

Supplementary Information

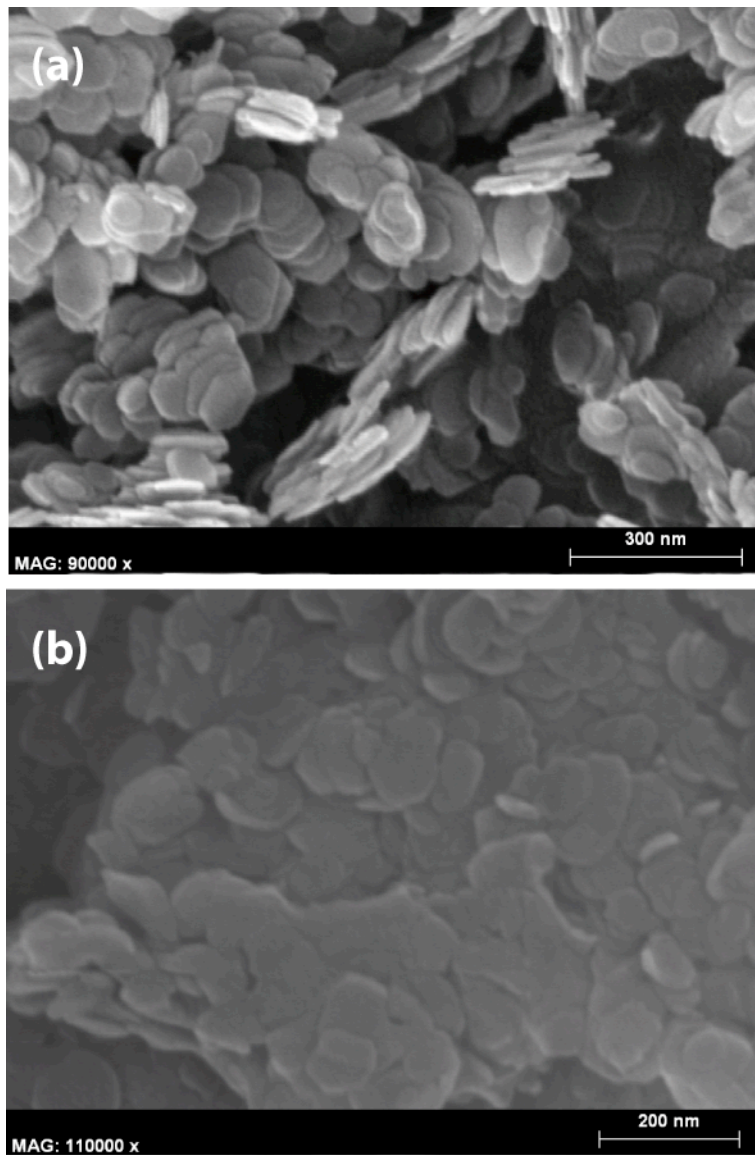
Intercalation of Two-Dimensional Oxalate-Bridged Molecule-Based Magnets into Layered Double Hydroxide Hosts

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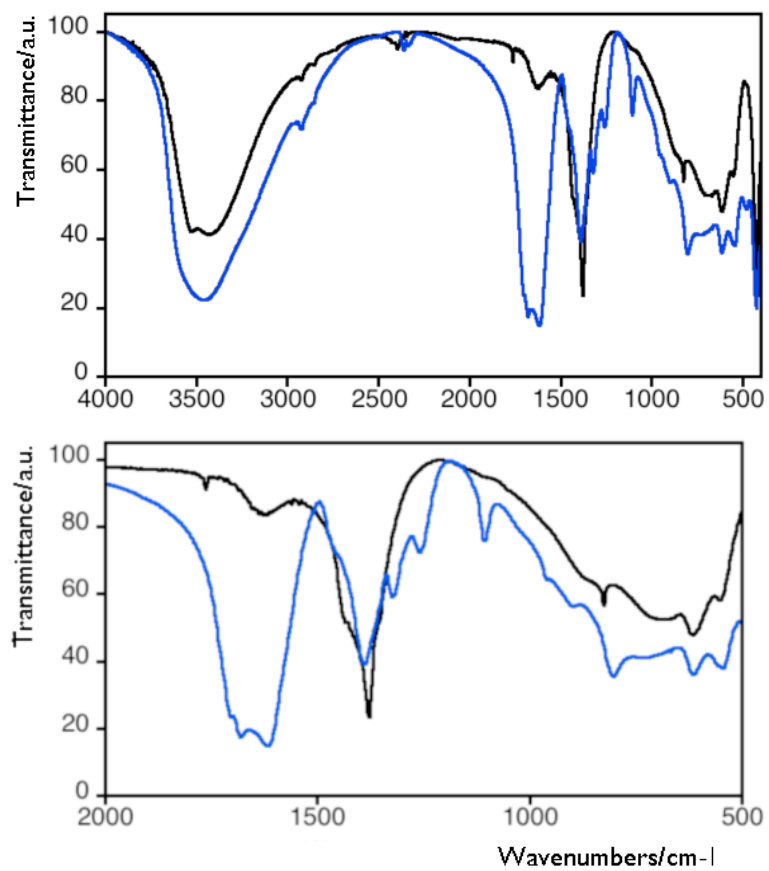
SI 1. SEM images showing the particle's size and morphology of the ZnAl-CO₃ LDH (1, a) and the nitrate-intercalated LDH (2, b).



