

Supplementary Materials: Self-Assembly of 1D/2D Hybrid Nanostructures Consisting of Cd(II) Coordination Polymer and NiAl-Layered Double Hydroxides

Gonzalo Abellán, Pilar Amo-Ochoa, José Luis G. Fierro, Antonio Ribera, Eugenio Coronado and Félix Zamora

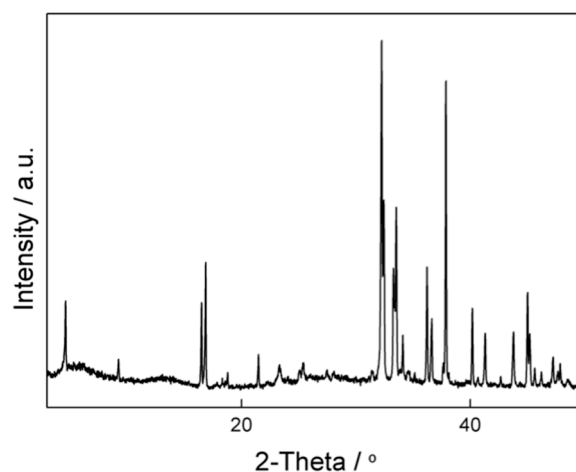


Figure S1. X-ray powder diffraction pattern of $\text{Na}_{2n}[\text{Cd}(\text{6-MP}^{2-})_2]_n$.

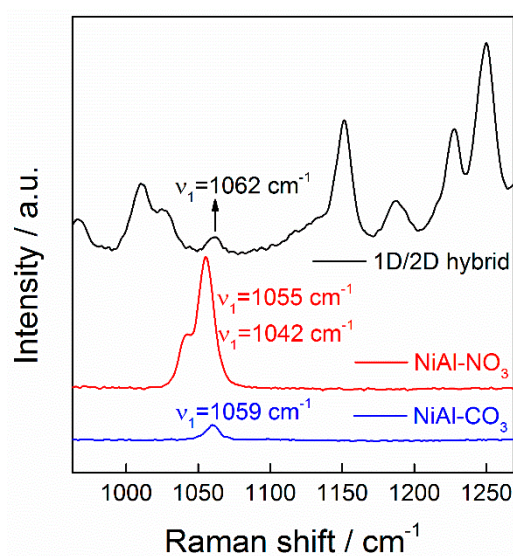


Figure S2. Raman spectra of the NiAl-CO₃, the NiAl-NO₃ and the 1D/2D-hybrid.

