Electronic Supplementary Information

Preparation of functionalized Magnetic Nanoparticles conjugated with feroxamine and their application for pathogen detection

Diana Martínez-Matamoros,[a] Socorro Castro-García,[a] Miguel Balado[b], Adriana Matamoros-Veloza,[c] Miller Alonso Camargo-Valero,[d,f] Oscar Cespedes,[e] Jaime Rodríguez,[a*] Manuel L. Lemos,[b] and Carlos Jiménez[a*]

[a] Centro de Investigacións Científicas Avanzadas (CICA), Departamento de Química, Facultade de Ciencias, Universidade da Coruña, 15071 A Coruña, Spain
[b]Department of Microbiology and Parasitology, Institute of Aquaculture, Universidade de Santiago de Compostela, Campus Sur, Santiago de Compostela 15782, Spain
[c]Institute of Thermofluids, School of Mechanical Engineering, University of Leeds, Leeds LS2 2JT, UK
[d]BioResource Systems Research Group, School of Civil Engineering, University of Leeds, Leeds LS2 9JT, UK
[e]Faculty of Mathematics and Physical Sciences School of Physics and Astronomy, University of Leeds, Leeds, LS2 9JT, UK
[f]Departamento de Ingeniería Química, Universidad Nacional de Colombia, Campus La Nubia, Manizales, Colombia

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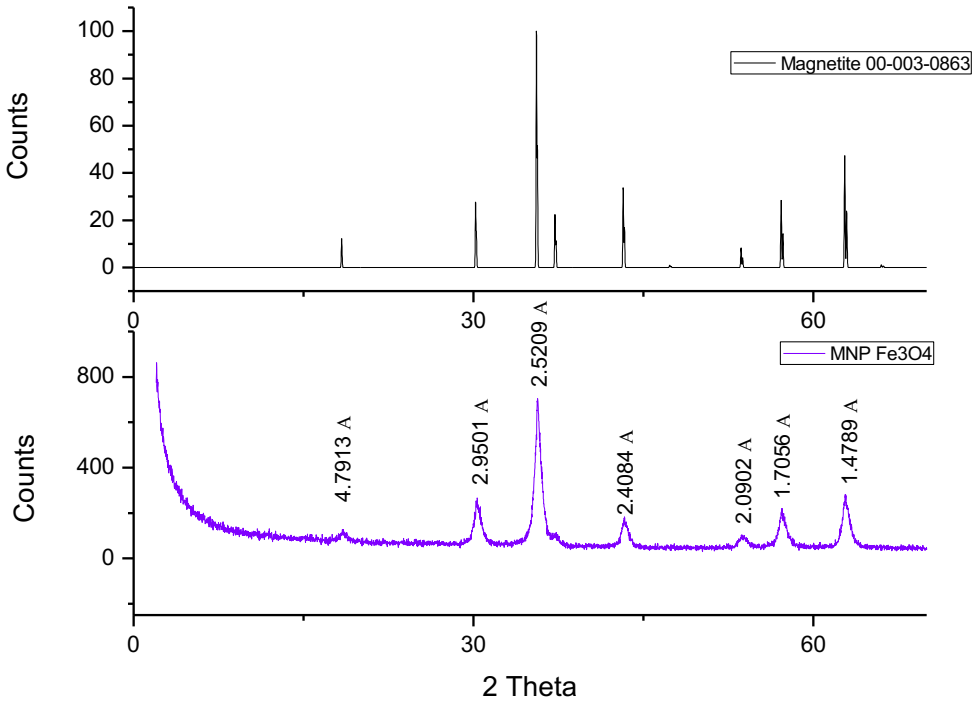

