

## Block copolymer self-assembly derived mesoporous magnetic materials with three-dimensionally (3D) co-continuous gyroid nanostructure

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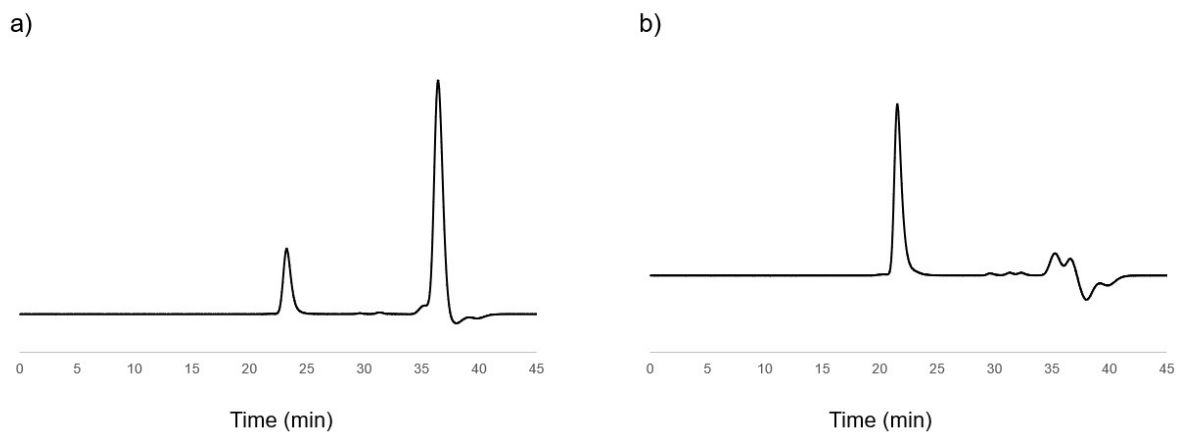


Figure S1: GPC of polyisoprene (PI) aliquot (a) and poly(isoprene-*block*-styrene) aliquot (b).

Table S1:

Sample	Mn (g/mol)	PDI
PI	10690 (by PI standard)	1.04
PI- <i>b</i> -PS	35329 (by PS standard)	1.08

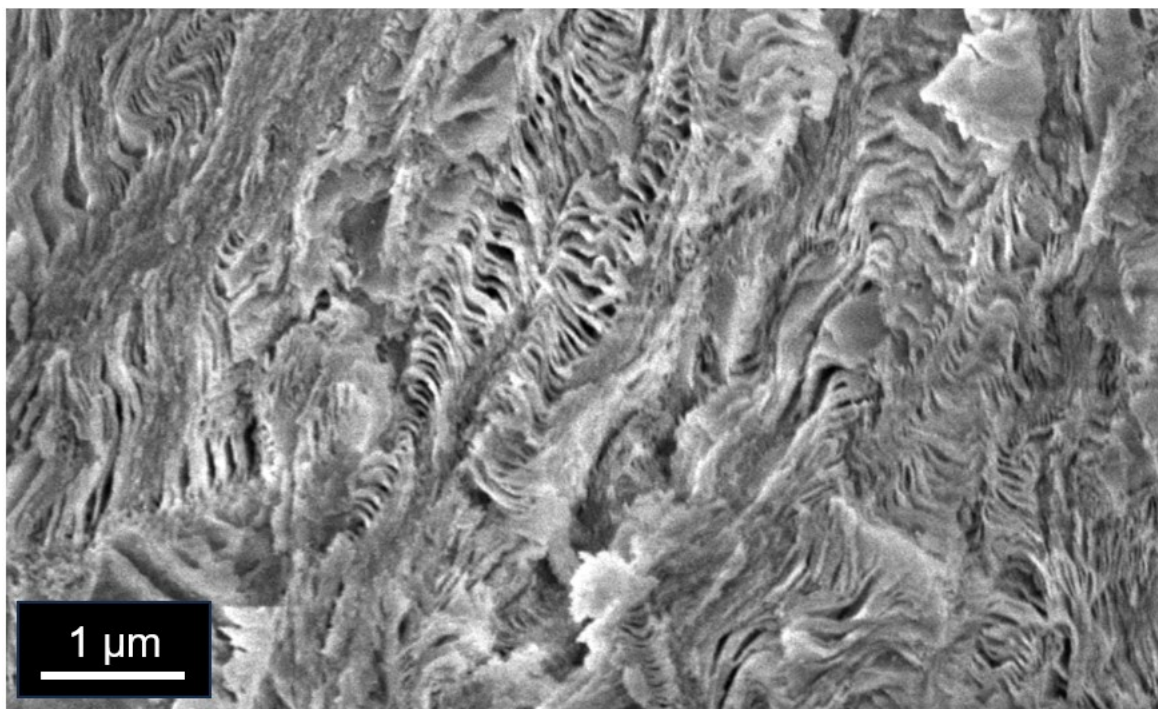


Figure S2: SEM images showing disordered material resulting from an inorganic additive with a molar ratio of 50:50 aluminosilicate precursor to iron(III) ethoxide.

