

SUPPLEMENTARY INFORMATION

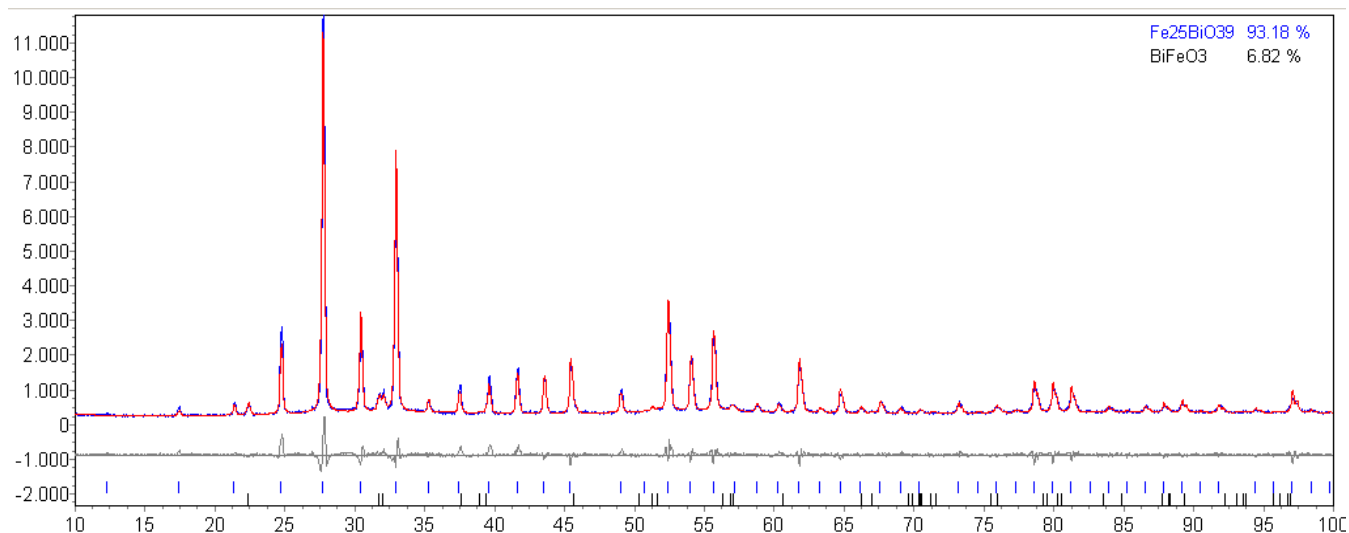


Figure S1. Rietveld refinement plot of mixture of Bi<sub>25</sub>FeO<sub>39</sub> and BiFeO<sub>3</sub> prepared at 180 °C for 90 min. The inset shows the obtained amounts (%) of bismuth ferrites.

**Table S1.** Atomic coordinates and isotropic parameters for Bi<sub>25</sub>FeO<sub>39</sub> prepared at room temperature.

Atom	Ox.	Wyck.	S.O.F.	x/a	y/b	z/c	Biso
Bi1	3	24f	1	0.17798(49)	0.31866(8)	0.01400(2)	0.92(6)
Bi2/Fe	3	2a	0.5/0.5	0	0	0	1.91(1)
O1	-2	8c	1	0.67204(26)	0.67204(26)	0.67204(26)	2.2(2)
O2	-2	24f	1	0.65096(78)	0.74979(73)	0.98355(26)	2.2(2)
O3	-2	8c	1	0.89322(66)	0.89322(66)	0.89322(66)	2.2(2)

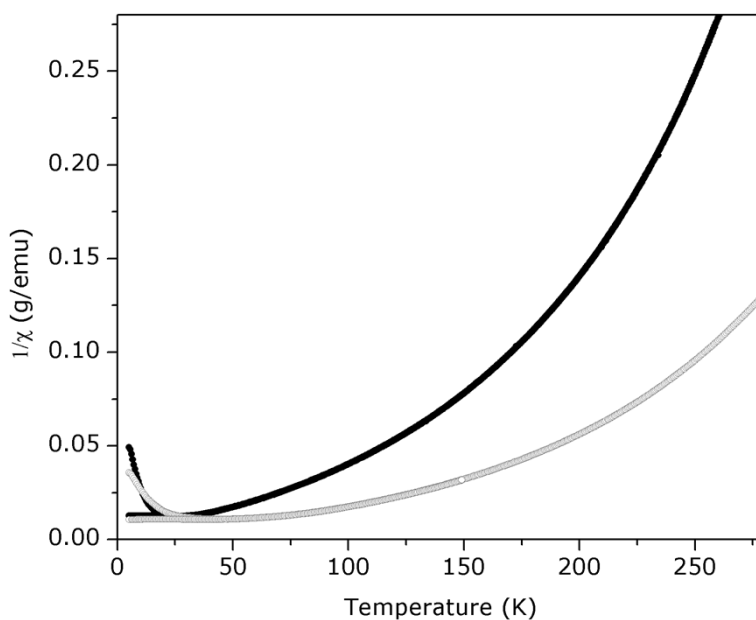
**Table S2.** Table S1. Atomic coordinates and isotropic parameters for Bi<sub>25</sub>FeO<sub>39</sub> prepared

at 180 °C.

