Electronic Supplementary Material (ESI) for Journal of Materials Chemistry C

Direct mechanosynthesis of pure $BiFeO_3$ perovskite nanoparticles: reaction mechanism.

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Supplementary Information

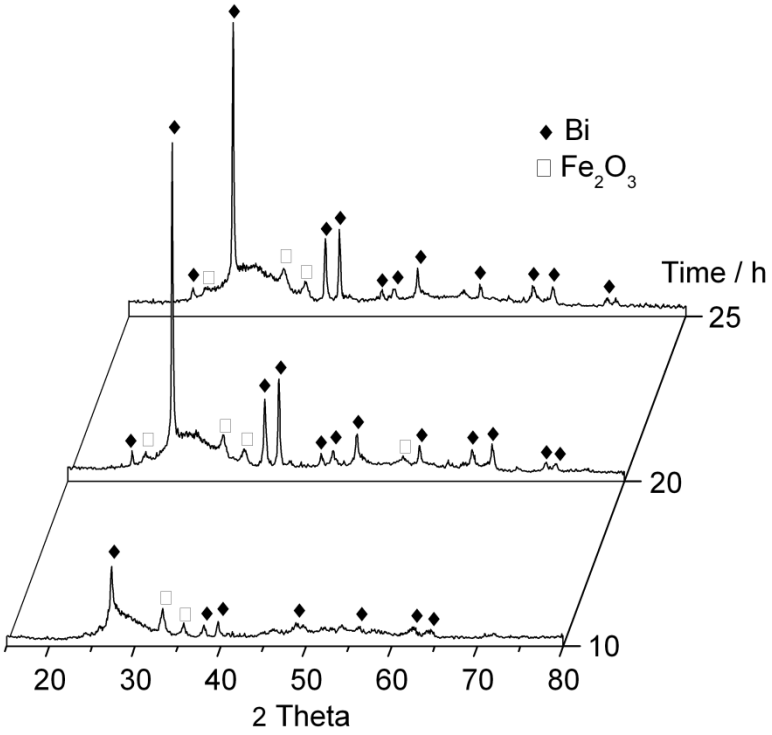

Fig. S1. Diffraction patterns of the solids obtained after milling the stoichiometric amounts of the single oxides for different periods of time in nitrogen (7 bar) under experimental conditions 1 (table 1).

