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CORRECTION

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Correction: Erbium: key to simultaneously achieving superior temperature-stability and high magnetic properties in 2 : 17-type permanent magnets

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Correction for 'Erbium: key to simultaneously achieving superior temperature-stability and high magnetic properties in 2 : 17-type permanent magnets' by Zan Long *et al.*, *Mater. Horiz.*, 2025, **12**, 2999–3010, https://doi.org/10.1039/D4MH01765J.

The authors regret errors in the published article, where x was erroneously used instead of $1 - x$ to represent the content of Er in Fig. 1a and c; in the Fig. 6 caption, where "x values of 0, 0.6, and 1" should be "x values of 1, 0.4, and 0"; and in the Fig. 8 caption, where three occurrences of "$x = 0$, $x = 0.6$, and $x = 1$" should be "$x = 1$, $x = 0.4$, and $x = 0$". There is no corresponding error in the main text, and therefore it does not affect any conclusions of the paper.

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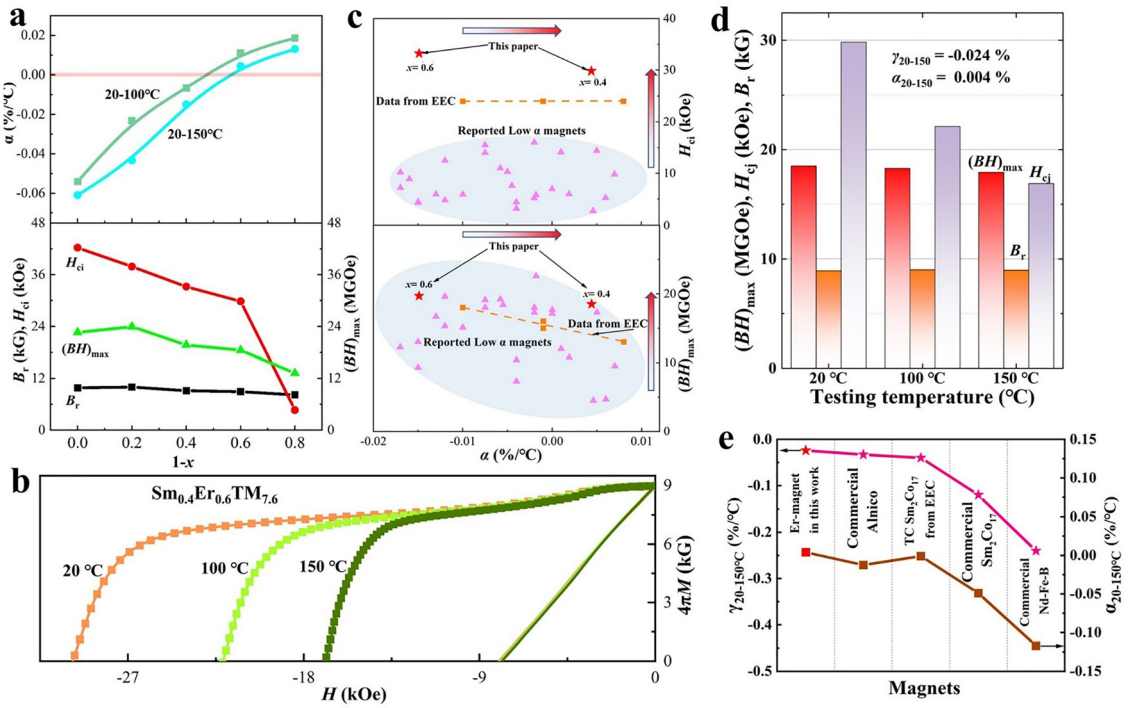