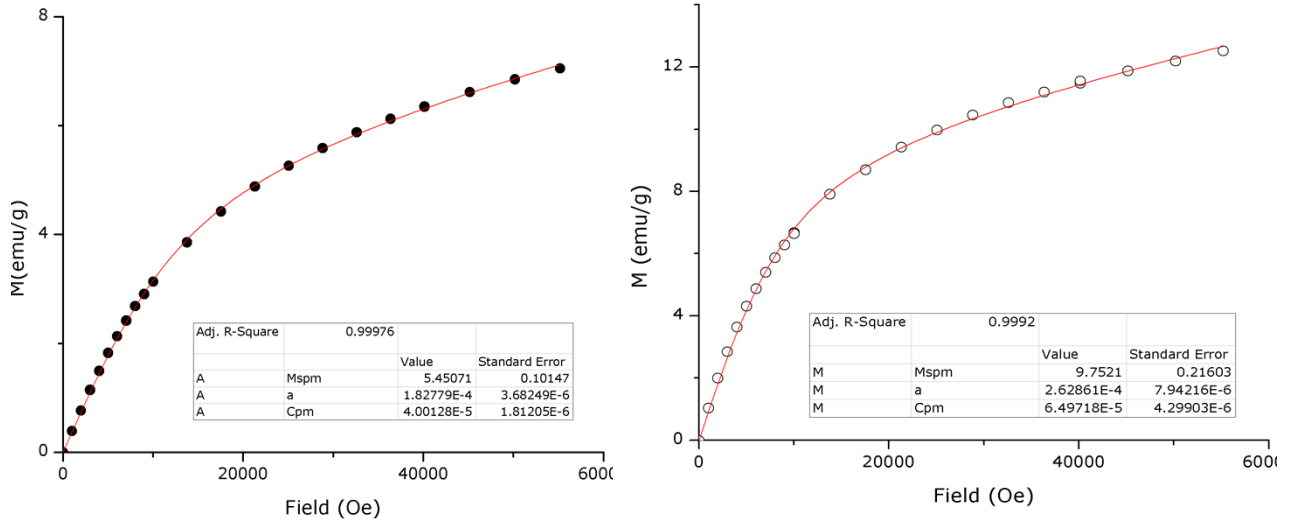
Atom	Ox.	Wyck.	S.O.F.	x/a	y/b	z/c	Biso
Bi1	3	24f		0.17607(86)	0.31730(51)	0.01490(8)	1.99(6)
Bi2/Fe	3	2a	0.5/0.5	0	0	0	2.99(2)
O1	-2	8c		0.689(4)	0.689(4)	0.689(4)	3.04(2)
O2	-2	24f		0.63516(56)	0.75154(44)	0.98956(8)	3.04(2)
O3	-2	8c		0.87871(88)	0.87871(88)	0.87871(88)	3.04(2)

**Table S3.** Table S1. Atomic coordinates and isotropic parameters for BiFeO<sub>3</sub> prepared at room temperature.

Atom	Ox.	Wyck.	S.O.F.	x/a	y/b	z/c	Biso
Bi1	3	6a		0	0	0	0.89(9)
Fe1	3	6a		0	0	0.21962(32)	0.08(1)
O1	-2	18b		0.4301(30)	0.0009(36)	0.95189(99)	0.03(4)



**Figure S2.** Temperature dependence of the field-cooled and zero field-cooled reciprocal susceptibility for Bi<sub>25</sub>FeO<sub>39</sub> prepared at room temperature (black curve) and Bi<sub>25</sub>FeO<sub>39</sub> prepared at 180 °C for 45 min (gray curve).



**Figure S3.**  $M(H)$  data fitted to a Langevin function with an added linear term:

$$M(H) = M_{spm} \left[ \coth \left( \frac{\mu H}{KT} \right) - \left( \frac{\mu H}{KT} \right)^{-1} \right] + HC_{pm}$$
, where  $M_{SPM}$  is the saturation magnetization of the superparamagnetic (SPM) part and  $\mu$  is the average magnetic moment of SPM phase.  $C_{PM}$  is the susceptibility of the paramagnetic contribution that is linear with the magnetic field  $H$ , for Bi<sub>25</sub>FeO<sub>39</sub> prepared at room temperature (right side) and Bi<sub>25</sub>FeO<sub>39</sub> prepared at 180 °C for 45

min (left side). In these picture the  $a$  value in the tables is:  $a = \left( \frac{\mu}{KT} \right)$ .