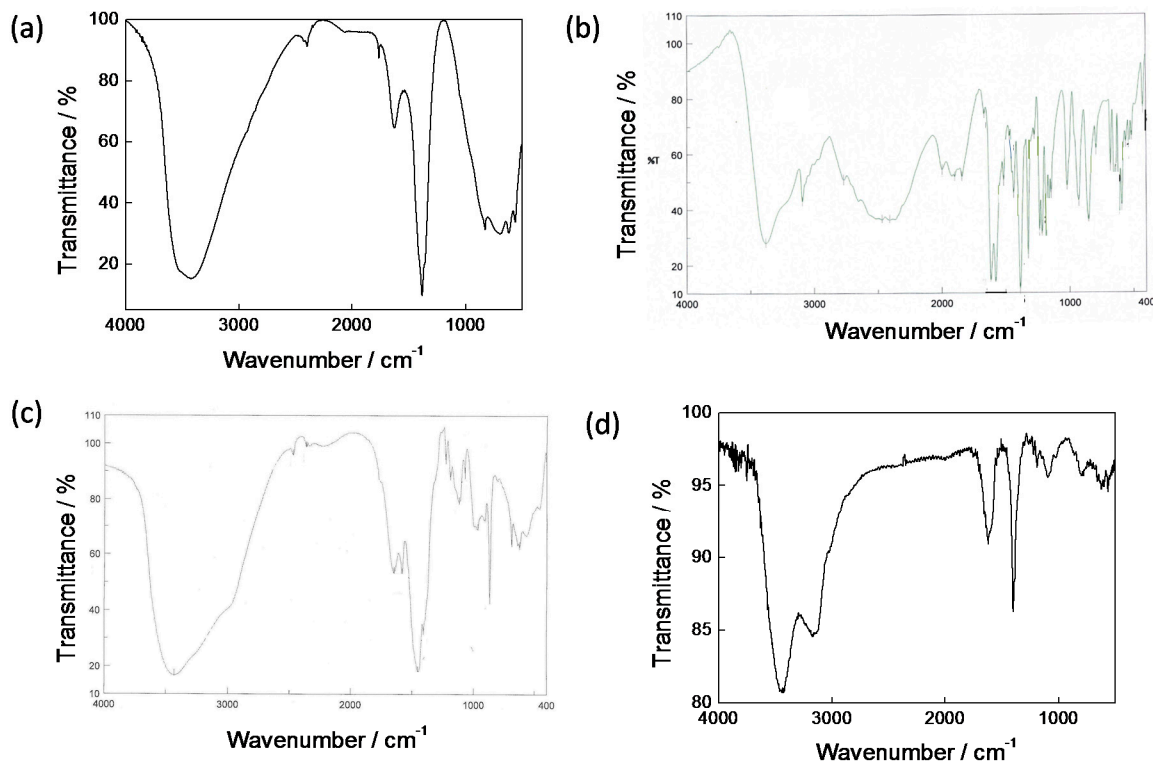


Figure S3. FTIR spectra of (a) NiAl-NO₃ LDH,¹ (b) [Cd(6-MP⁻)₂·2H₂O]_n (6-MPH= 6-mercaptopurine) 1D-CP(Cd); (c) Na_{2n}[Cd(6-MP²⁻)₂]_n and (d) 1D/2D hybrid materials.

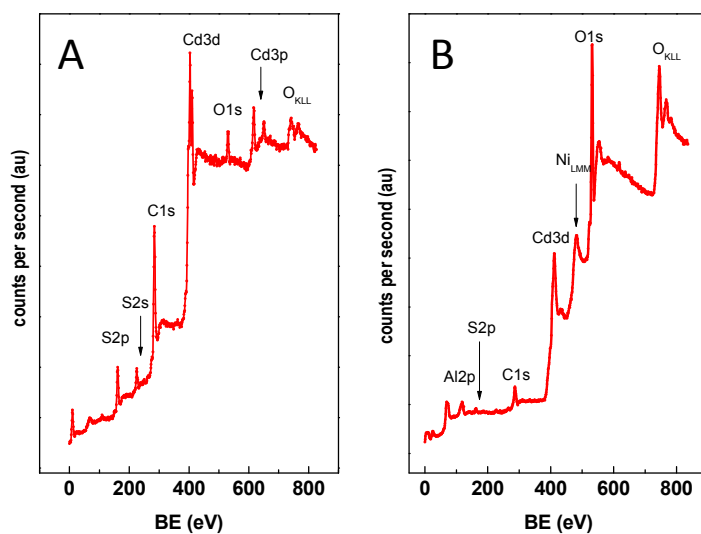


Figure S4. XPS survey spectra of [Cd(6-MP⁻)₂·2H₂O]_n and 1D/2D hybrid material.

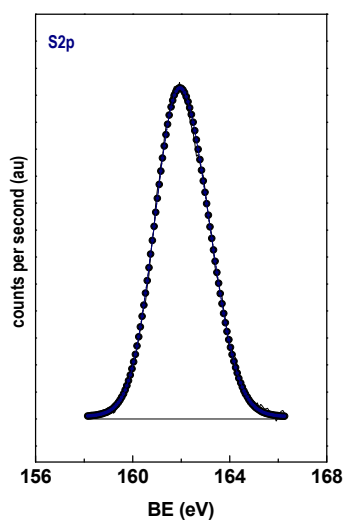


Figure S5. S2p core-level spectra of $[\text{Cd}(6\text{-MP}^-)_2 \cdot 2\text{H}_2\text{O}]_n$.

