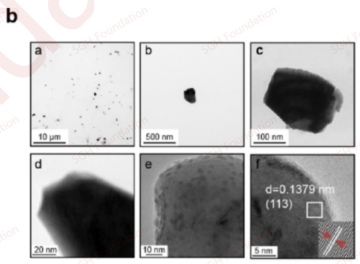
5 G H Foundation

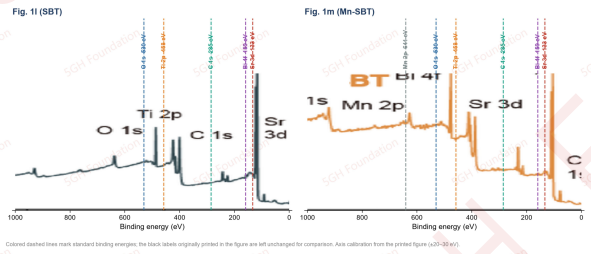
Issues in 10.1186/s12951-026-05237-w

Several issues are identified in this article [1]:



provided an initial indication of successful lattice doping (Figure S1a, Supporting Information). The morphology and microstructure of the as-prepared Mn-SBT were examined by transmission electron microscopy (TEM) and high-resolution transmission electron microscopy (HRTEM). The nanosheets exhibited a typical sheet-like morphology with lateral dimensions of several hundred nanometers, and the HRTEM image revealed clear lattice fringes with an interplanar spacing of ~0.318 nm, corresponding to the (113) plane of the Aurivillius phase (Fig. 1b, Figure S1b, Supporting Information). Atomic force microscopy imaging (Fig. 1c, Figure S1c, Supporting Information) further confirmed the ultrathin nature of the nanosheets, with an average thickness of approximately 90 nm, which is favorable for efficient piezoelectric response and catalytic exposure. Energy-dispersive X-ray

The main text states that "the HRTEM image shows clear lattice fringes with an interplanar spacing of ~0.318 nm, corresponding to the (113) plane of the Aurivillius phase". In Figure 1b, however, the (113) spacing is labeled as 0.1379 nm. Using the unit-cell parameters of $SrBi_4Ti_4O_{15}$ (a = 0.548 nm, b = 0.545 nm, c = 4.10 nm), the d(113) spacing is calculated to be ~0.372 nm.



The peak labels in the XPS survey spectra of Figure 1 (l) (SBT) and 1 (m) (Mn-SBT) do not match the binding energies expected for $SrBi_4Ti_4O_{15}$ and its Mn-doped counterpart. In Figure 1 (m), for example,

the O 1s label is placed at near 1000 eV rather than 530 eV, Bi 4f at over 500 eV rather than 159 eV, and Sr 3d at about 500 eV rather than 133 eV, and the Ti 2p far away from its expected position 458 eV. Figure 1 (l) shows a similar, though smaller, systematic displacement of all five labels. These offsets are far too large to be explained by chemical shifts or charge correction.

Although these errors were identified in the Article in Press version, they cannot be explained as honest error.

[1] 10.1186/s12951-026-05237-w

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