SI 2. Metal-to-metal ratio of the pristine ZnAl-CO₃ LDH (**1**), the nitrate-intercalated LDH (**2**) and the hybrid material (**3**), as estimated from EDAX analysis.

	Al/Zn	Al/Cr	Cr/Mn
1	0.52	-	-
2	0.54	-	-
3	0.51	2.92	1.54

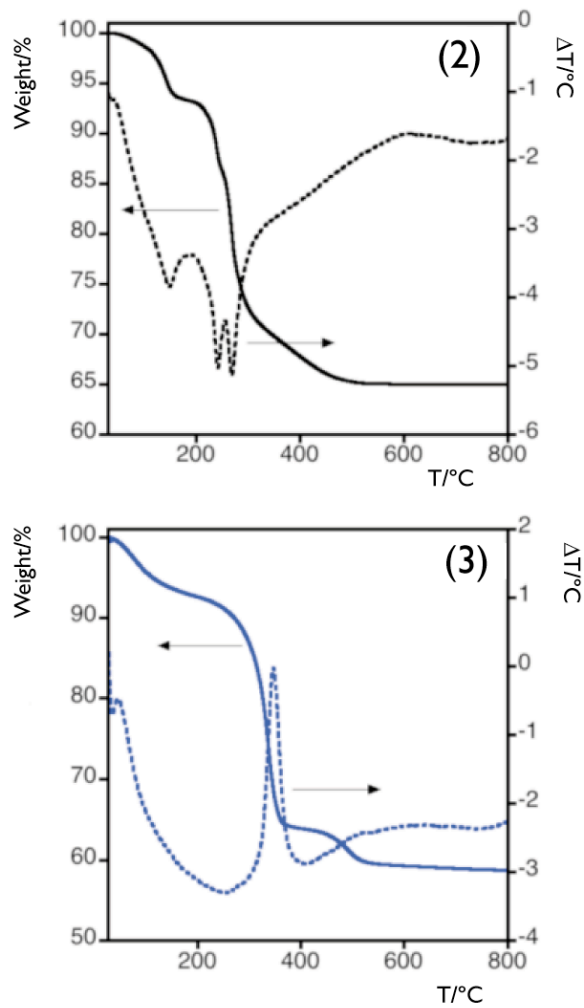
SI 3. *Top*: FT-IR spectra of **2** (black) and **3** (blue). *Bottom*: zoom-in of the 2000-500 cm^{-1} region.



SI 4. Assignment of the main vibration modes for **2-3**.

Vibration modes [cm ⁻¹]		2	3
ν[O-H]		3530, 3430	3457
ν[C-O]	as	-	1681, 1616
	s	-	1324, 1261
ν[N-O]		1379, 1750	1390
ν[M-O]		618	669
δ[O-M-O]		551, 426	545, 482, 427

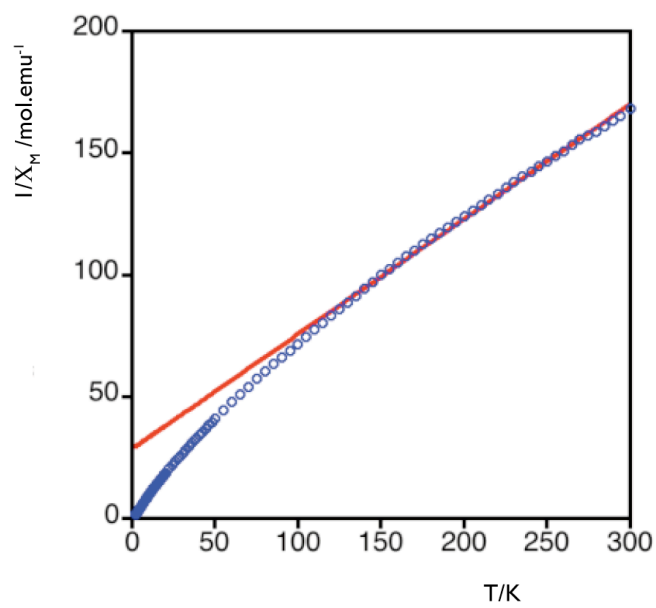
SI 5. TG/DTA curves of **2** (top) and **3** (bottom).