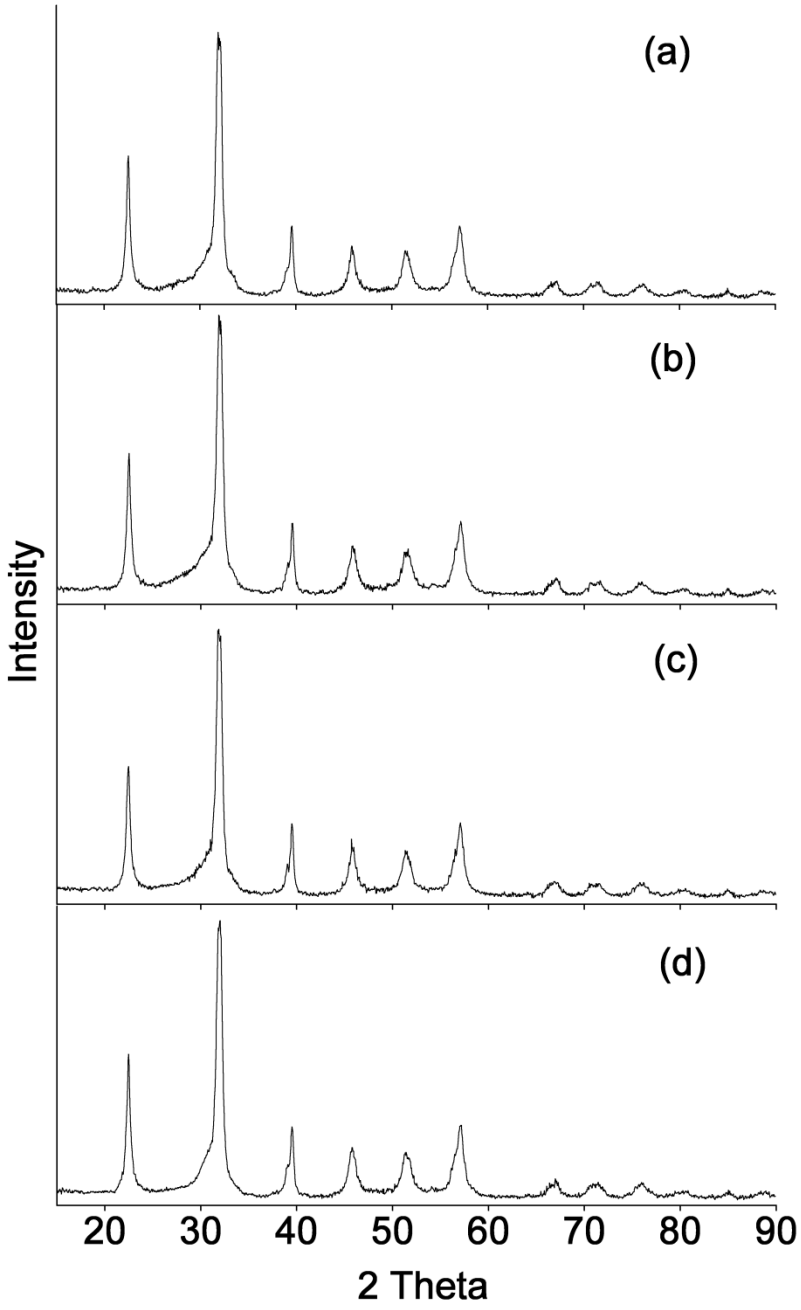

Fig. S2. Diffraction patterns of the solids obtained after milling the stoichiometric amounts of the single oxides in experimental conditions 2 (fig a), 4 (fig b), 5 (fig c) and 6 (fig d). See table 1.

