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Brief Report

Enhancing Magnetic Micro- and Nanoparticle Separation with a Cost-Effective Microfluidic Device Fabricated by Laser Ablation of PMMA

Cristian F. Rodríguez [1,2], Paula Guzmán-Sastoque [1], Carolina Muñoz-Camargo [1], Luis H. Reyes [3], Johann F. Osma [1,4] and Juan C. Cruz [1,3,*]

[1] Department of Biomedical Engineering, Universidad de los Andes, Cra. 1E No. 19a-40, Bogotá 111711, Colombia; cf.rodriguez@uniandes.edu.co (C.F.R.); pa.guzmans@uniandes.edu.co (P.G.-S.); c.munoz2016@uniandes.edu.co (C.M.-C.); jf.osma43@uniandes.edu.co (J.F.O.)
[2] Neuroscience Group of Antioquia, Cellular and Molecular Neurobiology Area, School of Medicine, University of Antioquia, Medellin 050010, Colombia
[3] Grupo de Diseño de Productos y Procesos (GDPP), Department of Chemical Engineering, Universidad de los Andes, Cra. 1E No. 19a-40, Bogotá 111711, Colombia; lh.reyes@uniandes.edu.co
[4] Department of Electrical and Electronic Engineering, Universidad de los Andes, Cra. 1E No. 19a-40, Bogotá 111711, Colombia
* Correspondence: jc.cruz@uniandes.edu.co

Supplementary material

Table S1 Properties of the simulated particles. References of the parameters used in literature [1,2]

Simulation Scenario	Particle Type	Density (kg/m³)	Relative permeability	Diameter (Mean , Deviation)	Results
Magnetic separation nano particle	Nano magnetite	5180	2.5	90 nm, 10 nm	Figure 2
	Blue carbon dots	1500	-	3 nm, 1nm	
Magnetic separation Micro particle	Polystyrene Microparticles	1500	-	2 μm, 1 μm	Figure 3
	Micro magnetite	5180	2.5	3 μm, 1 μm	

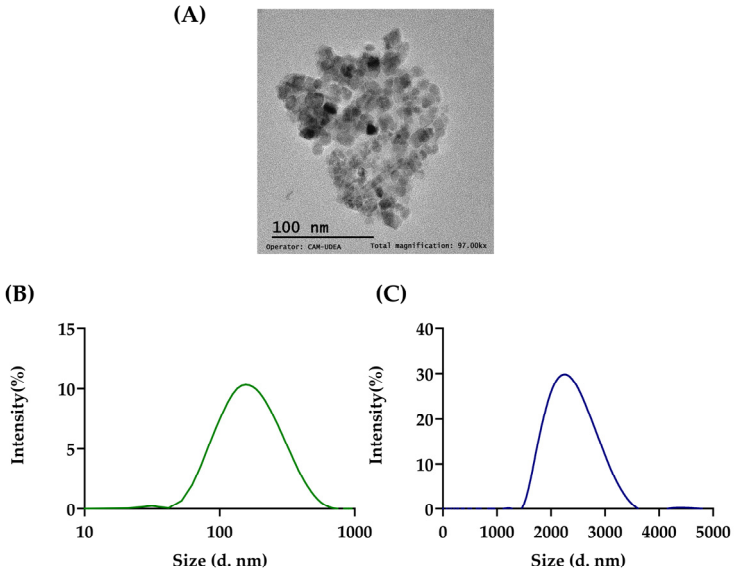

Figure S1. (A) TEM image of the magnetite nanoparticles. Scale bar 100 nm. (B) Hydrodynamic size distribution of magnetite nanoparticles. (C) Hydrodynamic size distribution of magnetite microparticles.

References

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(2) Rodríguez, C. F.; Guzmán-Sastoque, P.; Gantiva-Diaz, M.; Gómez, S. C.; Quezada, V.; Muñoz-Camargo, C.; Osma, J. F.; Reyes, L. H.; Cruz, J. C. Low-Cost Inertial Microfluidic Device for Microparticle Separation: A Laser-Ablated PMMA Lab-on-a-Chip Approach without a Cleanroom. *HardwareX* **2023**, *16*, e00493. https://doi.org/10.1016/j.ohx.2023.e00493.