

Electronic Supplementary Information

Excellent microwave absorbing performance of biomass derived activated carbon decorated with in-situ grown CoFe_2O_4 nanoparticles

Praveen Negi,[†] Sanjeev Kumar Joshi,[‡] Himangshu Bhusan Baskey,[§] Sumit Kumar,[§] Ashish
Kumar Mishra,[§] Ashavani Kumar^{*,†}

[†]Department of Physics, National Institute of Technology Kurukshetra, Haryana 136119, India

[‡]Program office, Defence research and development organisation, 516 DRDO Bhawan New
Delhi 110011, India

[§]Defence Materials Stores Research and Development Establishment, (DMSRDE), Kanpur
208013, India

**E-mail:* ashavani@yahoo.com, ashavani@nitkkr.ac.in

Supporting information

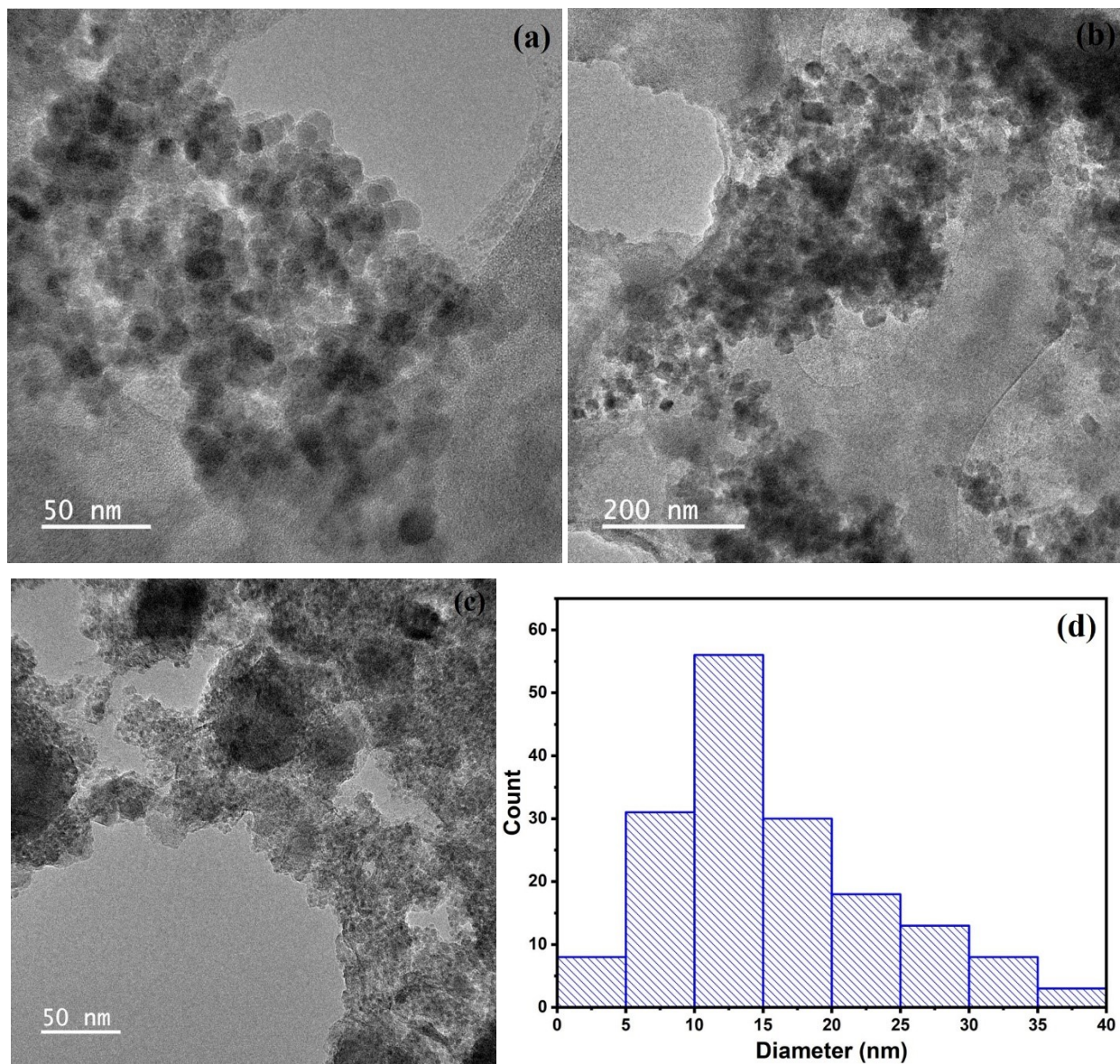


Fig. S1. TEM images of (a) FAC00, (b) FAC10 and (c) FAC30; (d) Particle size distribution of all the samples using all TEM images.

