

Amine- and hydroxyl-functionalization of iron nanoparticles for tailoring the properties of Fmoc-FF-based magnetic hydrogels: interfacial design toward biocompatible materials

Mariusz Barczak^{1*}, Cristina Gila-Vilchez^{2,3}, Maria Powężka¹, Anna Michalicha⁴, Fernando González-Caballero², Miguel Alaminos^{5,6}, Olimpia Ortiz-Arrabal^{5,6}, Luis Álvarez de Cienfuegos^{6,7}, Modesto T. López-López^{2,6,8*}

¹ Institute of Chemical Sciences, Faculty of Chemistry, Maria Curie-Skłodowska University, 20031 Lublin, POLAND

² Universidad de Granada, Departamento de Física Aplicada, C.U. Fuentenueva, Granada E-18071, SPAIN

³ Université d'Orléans, CNRS, CEMHTI UPR 3079, Orléans, FRANCE.

⁴ Chair and Department of Biochemistry and Biotechnology, Medical University of Lublin, Chodźki 1, 20093 Lublin, POLAND

⁵ Tissue Engineering Group, Department of Histology, University of Granada, Granada, SPAIN

⁶ Instituto de Investigación Biosanitaria ibs.GRANADA, Avda. de Madrid 15, Granada E-18012, SPAIN

⁷ Universidad de Granada, Departamento de Química Orgánica and Unidad de Excelencia Química Aplicada a Biomedicina y Medioambiente, C.U. Fuentenueva, Granada E-18071, SPAIN

⁸ Universidad de Granada, Research Unit "Modeling Nature" (MNat), C.U. Fuentenueva, Granada E-18071, SPAIN

Corresponding authors: M.B: mariusz.barczak@mail.umcs.pl, M.T. L.-L.: modesto@ugr.es