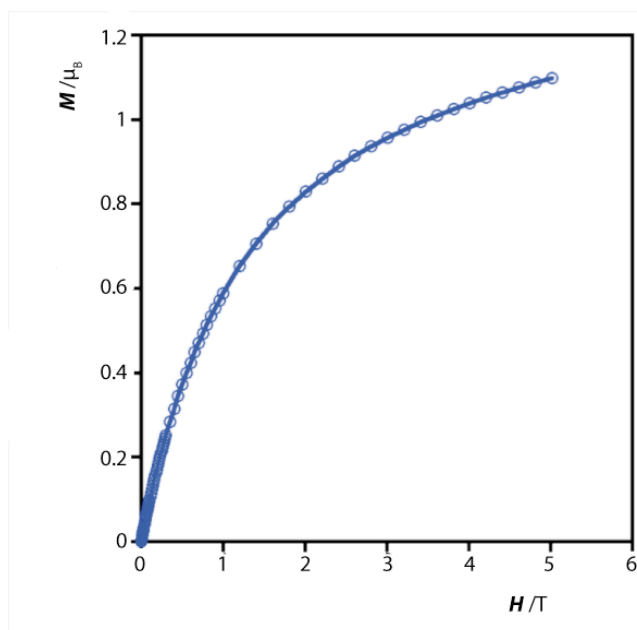
SI 6. Water content as derived from the thermogravimetric analysis and estimated molecular formula of the LDH-NO₃ precursor (**2**) and the restacked material (**3**).

Water content		Molecular formula
Wt. loss	%Mol.	
2	6.32 1.2	[Zn _{1.95} Al _{1.05} (OH) ₆](NO ₃) _{1.05} •1.2H ₂ O
3	8.90 2.5	[Zn _{2.12} Al _{1.08} (OH) ₆][Mn _{0.24} {Cr(ox) ₃ } _{0.37}](NO ₃) _{0.85} •2.5H ₂ O

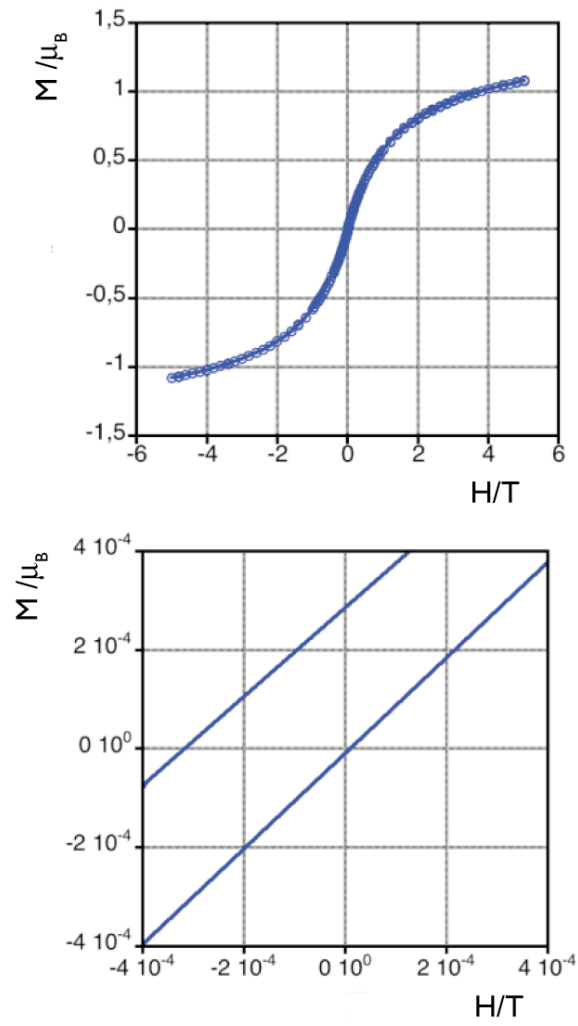
SI 7. Best fitting (red line) of the experimental data to a Curie-Weiss law in the 150-300 K interval.



SI 8. Field dependence of the magnetization of **3** at 2K.



SI 9. Top: Hysteresis loop of **3** measured at 2 K. Bottom: zoom-in showing the low field area. Solid lines are only a guide to the eye.



SI 10. UV-Vis spectra of the emulsions resulting from the exfoliation of ZnAl-LDH at different concentrations: 1 (green), 0.86 (orange), 0.73 (lavanda), 0.63 (pink), 0.55 (blue), 0.47 (grey), 0.41 g.dm⁻³ (black). The inset shows the linear relationship between the absorbance at 278 nm and the LDH content.

