Supplementary document:

Graphene oxide decorated BZT- CNF composite through hybrid microwave processing: An advanced multifunctional material for superior microwave shielding application†

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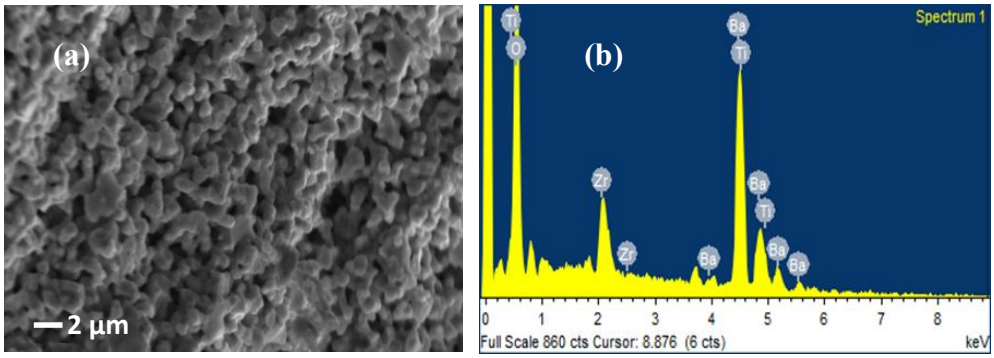

Figure S1: (a) SEM image of microwave sintered BZT (b) EDX for BZT

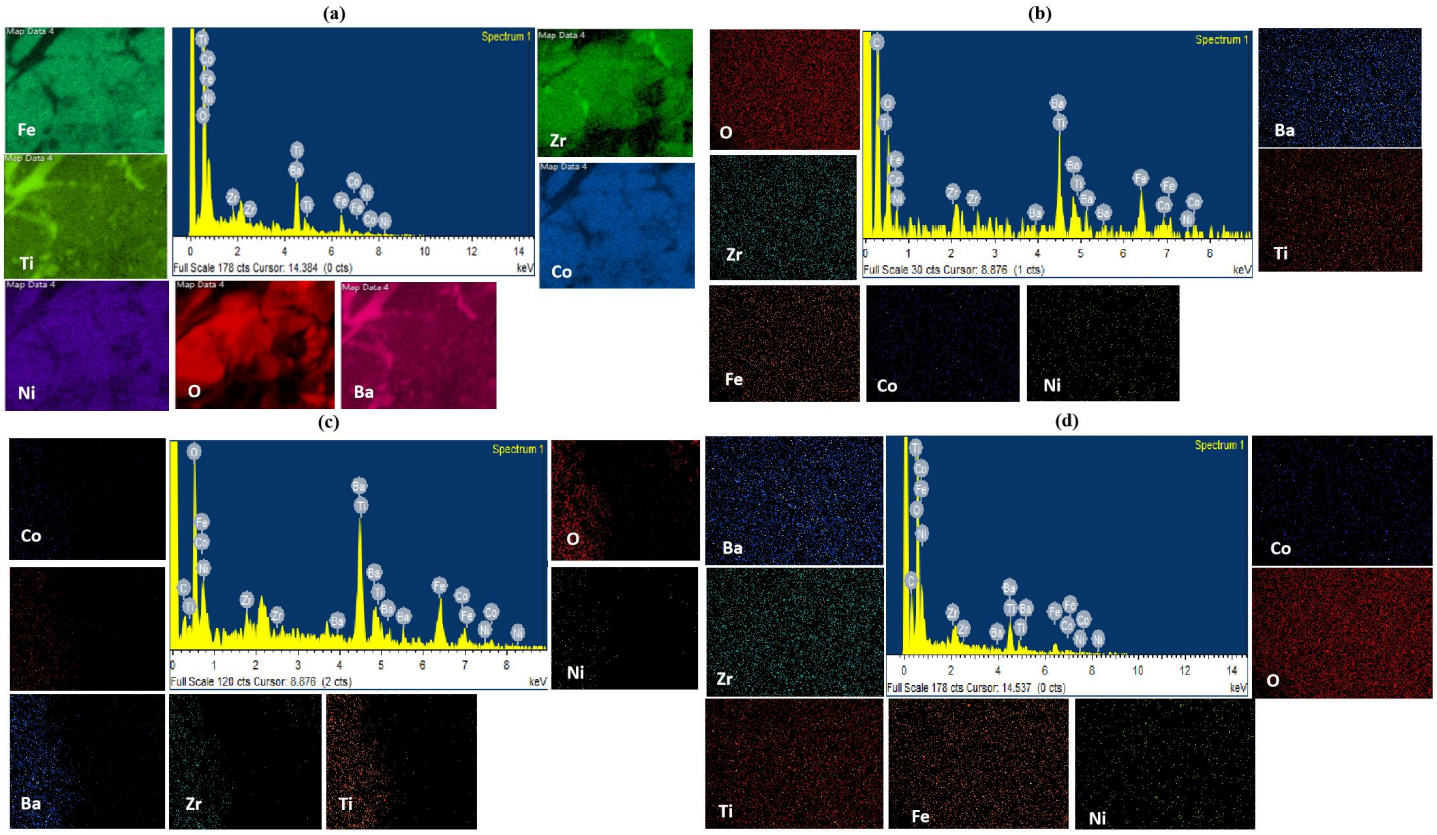

Figure S2: EDX and elemental mapping of 0.5BZT-0.5CNF-$% GO ($=0.5, 1, 1.5) composites (a) $=0 (b) $=0.5 (c) $=1 (d) $=1.5

Table S1: Energy storage parameters of GO reinforced magnetoelectric composite at 7.4 kV/cm.