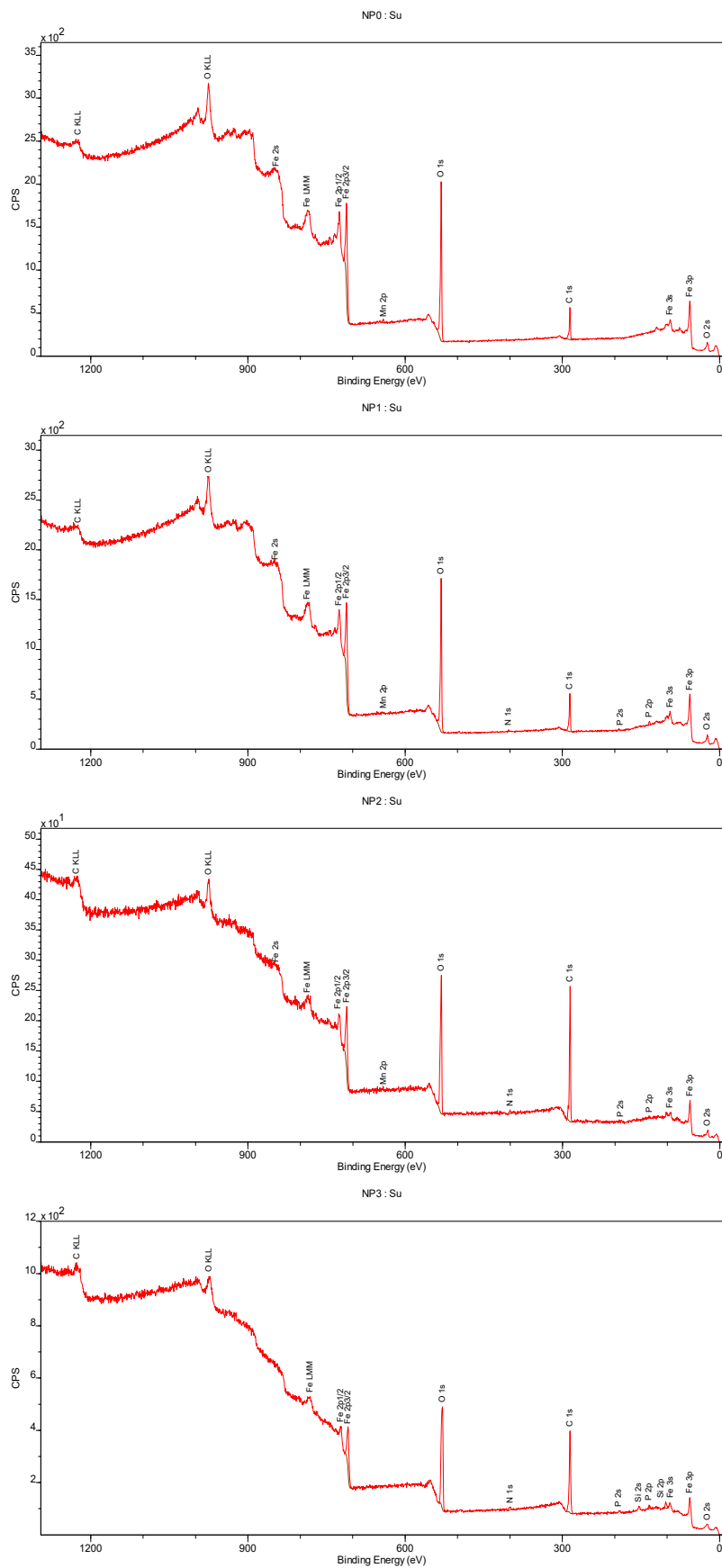


Fig. S1. XPS survey spectra for NP0, NP1, NP2 and NP3, respectively