Fig. 1 Magnetic performance of $Er_{1-x}Sm_xTM_{7.6}$ magnets. (a) Variation of H_{cj}, B_r, $(BH)_{max}$, and α at 20–100 °C and 20–150 °C with Sm content. (b) Demagnetization curves for x = 0.4 at 20 °C, 100 °C, and 150 °C. (c) The H_{cj} *vs.* α and $(BH)_{max}$ *vs.* α of the $Er_{0.6}Sm_{0.4}TM_{7.6}$ magnets in this study, compared with reported temperature-compensated 2 : 17 magnets in the literature[7,16,18,24,30–32] and the temperature-compensated Sm_2Co_{17} magnet from EEC (data obtained from the EEC website: **https://www.electronenergy.com**). (d) Magnetic properties of the $Er_{0.6}Sm_{0.4}TM_{7.6}$ magnets tested at 20 °C, 100 °C, and 150 °C. (e) Comparison of α and γ values of $Er_{0.6}Sm_{0.4}TM_{7.6}$ magnets with commercial Nd–Fe–B, alnico, and Sm_2Co_{17} magnets, as well as the temperature-compensated Sm_2Co_{17} magnet.

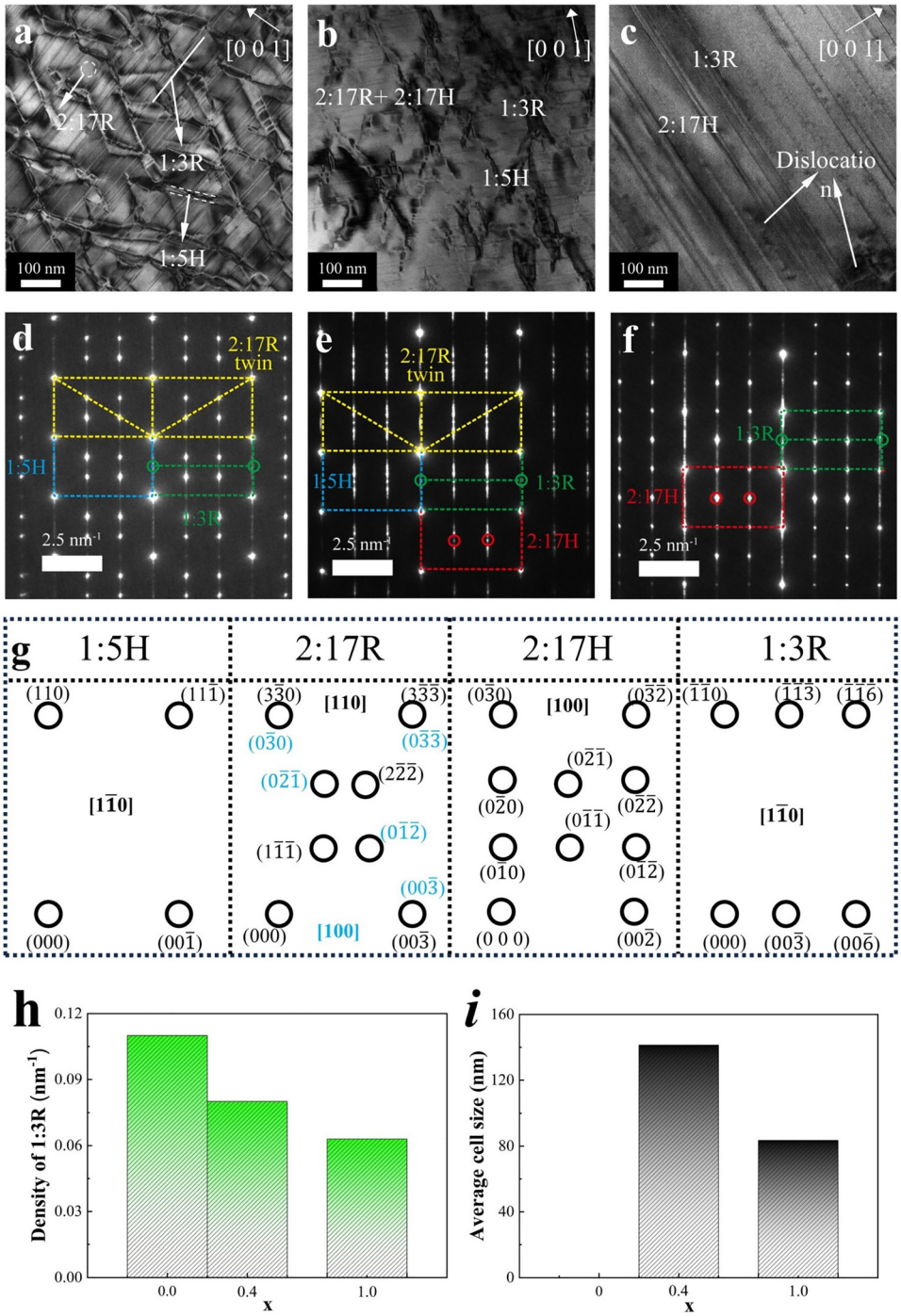

Fig. 6 TEM results of $Er_{1-x}Sm_xTM_{7.6}$ magnet. (a)–(c) Bright-field-images corresponding to magnets with x values of 1, 0.4, and 0, respectively. (d)–(f) SAED patterns taken along the [11$\bar{2}$0] 2 : 17R axis of magnets with x values of 1, 0.4, and 0, respectively. (g) Simulated diffraction spot patterns of the different phases. (h) Density of lamellar 1 : 3R phase and (i) average cell size for the three magnets.

In Fig. 6d–g, Fig. 7e, and Fig. S7 in the supplementary information, there was an error in the specific zone axis that was indexed in the SAED patterns; however, the corresponding phase structure was not misidentified. The published article only used phase information to support the conclusions; therefore, this correction does not affect any of the conclusions in the article.