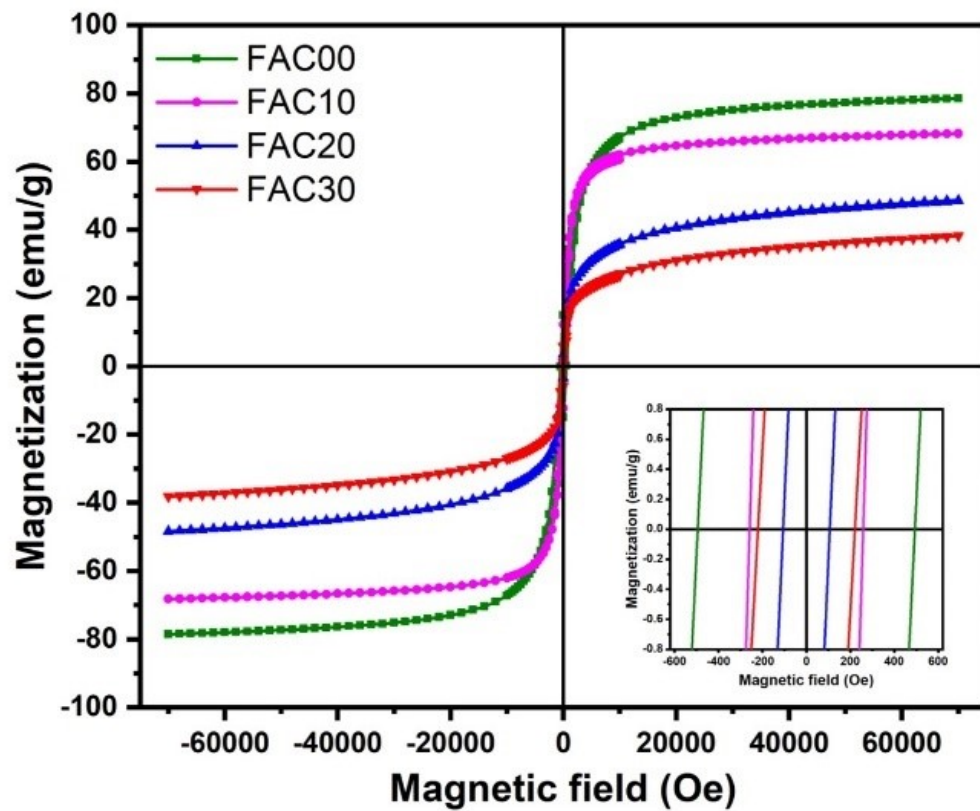


Fig. S2. Magnetic hysteresis loop and enlarged hysteresis loop (inset Figure) of all the samples.