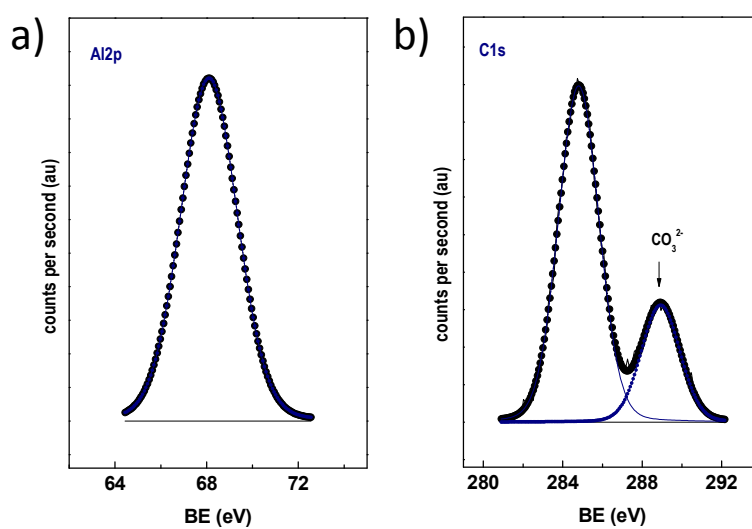


Figure S6. Al2p (a) and C1s (b) core-level spectra of NiAl-CO₃ LDH.

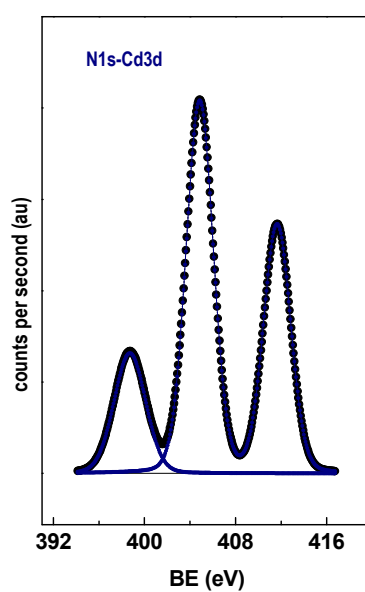


Figure S7. Ni2p core-level spectra of 1D/2D hybrid material.

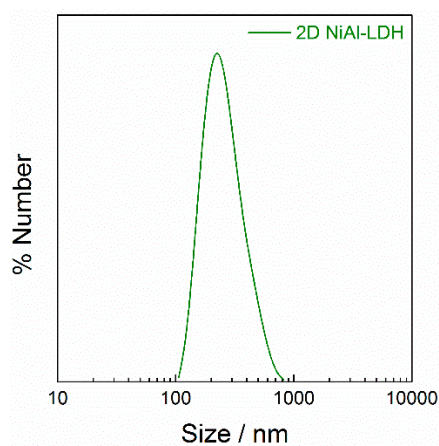


Figure S8. Dynamic light scattering (DLS) size distribution of the exfoliated NiAl-NO₃ LDH in formamide measured after 72 h, highlighting the stability of the samples [36].

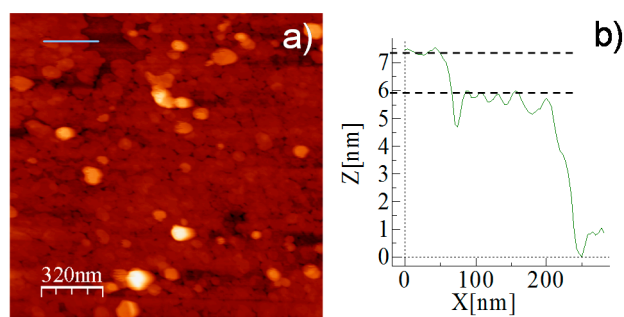


Figure S9. (a) Topographic AFM image on SiO₂ of the NiAl-NO₃ LDH exfoliated in formamide; and (b) its height profile showing a typical step of *ca.* 1 nm.