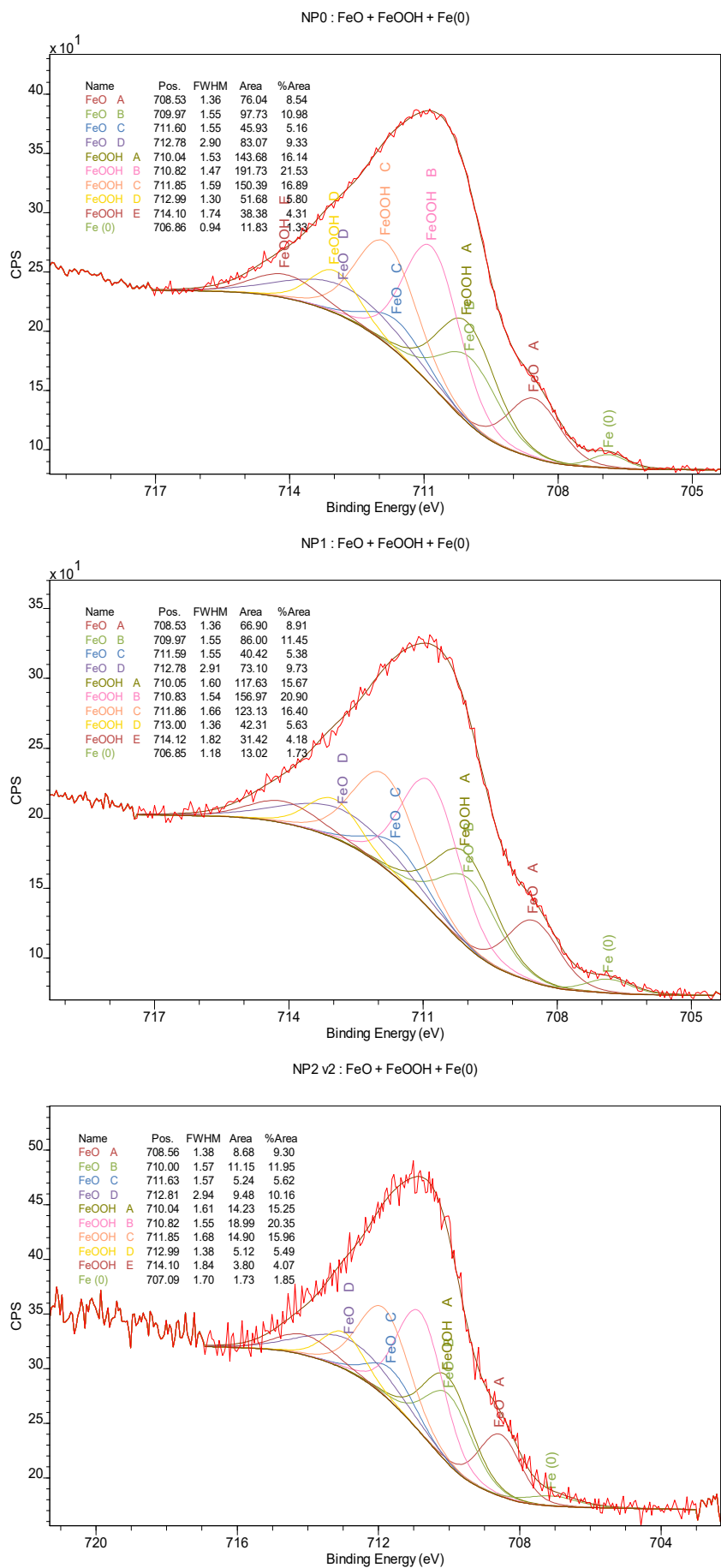


Fig. S2. Deconvolution of Fe 2p core energy level for NP0, NP1, and NP2, respectively

