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ESI to: "Modifying the magnetic response of magnetotactic bacteria: Incorporation of Gd and Tb ions into the magnetosome structure"

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Notes and references

1 L. Marcano, I. Orue, A. Garcıa-Prieto, R. Abrudan, J. Alonso, L. Fernandez Barquın, S. Valencia, A. Muela and M. L. Fdez-Gubieda, *The Journal of Physical Chemistry C*, 2020, **124**, 22827–22838.

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† Electronic Supplementary Information (ESI) available: Fig. S1 TEM images showcasing the appearance of RE salts attached to the bacterial body and chain anomalies/deformed magnetosomes inside the bacteria. Fig. S2 includes the ZFC/FC M *vs.* H curves measured at different temperatures for the RE–doped MTB. Fig. S3 offers a comparison between the thermal evolution of ΔH_C and $\Delta M_r/M_s$ of the undoped, Gd [100:100], Tb [100:100], Mn [480:100] and Mn [100:100] bacterial samples. See DOI: 00.0000/00000000.

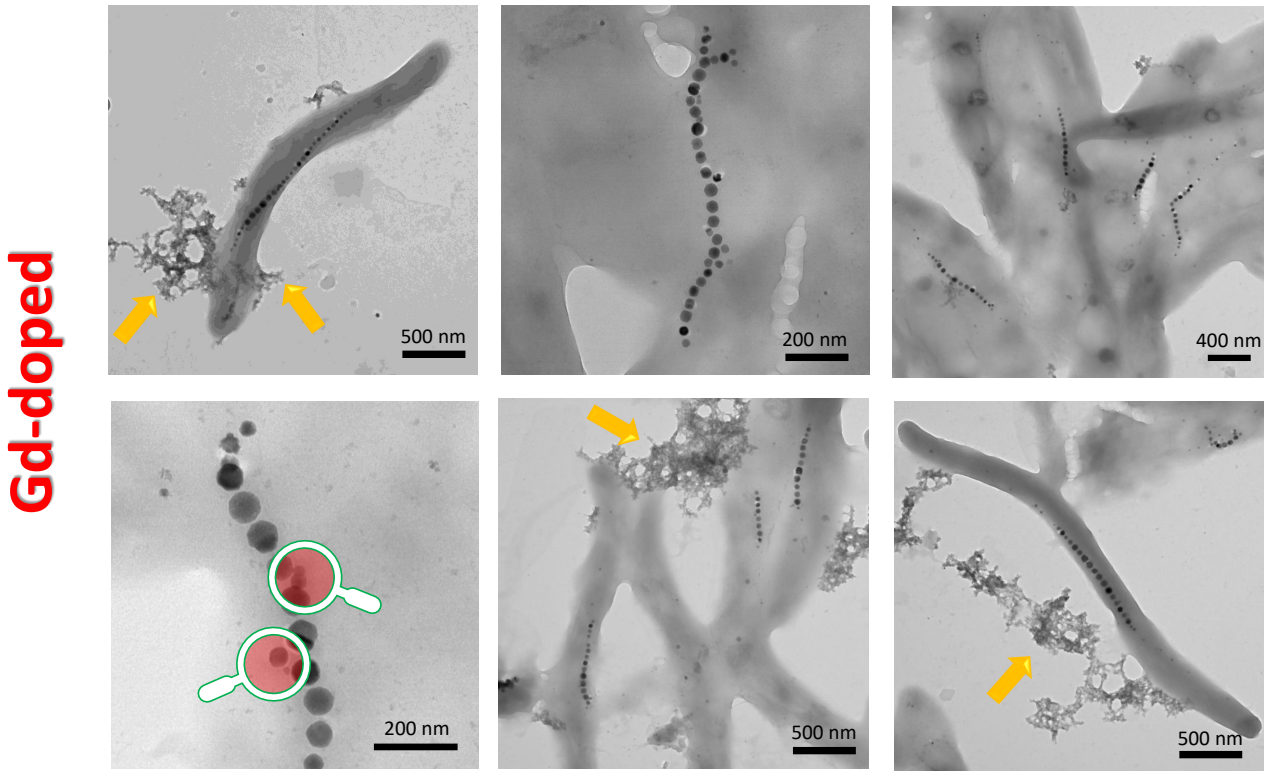

Fig. 1 Collection of TEM images corresponding to Gd–doped bacteria. Yellow arrows mark the existence of R salts attached to the bacterial body. Particular smaller or less faceted magnetosomes have been enclosed with red lens.