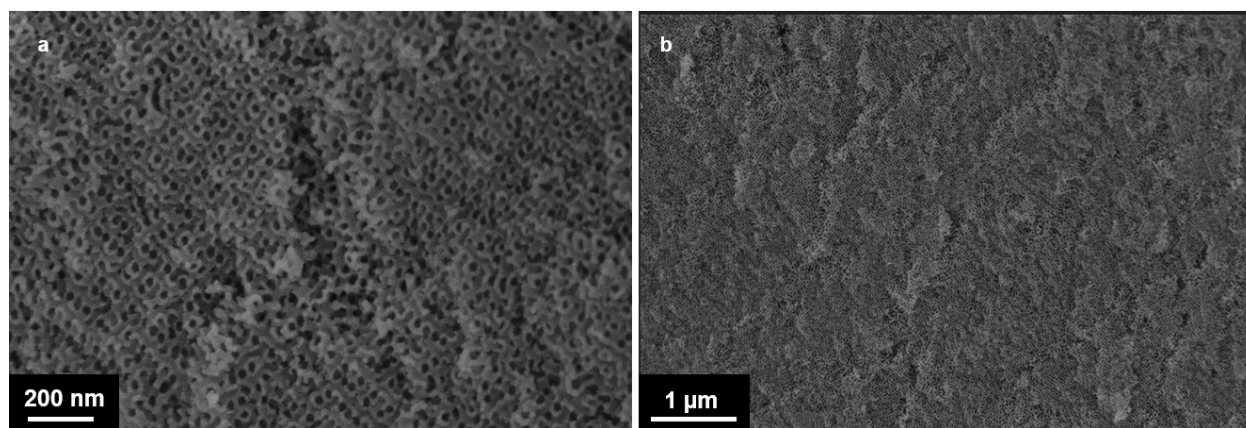


Figure S3: SEM images showing the final mesoporous material at two different magnifications.

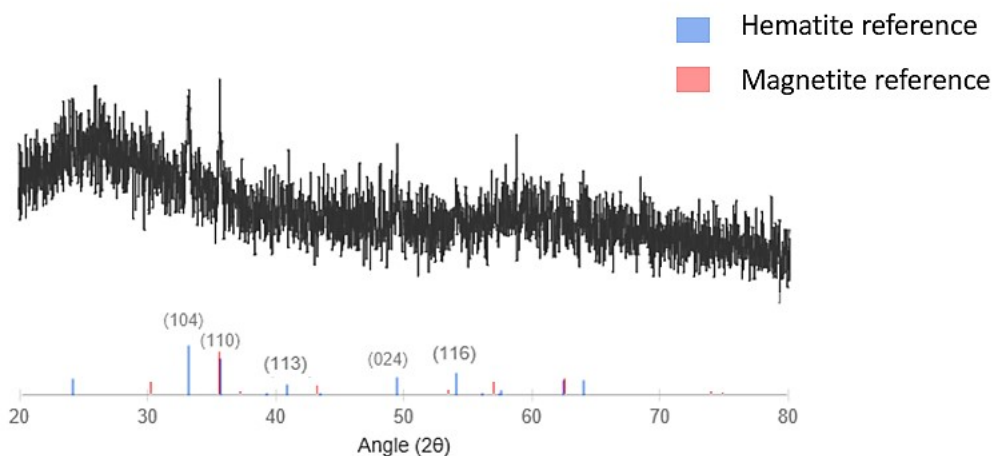


Figure S4: XRD pattern of unstructured sample with reference peaks for hematite ( $\alpha\text{-Fe}_2\text{O}_3$ ) and magnetite ( $\text{Fe}_3\text{O}_4$ ) shown at the bottom from (PDF) #01-087-1164<sup>1</sup> and (PDF) #01-079-0417,<sup>2</sup> respectively.

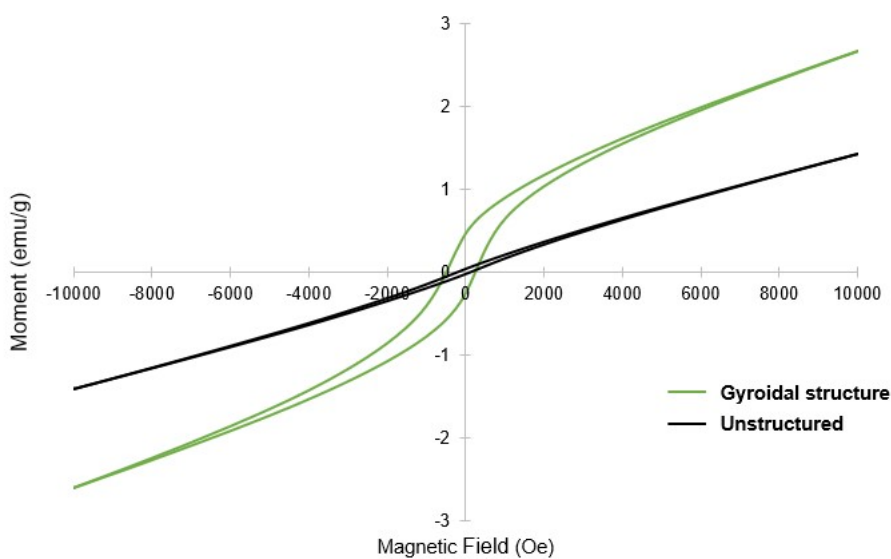


Figure S5: Comparison of M-H curves at 10 K for the BCP-derived mesoporous gyroidal (green) and unstructured bulk aluminosilicate/ $\alpha\text{-Fe}_2\text{O}_3$  inorganic (black) materials.