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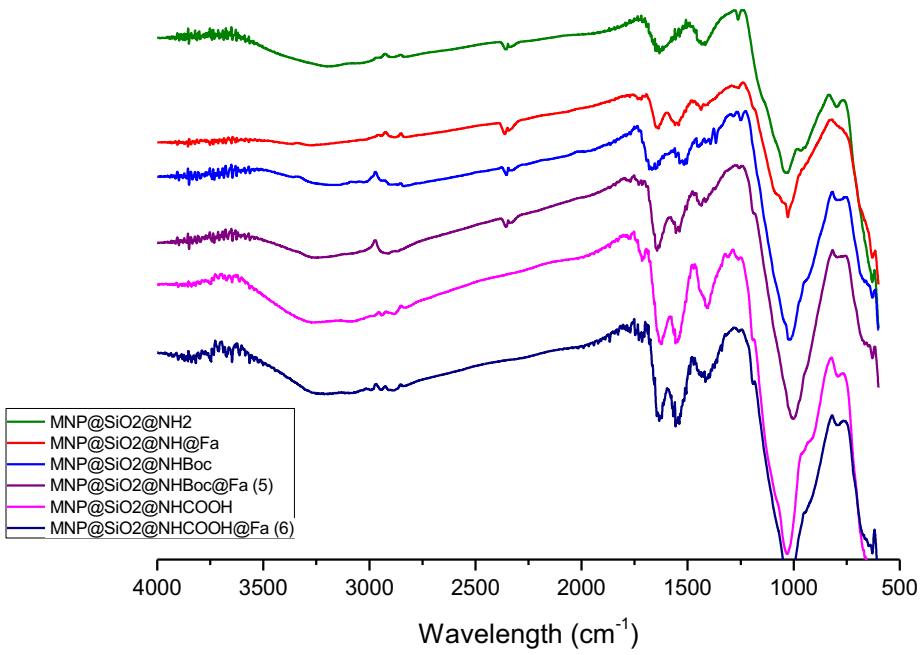

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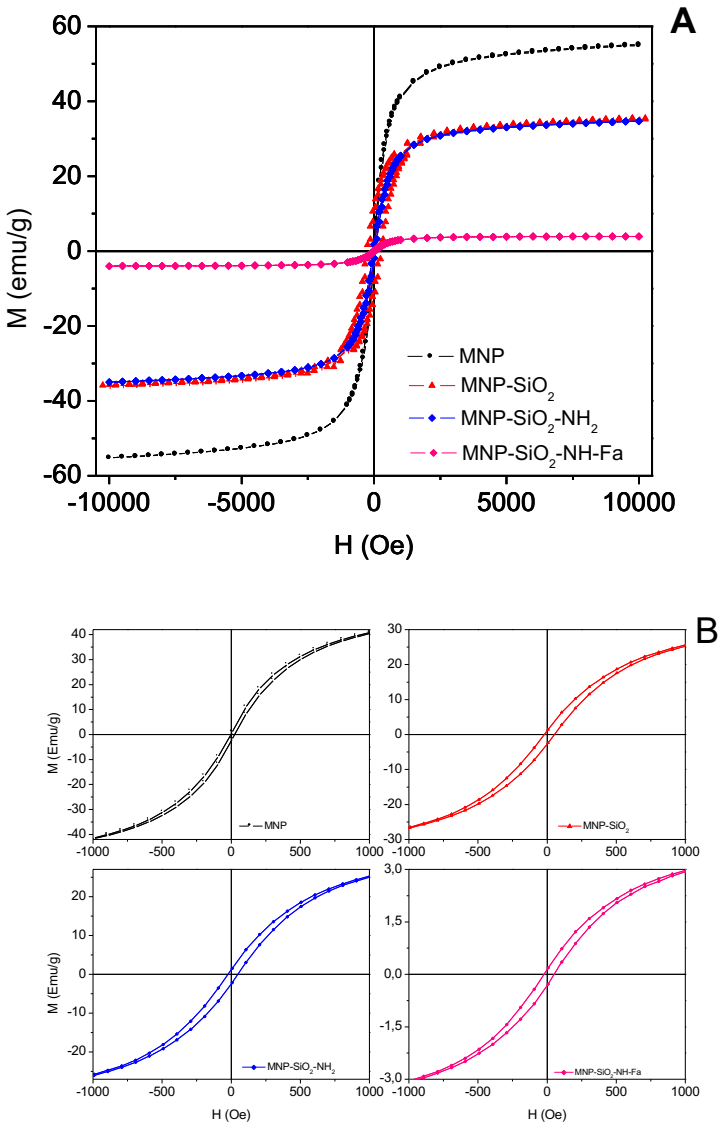