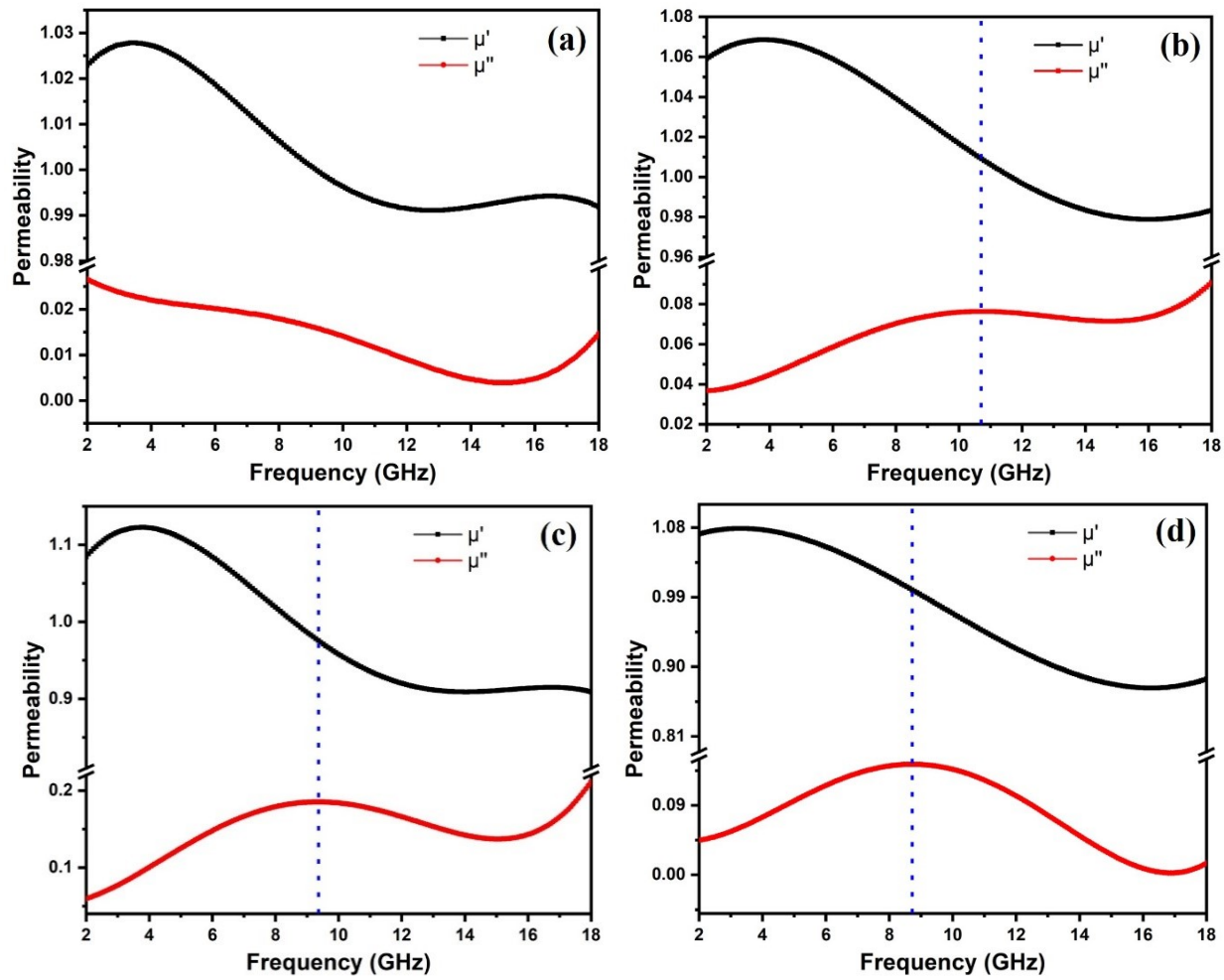


Fig. S3. Complex permeability of (a) FAC00, (b) FAC10, (c) FAC20 and (d) FAC30.

