***Supporting Information File***

***on***

**Dielectric Properties of A-site Mn-doped Bismuth Sodium Titanate Perovskite: (Bi0.5Na0.5)0.9Mn0.1TiO3**

**Shivanand Madolappa1, Harish K. Choudhary2,Nancy Punia2,†, AV Anupama3, Balaram Sahoo2,\***

*1Department of Physics, Faculty of Mathematical and Physical Sciences, Ramaiah University of Applied Sciences, Bangalore- 560107, India.*

*2Materials Research Centre, Indian Institute of Science, Bangalore-560012, India*

*3School of Physical Sciences, REVA University, Bengaluru - 560 064, India*

\*Corresponding author email: [bsahoo@iisc.ac.in](mailto:bsahoo@iisc.ac.in)

D:\Papers\Shivanand\MRB\02-revisd-manuscript\FigXRD-Rietveld.tif

Fig. S1. Rietveld refines XRD patterns of the BNMT10 sample, after considering Mn goes to A-site (a,b) and Mn goes to the B-site (c, d). A χ2 of 8.84 was obtained for Mn at A-site and 9.27 for Mn at the B-site.

A detailed comparison between the dielectric results obtained for BNT and BNMT10 ceramics are given below.



Figure S2. Frequency dependent (a) dielectric constant and (b) dielectric loss at different temperature (RT- 500 °C) for BNT and BNMT10 ceramics. A comparison with Fig. 3 of the manuscript.



Figure S3. (a), (b) and (c) Frequency-dependent imaginary part of impedance modulus (Z'') at various temperature for BNT and BNMT10 ceramics. A comparison with Fig. 4 of the manuscript.



Figure S4. Relaxation time (τz'') vs inverse temperature (1000/T) for BNT and BNMT10 ceramics. A comparison with Fig. 5 of the manuscript.



Figure S5. (a), (b) and (c) Complex impedance plane plot (Z' vz -Z'') at various temperature for BNT and BNMT10 ceramics. A comparison with Fig. 7 of the manuscript.



Figure S6. (a) Complex impedance plane plot, (b) complex electric modulus and (c) imaginary part of impedance and electric modulus at 300 °C for BNT and BNMT10 ceramics. A comparison with Fig. 9 of the manuscript.



Figure S7. Frequency-dependent imaginary part of electric modulus (M'') at various temperature for BNT and BNMT10 ceramics. A comparison with Fig. 10 of the manuscript.



Figure S8. lnτM'' vs inverse temperature (1000/T) for BNT and BNMT10 ceramics. A comparison with Fig. 11 of the manuscript.



Figure S9. Complex electric modulus plot (M' vs M'') at various temperature for BNT and BNMT10 ceramics. A comparison with Fig. 12 of the manuscript.