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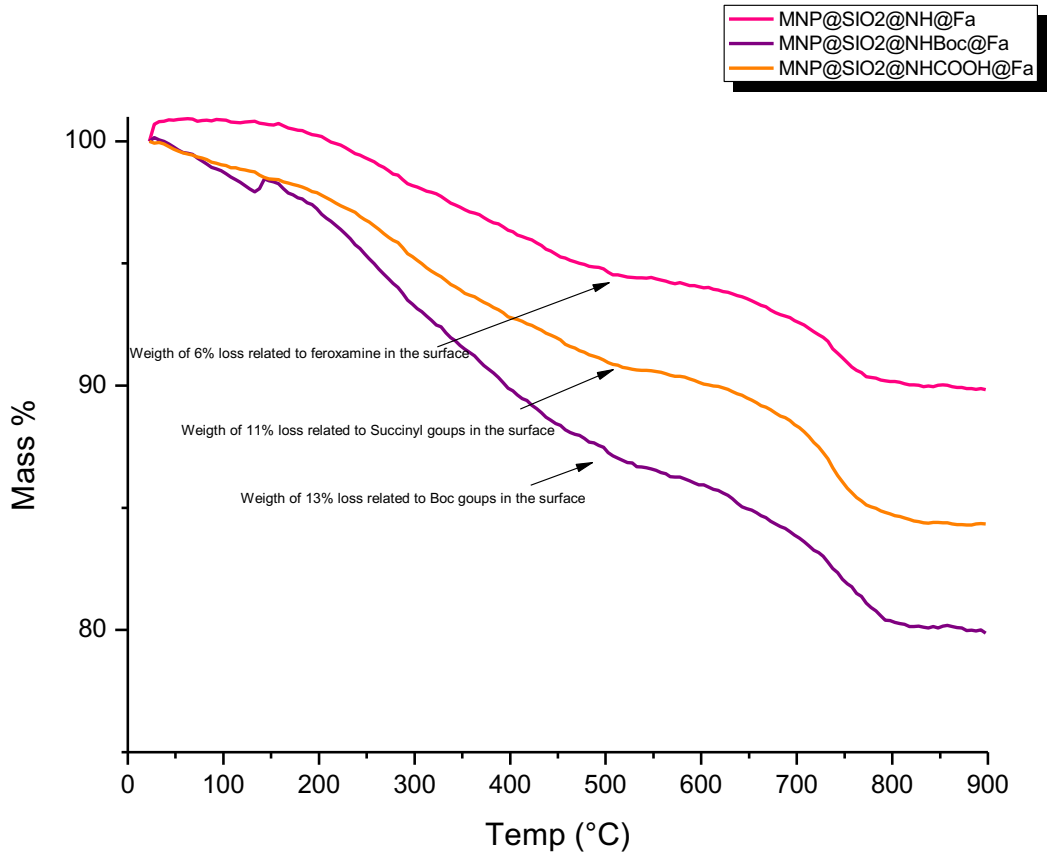

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Estimation of feroxamine bonded to a 1 mg of MNP@SiO_2@NH_2:

Weight loss of MNP@SiO_2@NH_2 = 5.6 %

Weight loss of MNP@SiO_2@NH@Fa = 11.1 %

Expected Weight loss for MNP@SiO_2@NH@Fa:

= (% Wt loss of MNP@SiO_2@NH@Fa) - (% Wt loss of MNP@SiO_2@NH_2)