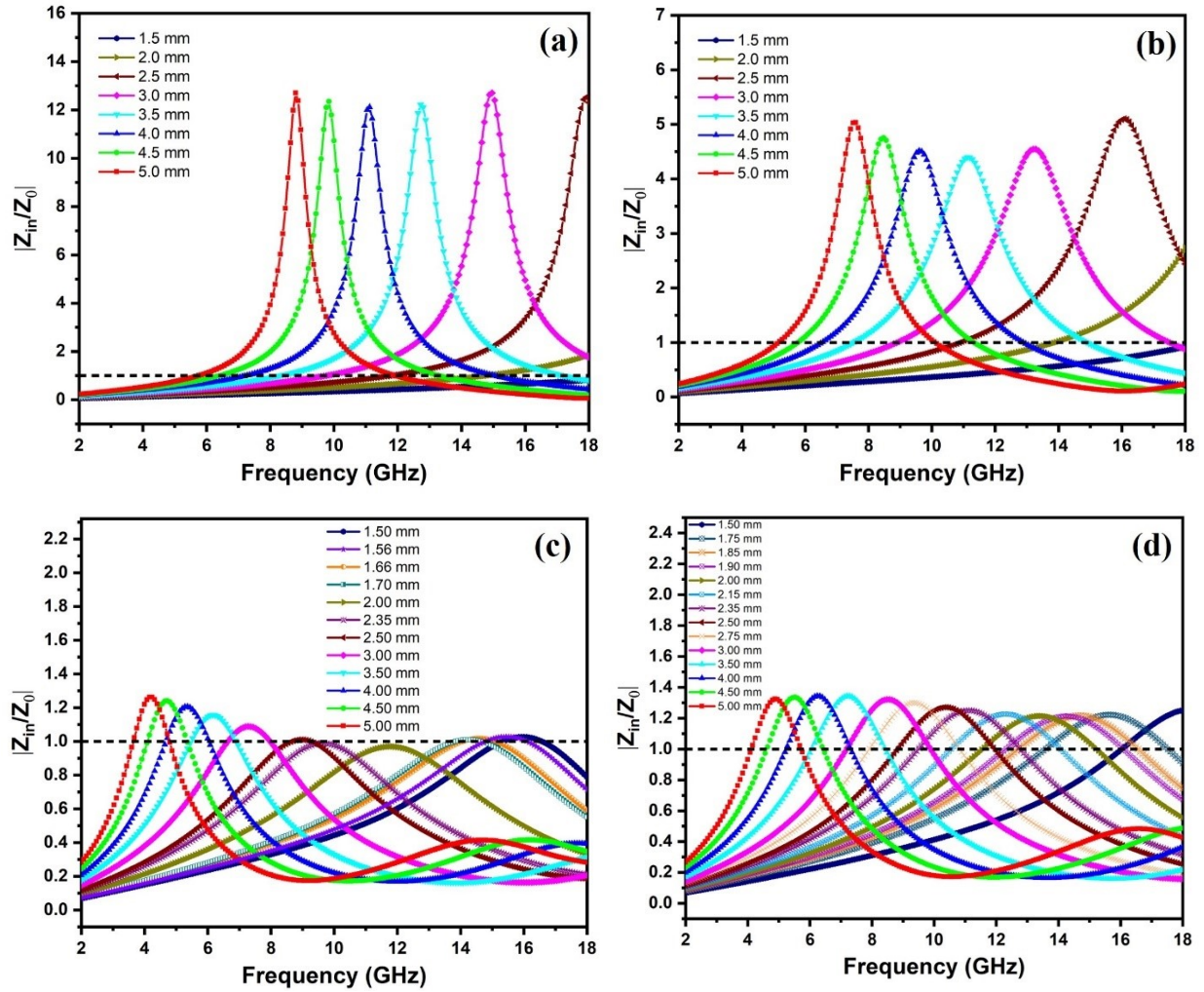


Fig. S4. Relation between $|Z_{in}/Z_0|$ and frequency for (a) FAC00, (b) FAC10, (c) FAC20 and (d) FAC30 at thicknesses ranging from 1.5 mm to 5 mm.

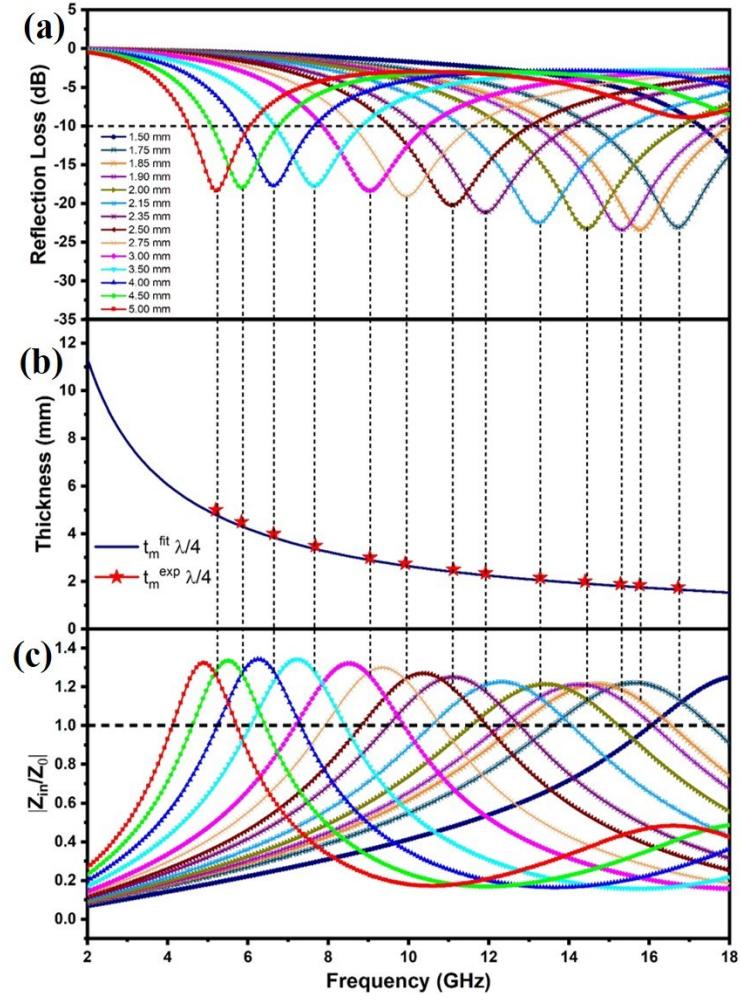


Fig. S5. (a) The RL-frequency curves of FAC30 with absorber thickness from 1.5 mm to 5 mm; (b) Relationship between t_m^{fit} , t_m^{exp} and peak frequency of FAC30 under $n\lambda/4$ model and (c) The relationship between $|Z_{in}/Z_0|$ and frequency for FAC30.