

# Use of Photocatalytically Active Supramolecular Organic–Inorganic Magnetic Composites as Efficient Route to Remove $\beta$ -Lactam Antibiotics from Water

Sabina G. Ion <sup>1,2</sup>, Octavian D. Pavel <sup>1,2</sup>, Nicolae Guzo <sup>1,2</sup>, Madalina Tudorache <sup>1,2</sup>,  
Simona M. Coman <sup>1,2</sup>, Vasile I. Parvulescu <sup>1,2,\*</sup>, Bogdan Cojocaru <sup>1,2,\*</sup> and Elisabeth E. Jacobsen <sup>3,\*</sup>

<sup>1</sup> Faculty of Chemistry, University of Bucharest, 4-12 Regina Elisabeta Av.,  
030018 Bucharest, Romania

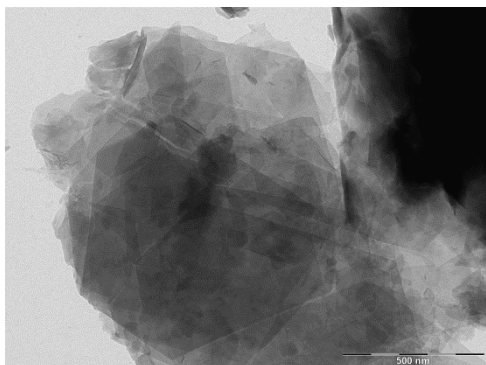
<sup>2</sup> Research Center for Catalysts & Catalytic Processes, Faculty of Chemistry, University of  
Bucharest, 4-12, Blv. Regina Elisabeta, 030018 Bucharest, Romania

<sup>3</sup> Department of Chemistry, Norwegian University of Science and Technology,  
Høgskoleringen 5, 7491 Trondheim, Norway

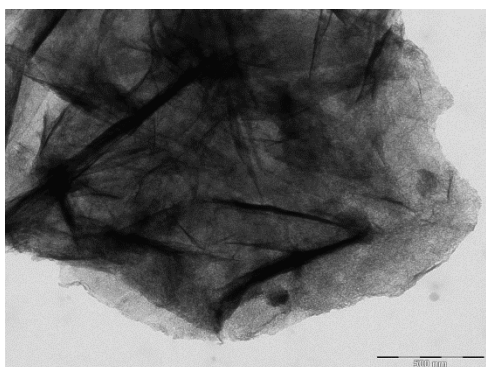
\* Correspondence: vasile.parvulescu@chimie.unibuc.ro (V.I.P.);  
bogdan.cojocaru@chimie.unibuc.ro (B.C.); elisabeth.e.jacobsen@ntnu.no (E.E.J.);  
Tel.: +40-213051464 (V.I.P. & B.C.); +47-98843559 (E.E.J.)

The microstructural characterization (TEM) was carried out using a Philips-CM-10 electronic microscope.

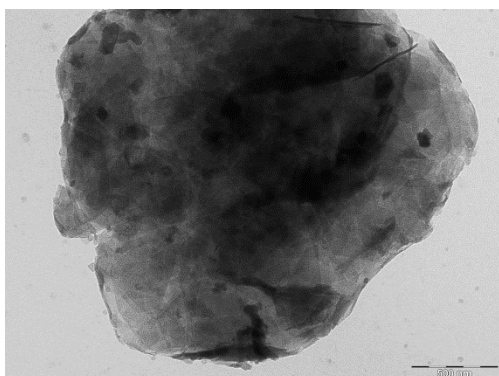
The TEM images of the parent and reconstructed LDH are in a good agreement to literature reports [1]. The parent LDH presents a hexagonal form of crystals while the reconstructed one the tendency to clusterize in large conglomerates systems involving less defined platelets. This behaviour explains the decrease of the surface area compared to the parent LDH. The presence of phthalocyanine led to an even more pronounced packing, while Fe<sub>3</sub>O<sub>4</sub> is observed as islands.



**Figure S1.** TEM image of fresh LDH.



**Figure S2.** TEM image of rehydrated LDH



**Figure S3.** TEM image of MNP@ rehydrated LDH

## Reference

1. Hur, T.-B.; Phuoc, T.X.; Chyu, M.K. New approach to the synthesis of layered double hydroxides and associated ultrathin nanosheets in de-ionized water by laser ablation. *J. Appl. Phys.* 2010, *108*, 114312, doi:<https://doi.org/10.1063/1.3518510>.