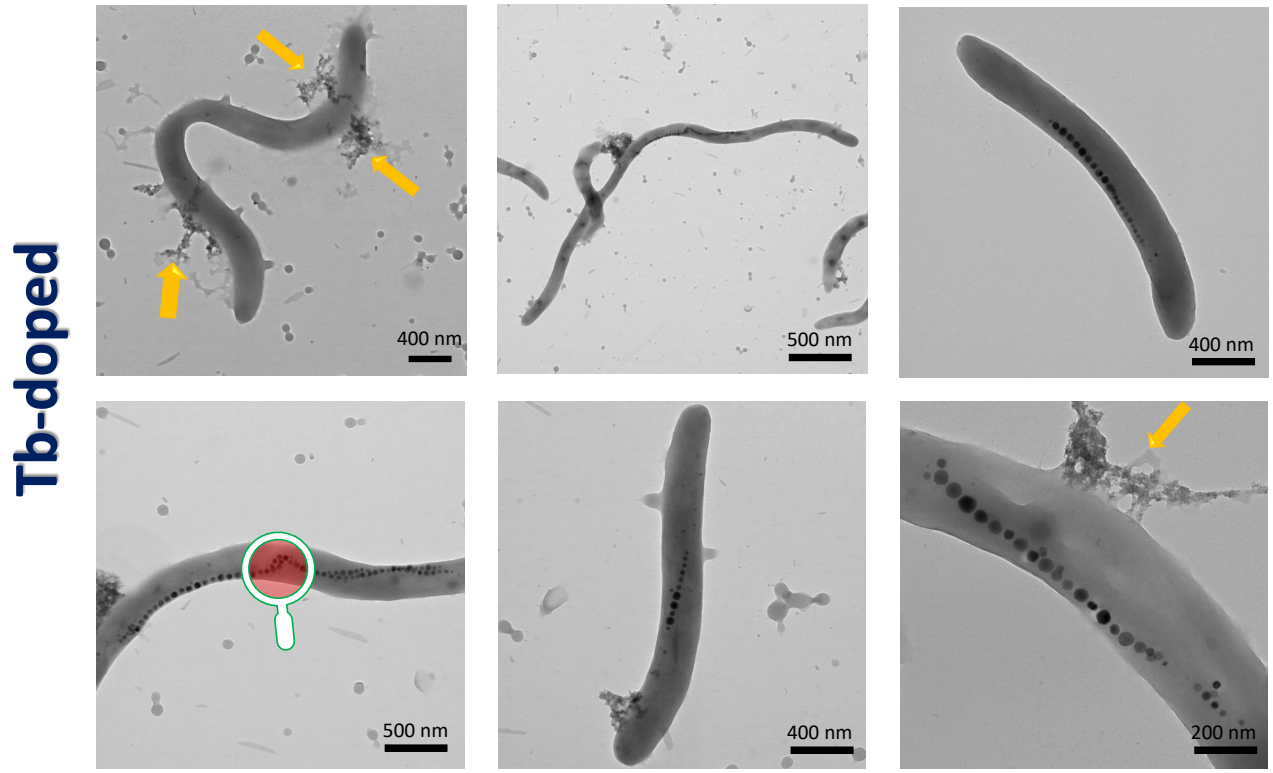

Fig. 2 Collection of TEM images of Tb–doped bacteria. As in Fig. S1, yellow arrows mark the existence of R salts attached to the bacterial body. Here, we have magnified in red the curvature found at the bottom of two chains, different from the regularly found linear shape.

