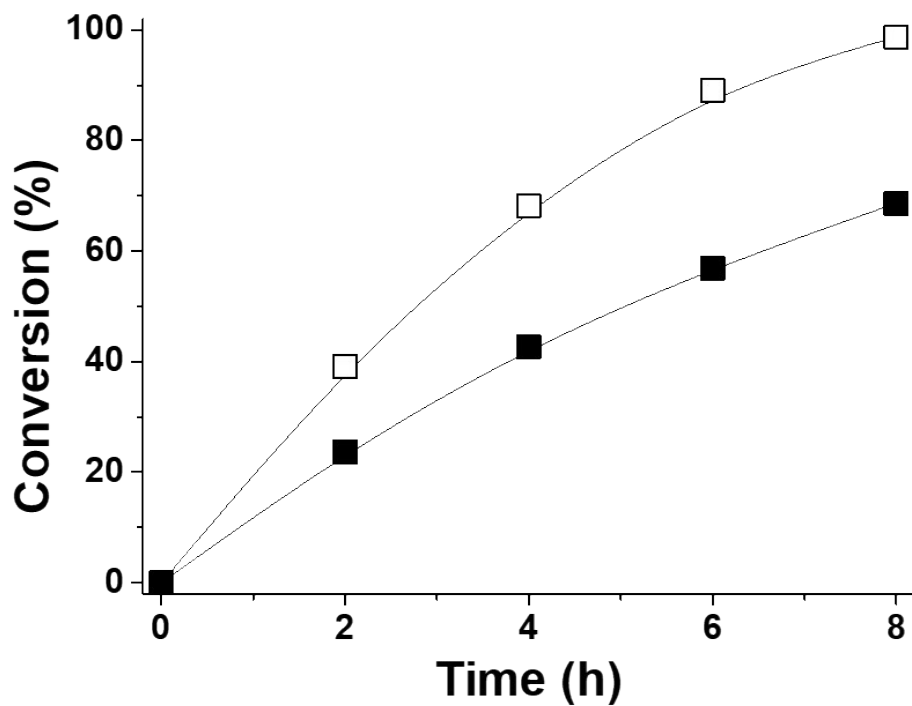


Figure S6. Time-conversion plot of the hydrogenative dehalogenation using SubPc@MIL-101(Cr)-NH₂ as catalyst. Legend: (■) α -chloroacetophenone and (□) α -bromoacetophenone. Reaction conditions: α -halogenacetophenone (1 mmol), TEOA (10 μ L), CH₃CN (3 mL) and MOF (10 mg).

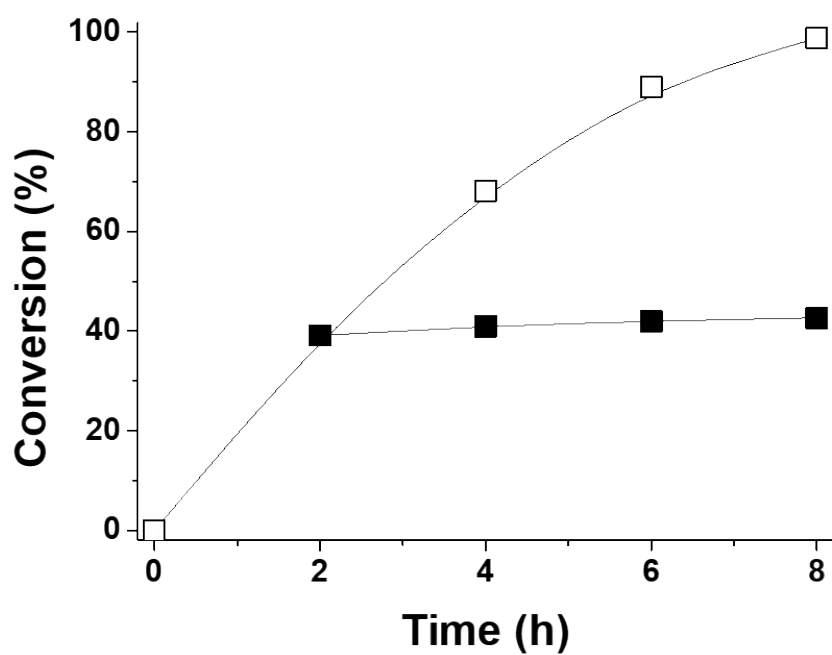


Figure S7. Time-conversion plot for the hydrogenative debromination using SubPc@MIL-101(Cr)-NH₂ as catalyst. Legend: (■) in the presence of 20 % TEMPO added at 2 h reaction and (□) in the absence of TEMPO. Reaction conditions: α -bromocetophenone (1 mmol), TEOA (10 μ L), CH₃CN (3 mL) and MOF (10 mg).