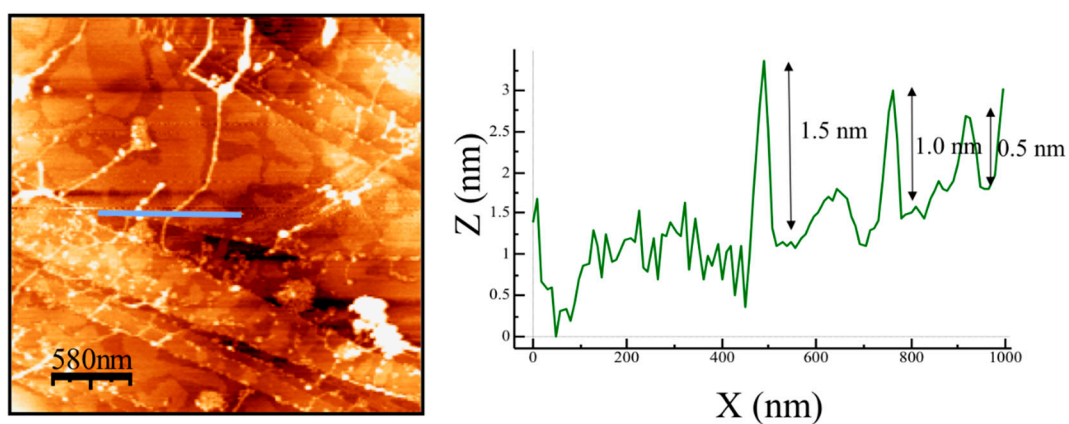


Figure S10. Topography AFM image of [Cd(6-MP⁻)₂·2H₂O]_n (left) and its height profile (right) showing from a single chain of 0.5 nm to bundles compose of 2 and 3 chains.

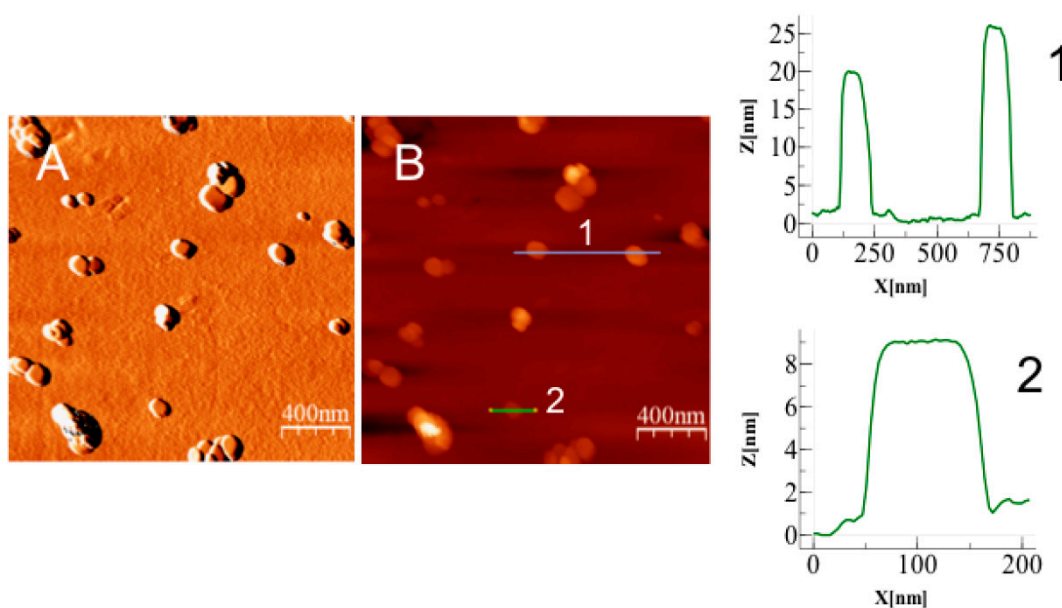


Figure S11. AFM topography image of NiAl-LDH material drop-casted on SiO₂ substrate. (A) Topographic and (B) derivate images with two typical height profiles (1,2).

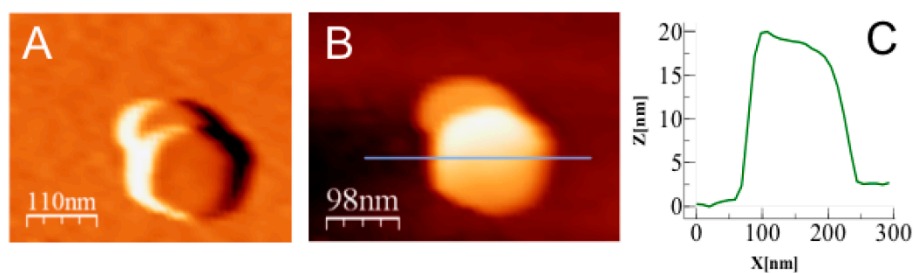


Figure S12. AFM topography image of NiAl-LDH material drop-casted on SiO₂ substrate. (A) Topographic and (B) derivate images and (C) its height profile showing the planar surface of the crystal.