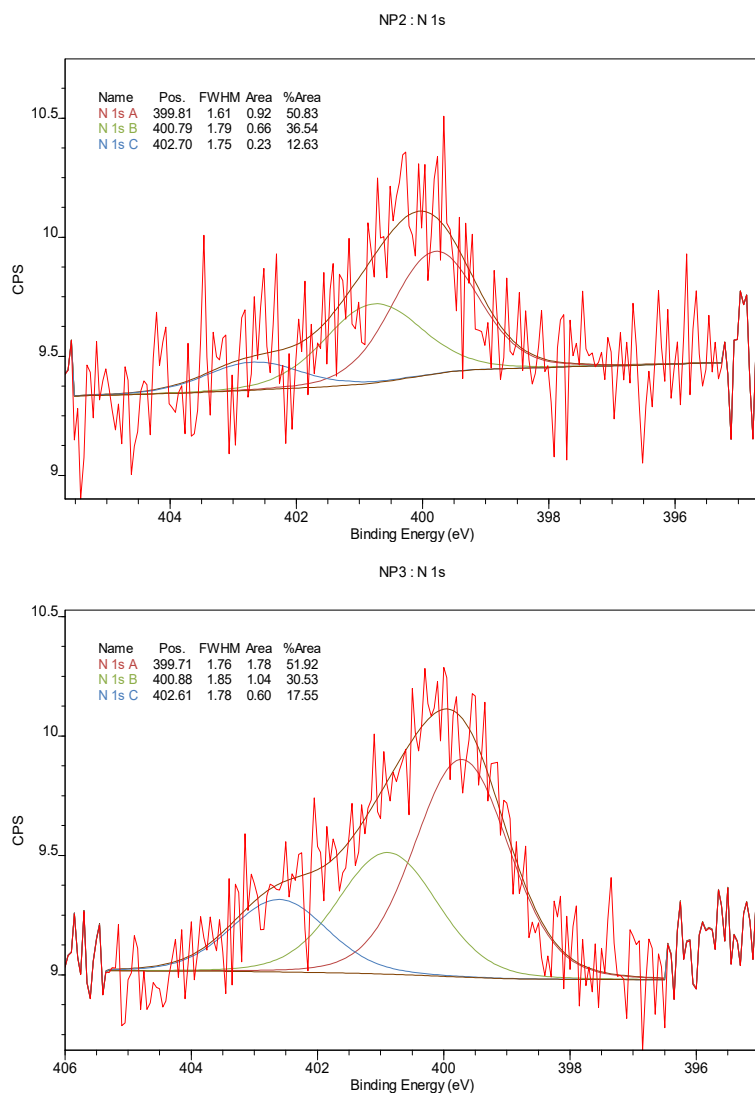


Fig. S3. Deconvolution of N 1s core energy level for NP2 and NP3, respectively

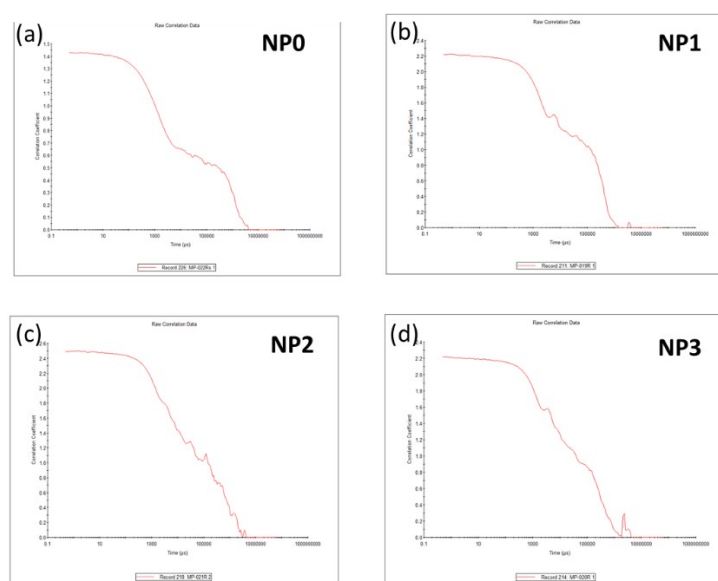


Fig. S4. Correlation functions obtained from DLS measurements for the samples NP0, NP1, NP2, and NP3