0.5BZT+0.5CNF + $% GO	Recoverable energy (mJ/cm^3)	Energy loss (mJ/cm^3)	Efficiency (%)
$=0	0.27	5	5.15
$=0.5	0.57	6.5	8.1
$=1	1.5	12	11.11
$=1.5	2.7	53	4.84

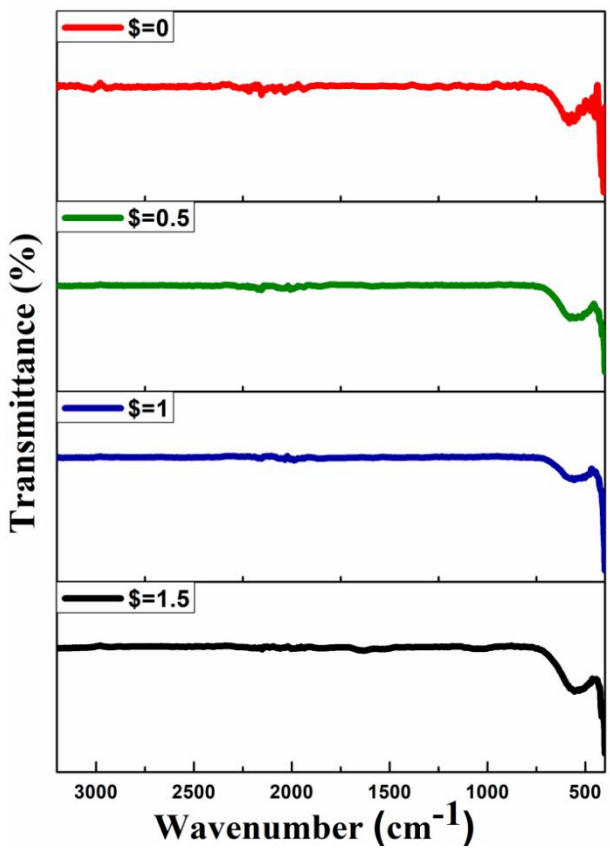

Figure S3: FT-IR spectrum of 0.5BZT-0.5CNF-$% GO ($=0.5, 1, 1.5) magneto-electric composite from 400 cm^{-1}- 3500 cm^{-1}

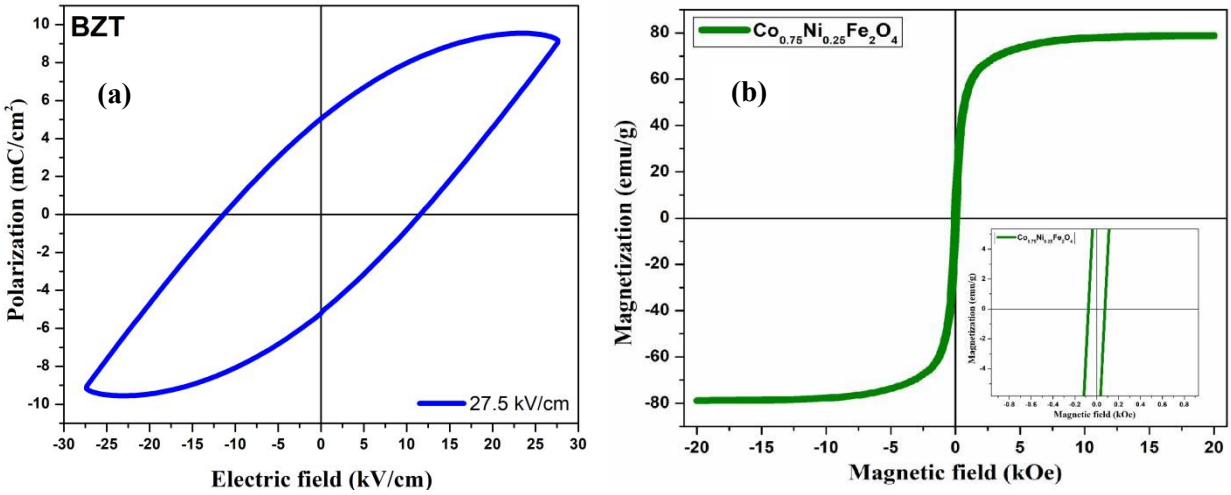

Figure S4: (a) Polarization versus electric field curve for microwave sintered BZT (b) Magnetization as function of magnetic field for CNF