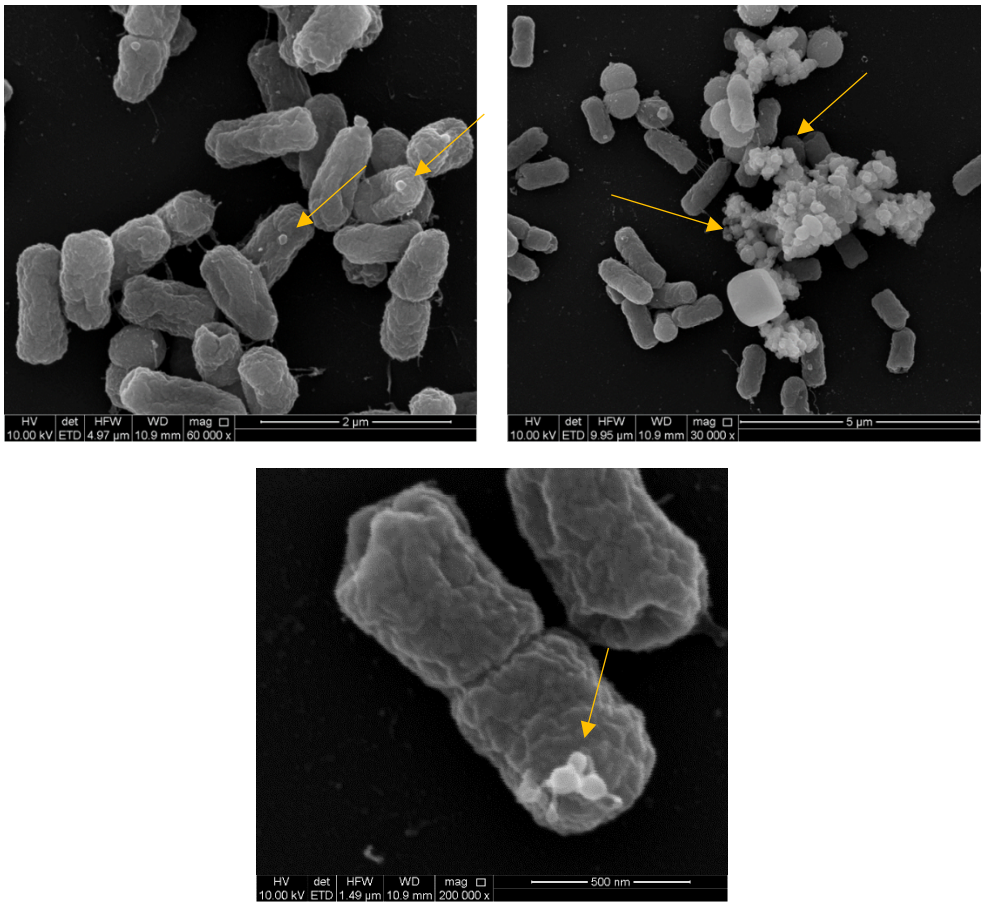
= (11.1 – 5.6) % = **5.44%**

Weight loss of feroxamine from 1 mg of conjugate:

$$1mg\ \frac{5.44\ \%\ of\ feroxamine}{100} = 0.0544\ mg\ of\ feroxamine$$

$$\frac{5.44\ x\ 10^{-3} g}{713.98\ mg\ /mmol} = 7.62x10^{-5} mmol\ of\ feroxamine$$

The amount of feroxamine per mg of MNP@SiO_2@NH_2 is 0.0544 mg, approximately. The conjugation was carried out using an excess of feroxamine to ensure that several amine groups were successfully coupled to the siderophore.



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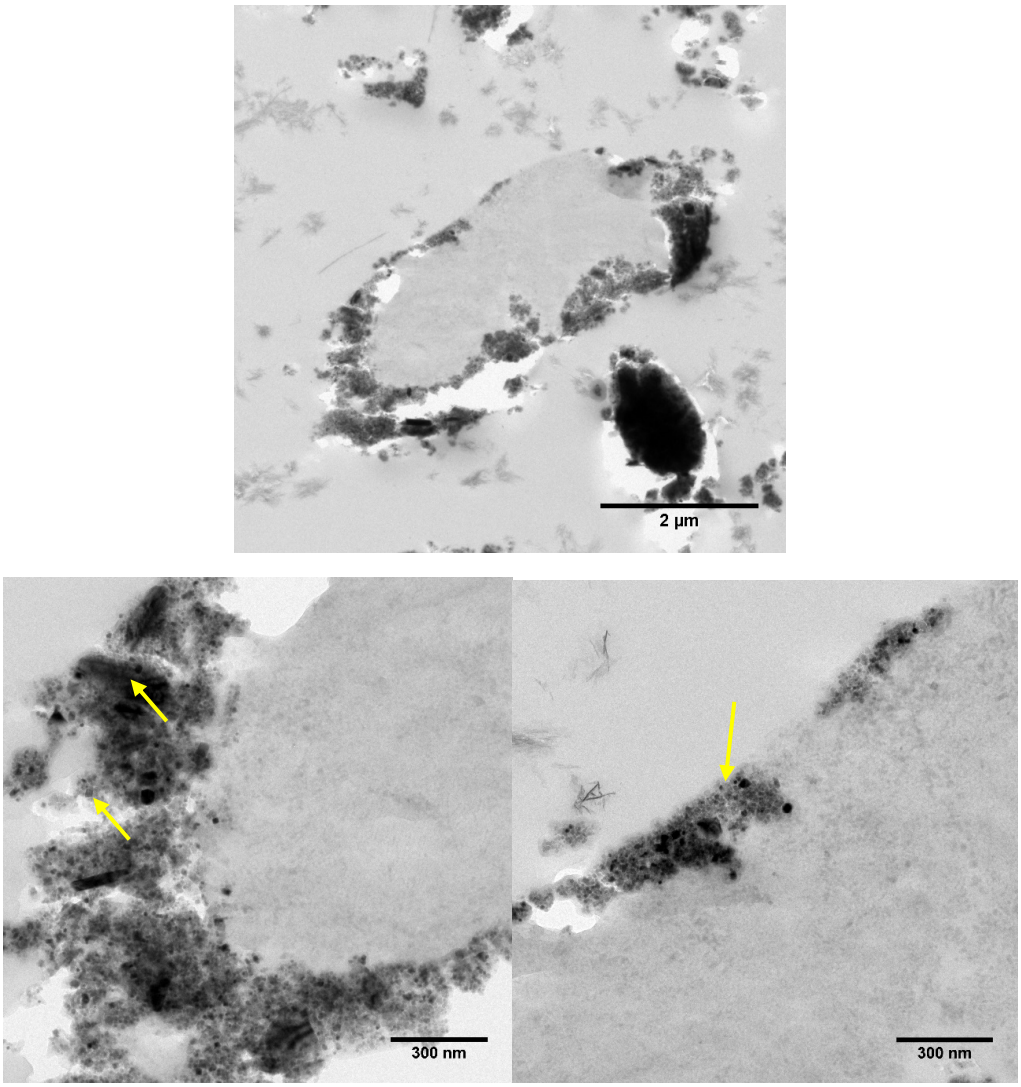