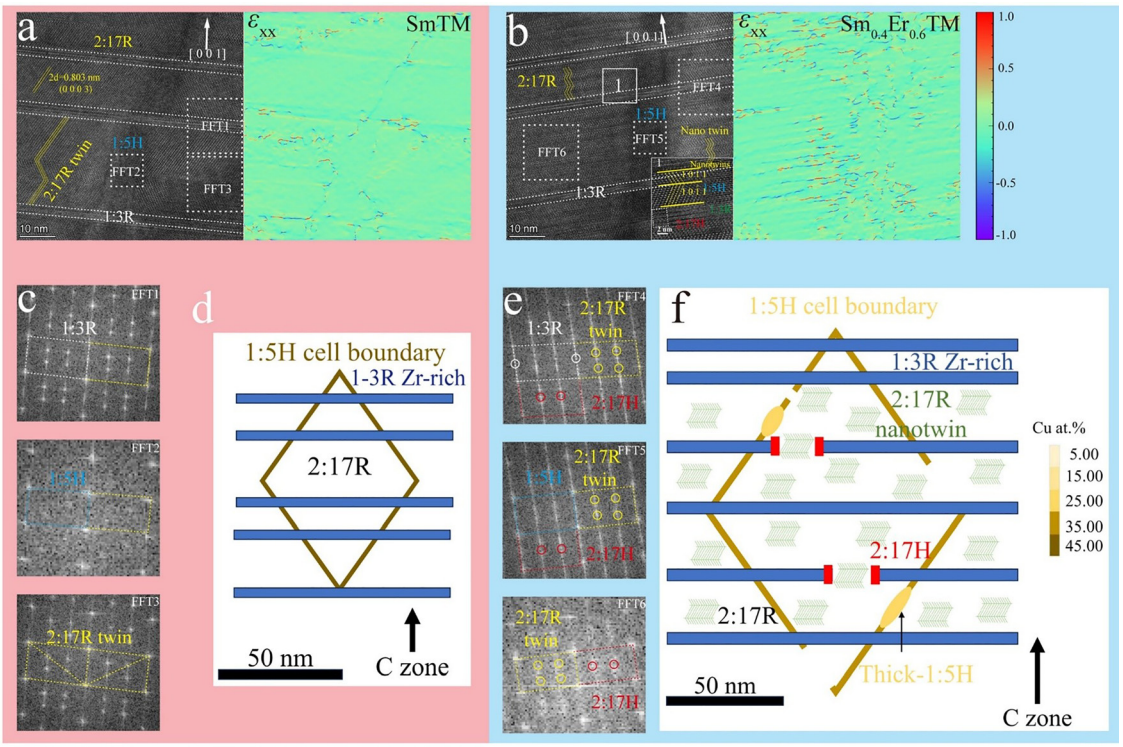

Fig. 7 HRTEM results of $SmTM_{7.6}$ and $Er_{0.6}Sm_{0.4}TM_{7.6}$ final-state magnets. (a) and (b) HRTEM images and corresponding residual strain distributions for the $SmTM_{7.6}$ magnet (a) and $Sm_{0.4}Er_{0.6}TM_{7.6}$ magnet (b), respectively. The inset in (b) shows an enlarged image of region 1, marked by the white rectangle. (c) Fast Fourier transform (FFT) patterns for the FFT1–FFT3 regions marked in (a). (d) Schematic diagram of the cellular structure for the $SmTM_{7.6}$ magnet. (e) FFT patterns for the FFT4–FFT6 regions