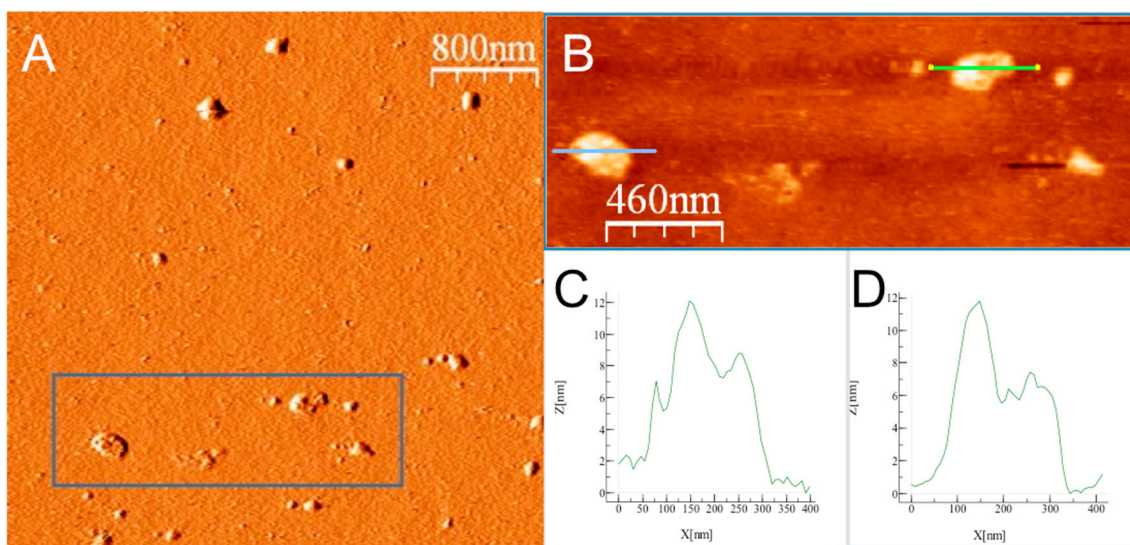


Figure S13. Large area topography AFM image of 1D/2D hybrid material drop-casted on SiO₂ substrate (A); and a zoomed image (B) with two typical height profiles (C,D) showing from a single chain of 0.5 nm to bundles compose of 2 and 3 chains of [Cd(6-MP⁻)₂·2H₂O].

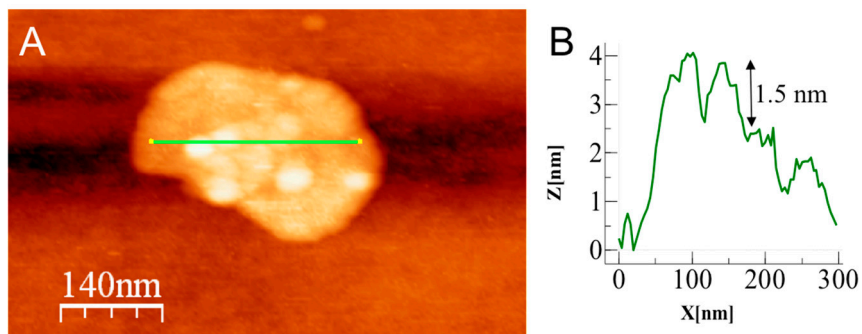


Figure S14. (A) AFM topography image of a single sheet of **1D/2D hybrid** nanomaterial drop-casted on SiO₂ substrate, and (B) its height profile showing adsorption of *ca.* one to three chains of [Cd(6-MP⁻)₂·2H₂O].



© 2015 by the authors; licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons by Attribution (CC-BY) license (<http://creativecommons.org/licenses/by/4.0/>).