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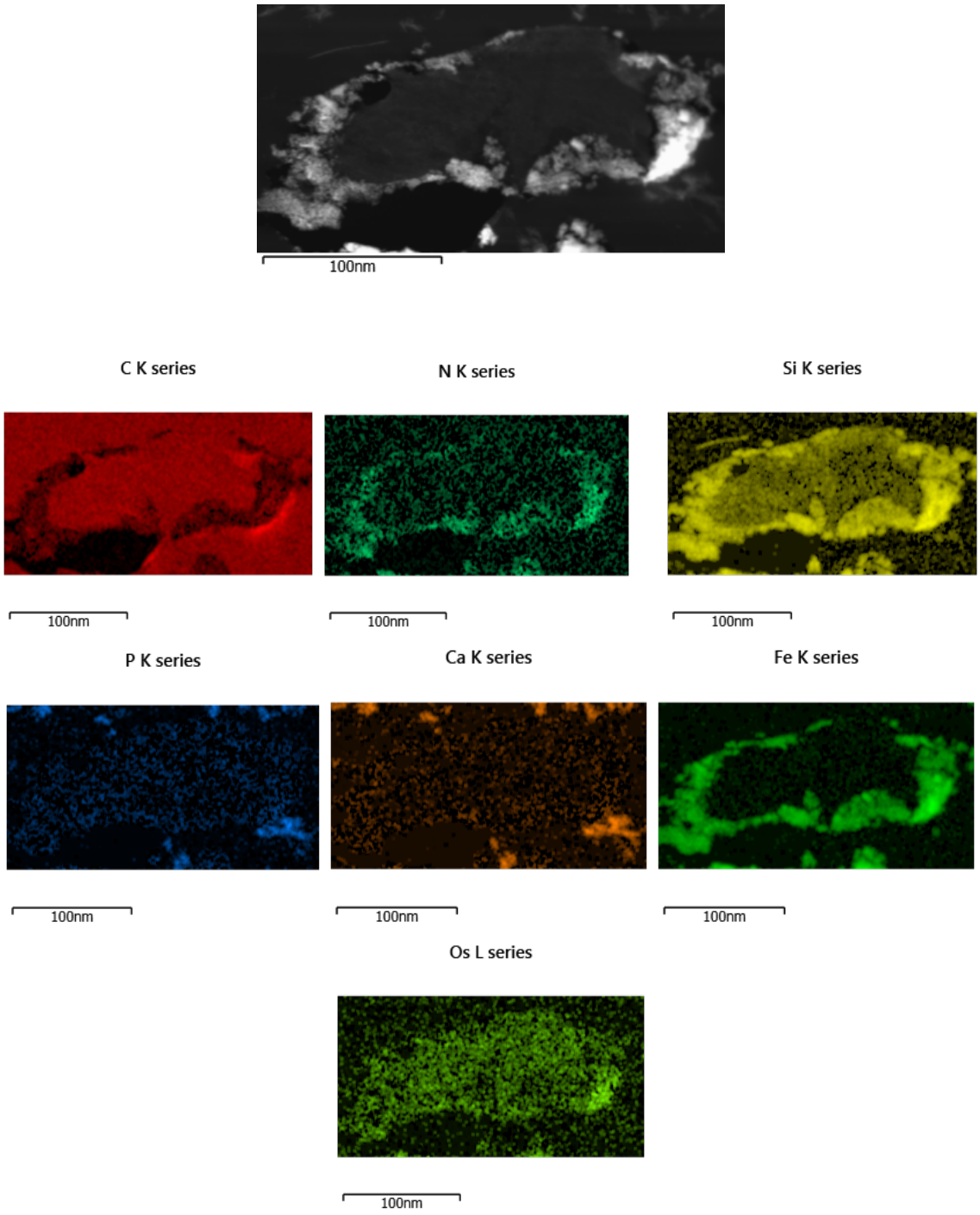