marked in (b). (f) Schematic diagram of the cellular structure for the $Sm_{0.4}Er_{0.6}TM_{7.6}$ magnet.

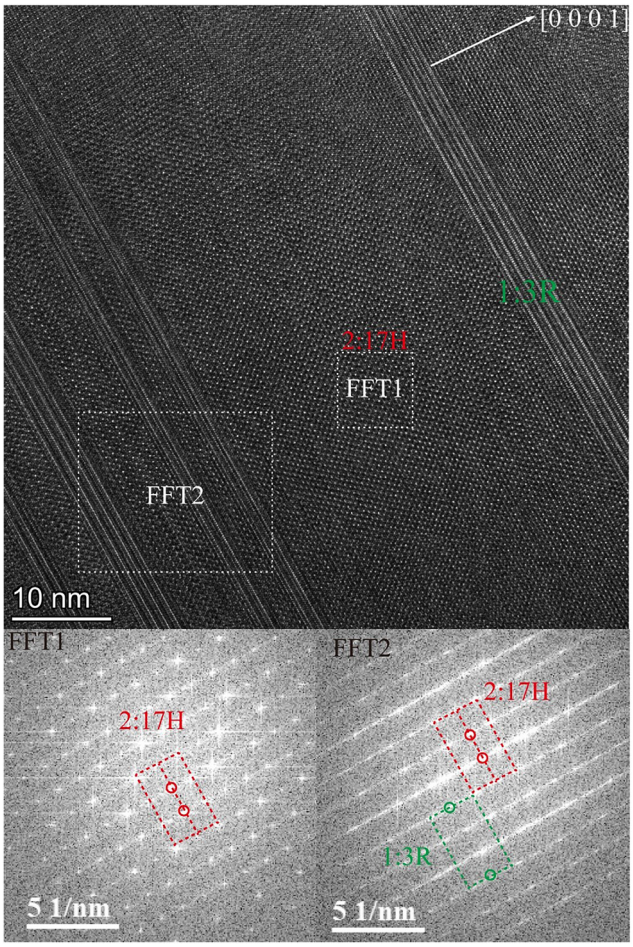

Fig. S7 HRTEM images of $ErTM_{7.6}$ magnets and Fast Fourier Transform (FFT) patterns corresponding to the FFT1 and FFT2.

The corrected images for Fig. 1, 6, 7 and Fig. S7 are shown in this notice. In addition, the supplementary information for the published article has been updated to show the corrected Fig. S7.

The Royal Society of Chemistry apologises for these errors and any consequent inconvenience to authors and readers.