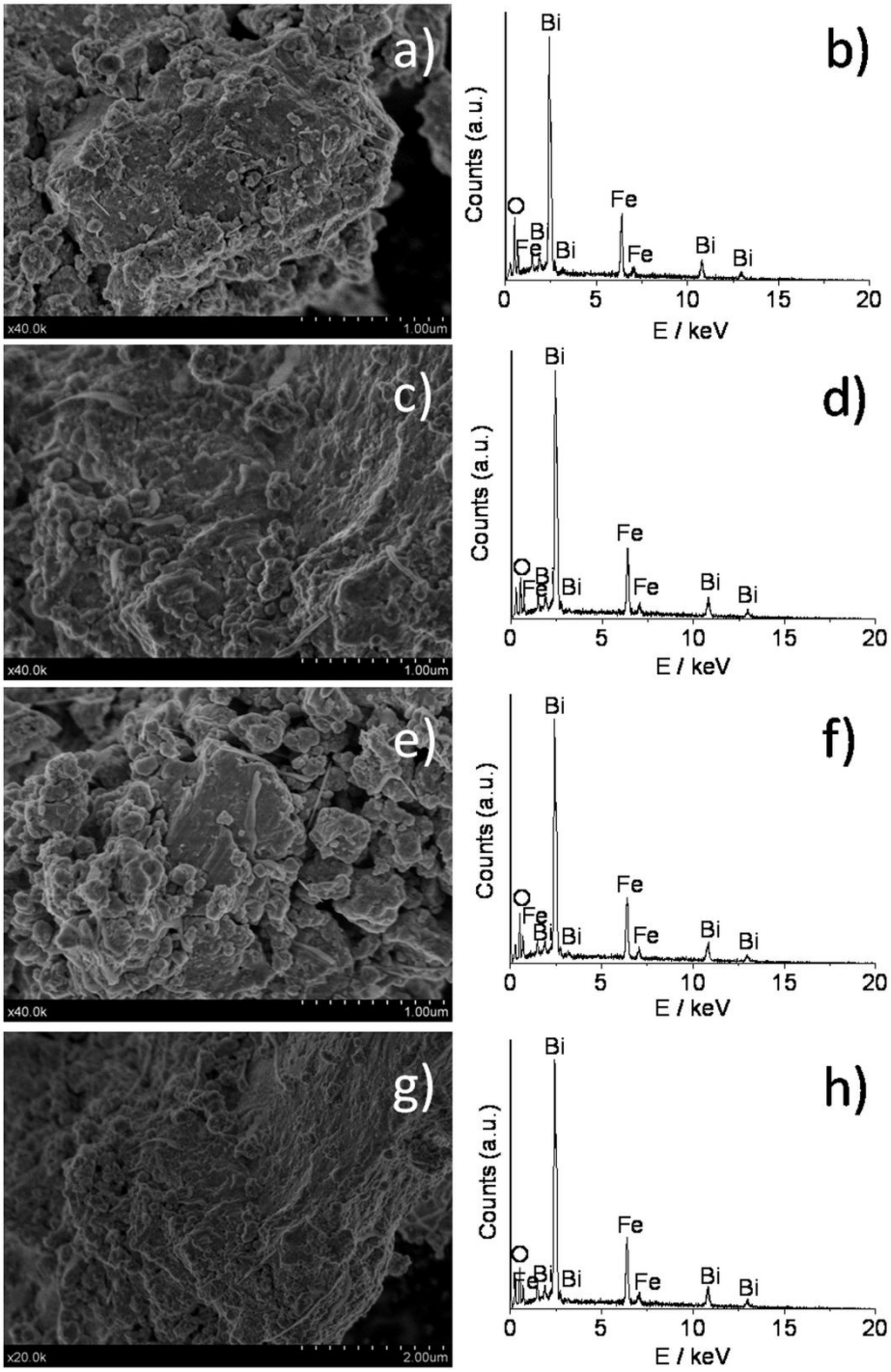

Fig. S3. Scanning electron micrographs and EDX sptrectrums of the powders obtained after milling the stoichiometric amounts of the single oxides in experimental conditions 1 (fig a,b), 4 (fig c,d), 5 (fig e,f) and 6 (fig g,h). See table 1.

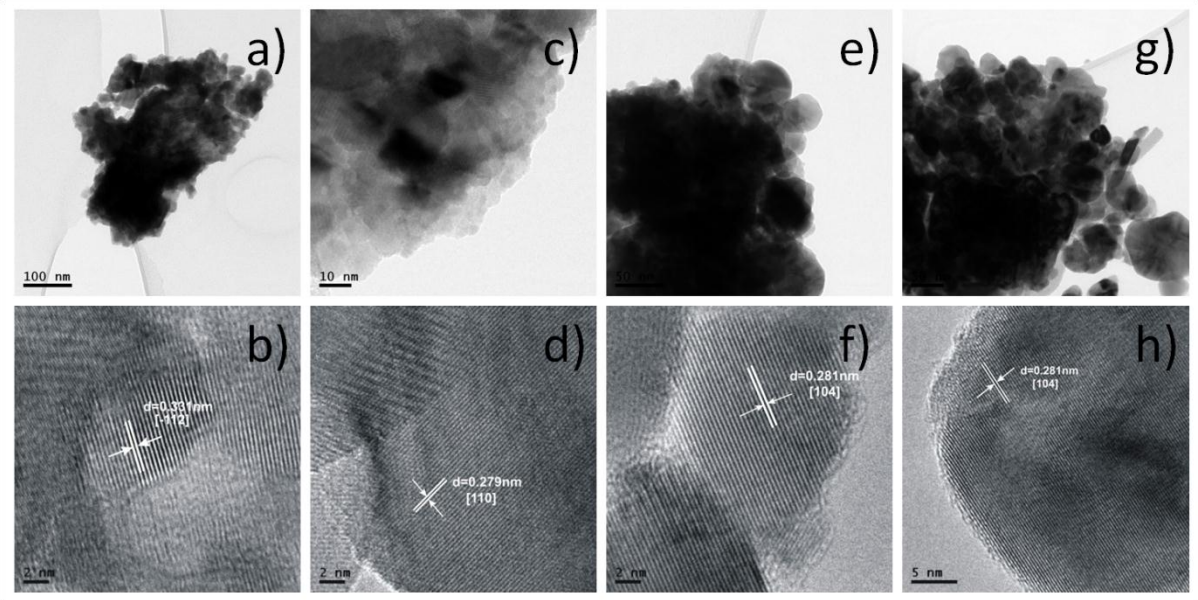

Fig. S4. TEM micrographs of the powder after 0.25 (a, b), 8 (c, d), 20 (e, f) and 25 (g, h) hours of milling under milling conditions 1.