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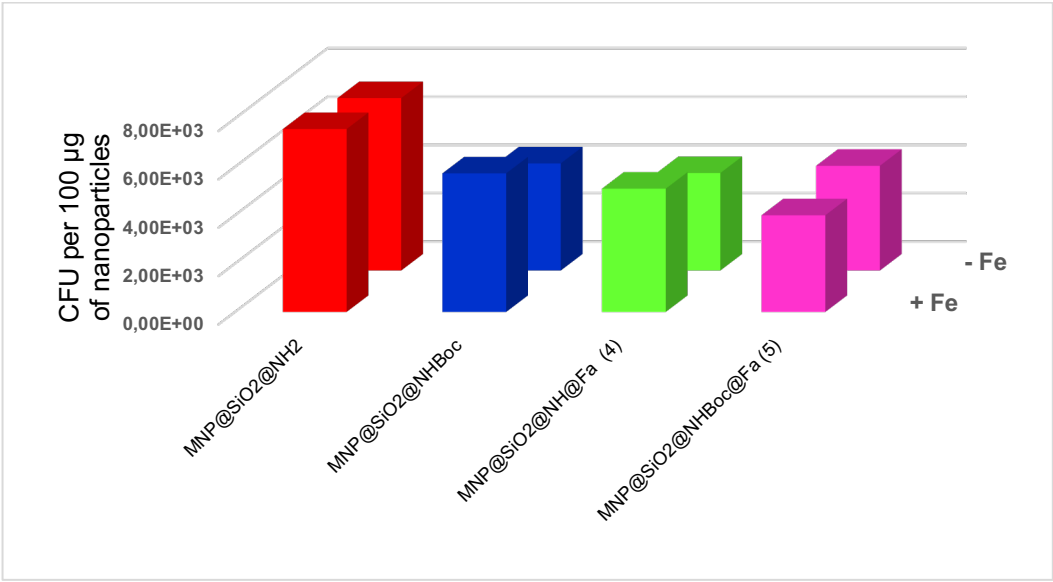

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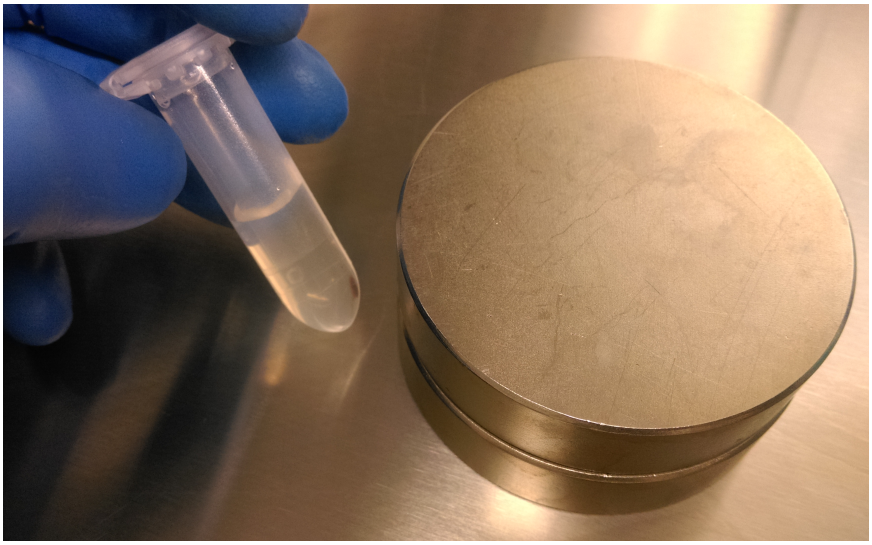

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