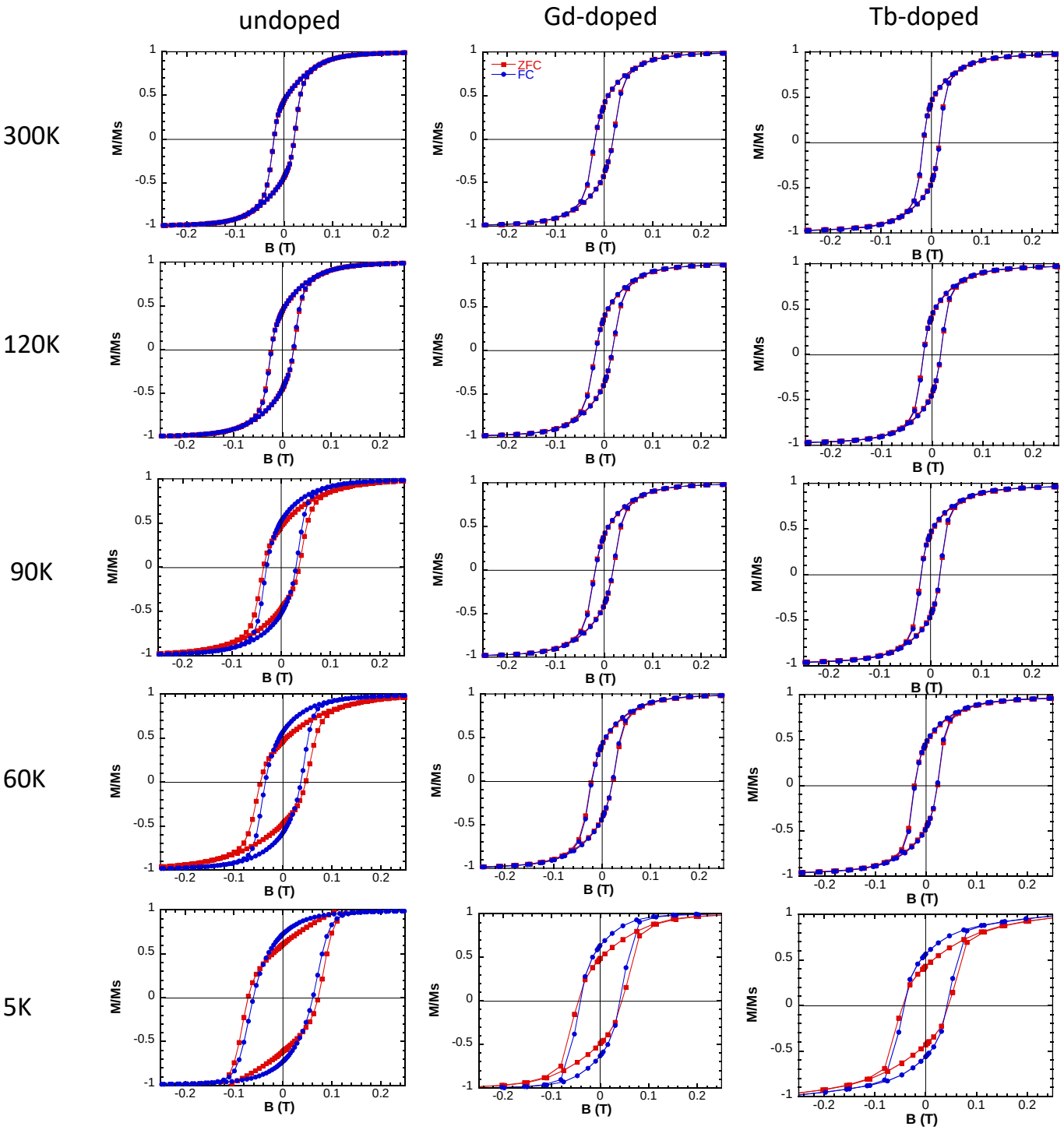

Fig. 3 ZFC/FC M *vs.* H curves measured at different temperatures for the RE–doped MTB. The increasing paramagnetic contribution at low T is clearly depicted.

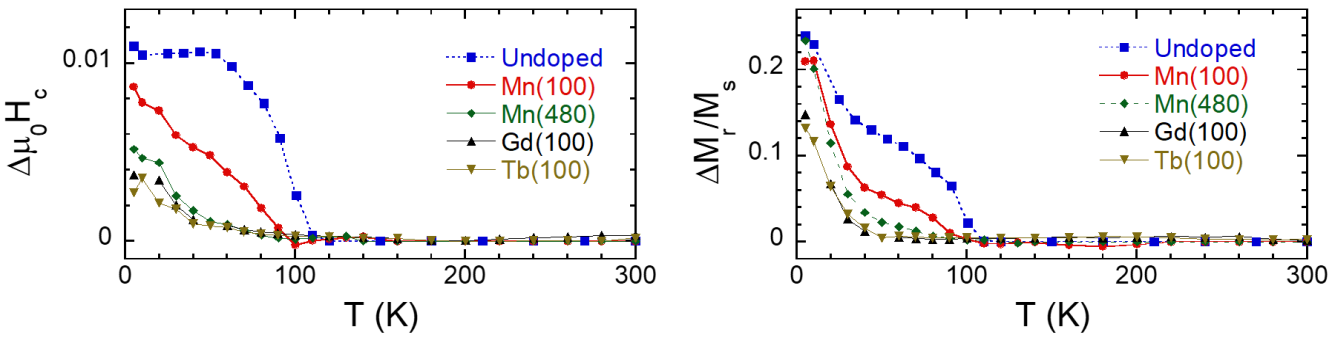

Fig. 4 Comparison between the thermal evolution of ΔH_C and $\Delta M_r/M_s$ of the undoped, Gd [100:100], Tb [100:100], Mn [480:100] and Mn [100:100] bacterial samples. The data for the Mn–doped bacteria have been obtained from our recent work, Ref.[1] (reproduced with permission).