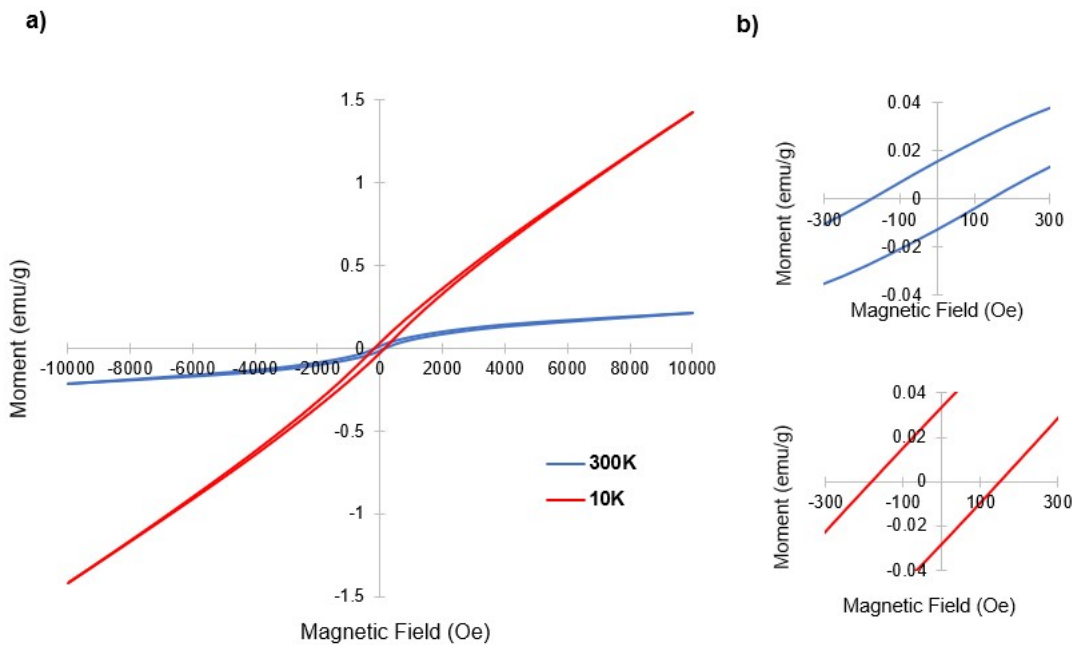


Figure S6: M-H curves at 300 K and 10 K obtained on the unstructured inorganic material (a). Zoomed-in versions showing the hysteresis near  $H=0$  for 300 K (top) and 10 K (bottom) (b).

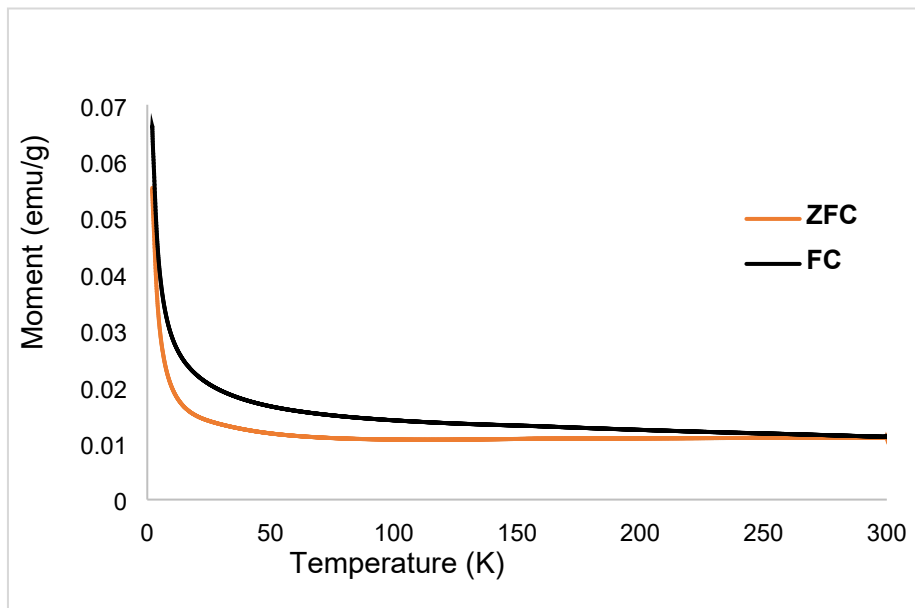


Figure S7: ZFC and FC curves for the unstructured inorganic material with expanded y-axis.

References:

1. Sawada, H. *Mater. Res. Bull.* 1996. 31, 141.
2. Fleet, M. E. *J. Solid State Chem.* 1986. 62, 75.