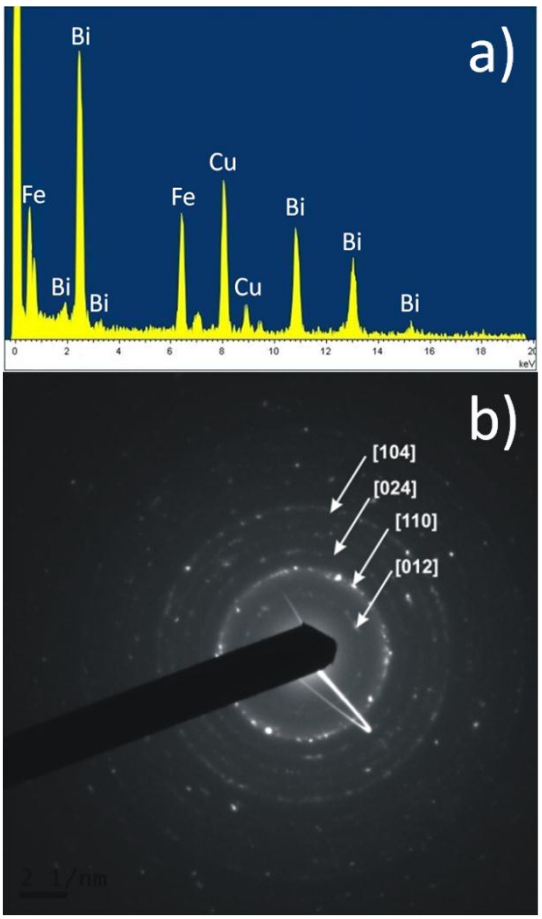

Fig. S5. EDX analysis (a) and electron diffraction pattern of the final product after 25 hours of milling under milling conditions 1.

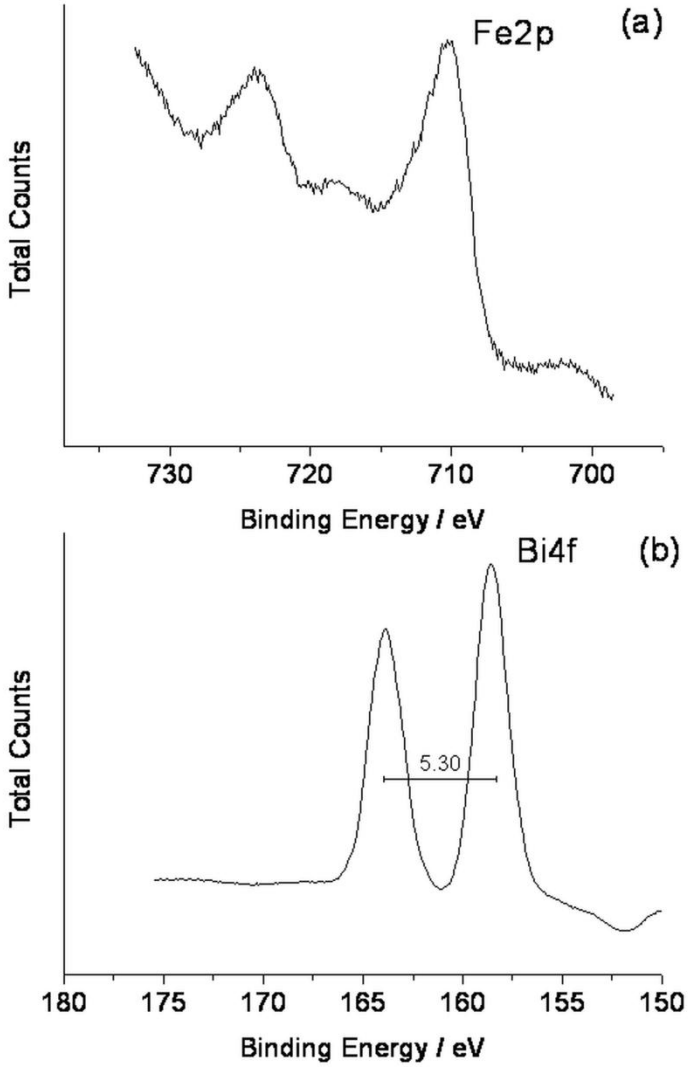

Fig. S6. XPS spectra for Fe2p (a) and for Bi4f (b) for the as ground powders obtained under milling conditions 3.