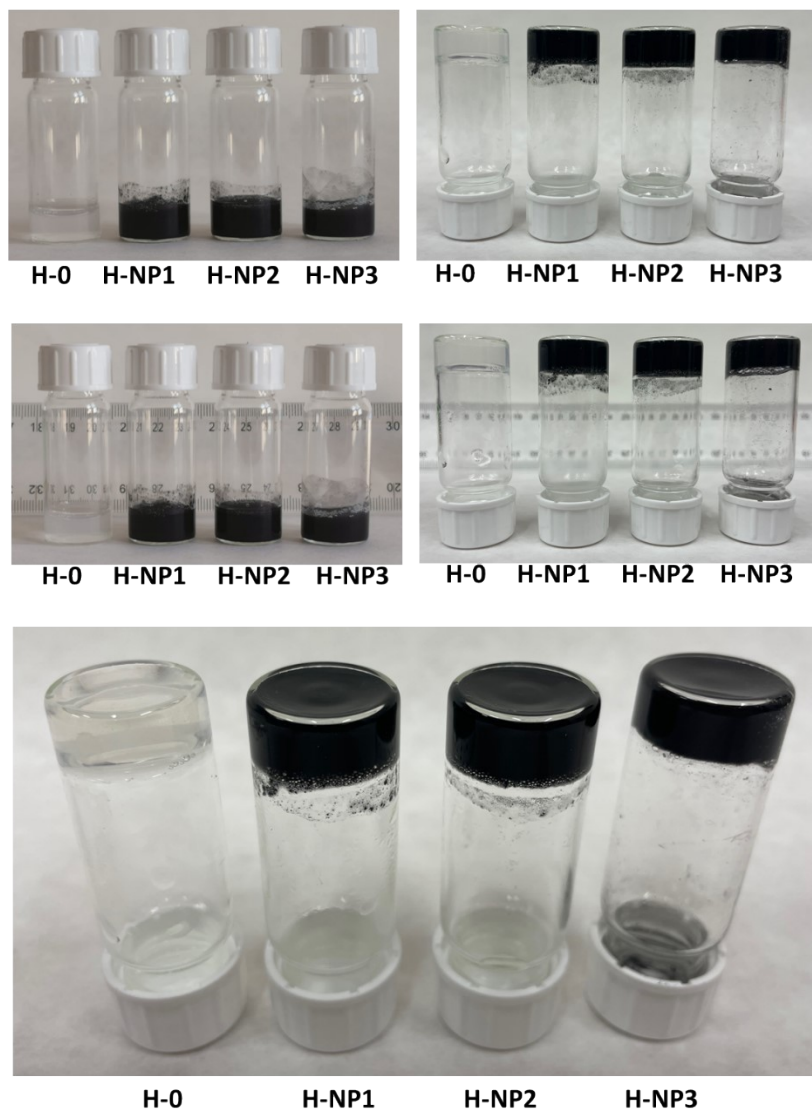


Fig. S5. Macroscopical inverted test tube of hydrogels H-0, H-NP1, H-NP2, and H-NP3 respectively

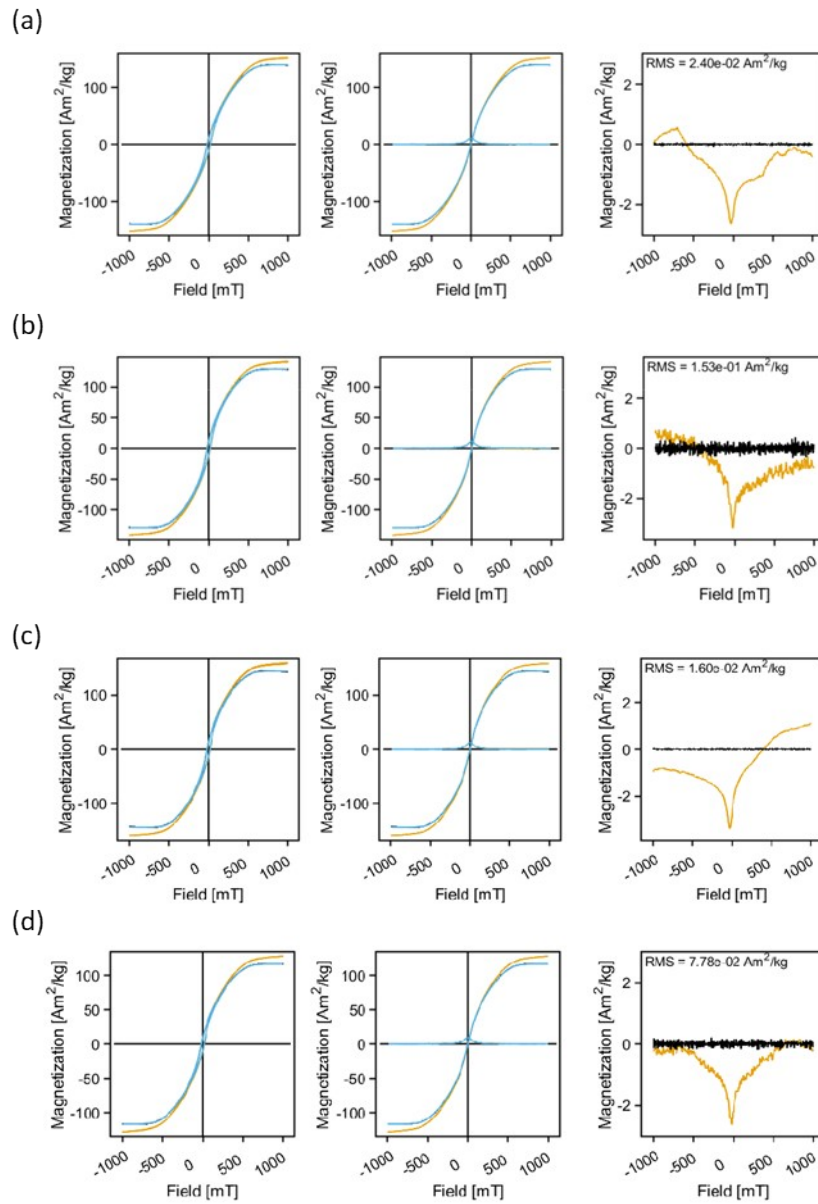


Fig. S6. Hysteresis loops (left column), Mh & Mrh curves (middle column), and noise curves (right column) of the studied systems: NP0 (a), NP1 (b), NP2 (c) and NP3 (d) [1]

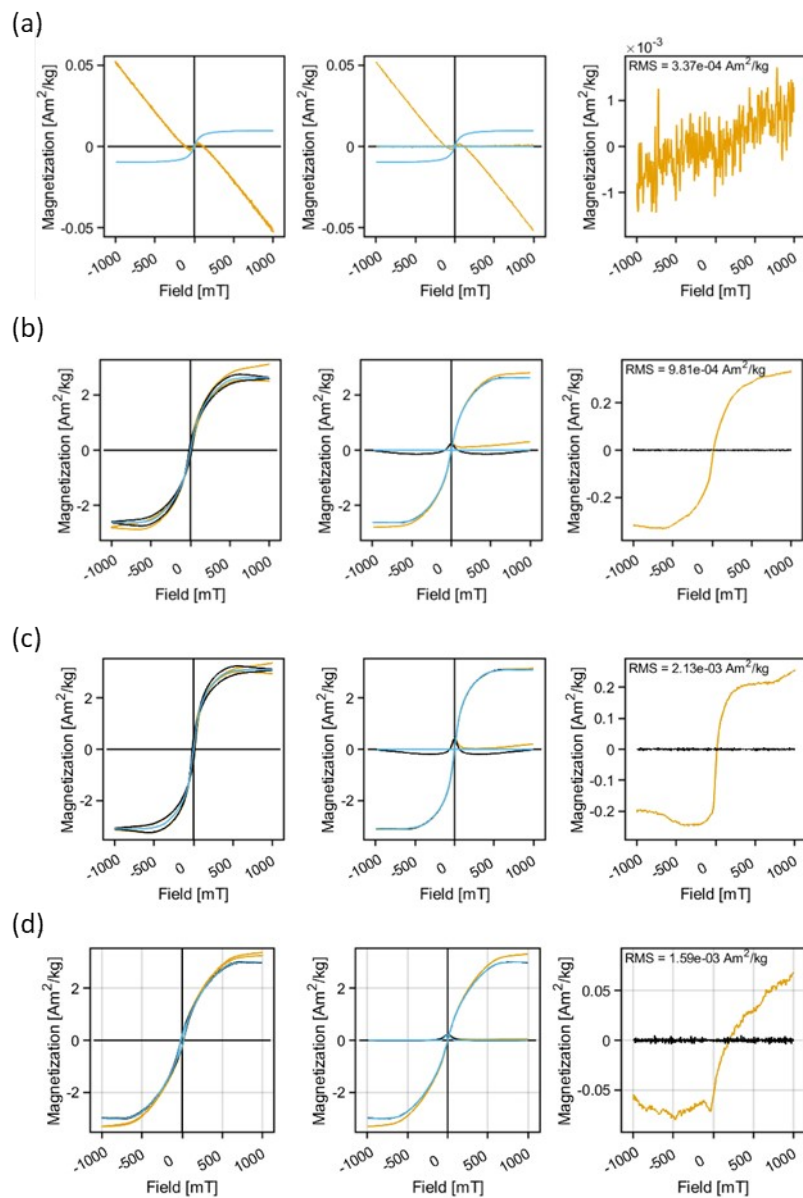


Fig. S7. Hysteresis loops (left column), Mh & Mrh curves (middle column), and noise curves (right column) of the studied systems: NP0 (a), NP1 (b), NP2 (c) and NP3 (d) [1]

- [1] G.A. Paterson, X. Zhao, M. Jackson, D. Heslop, Measuring, Processing, and Analyzing Hysteresis Data, *Geochemistry, Geophys. Geosystems*. 19 (2018) 1925–1945. <https://doi.org/10.1029/2018GC007620>.