Electronic Supplementary Material (ESI) for Physical Chemistry Chemical Physics.

Single-layer graphene-assembled 3D porous carbon composite with PVA and Fe_3O_4 nano-fillers: A promising flexible 3-phase composite with interface-mediated superior dielectric and EMI shielding performance

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SUPPORTING INFORMATION (SI)

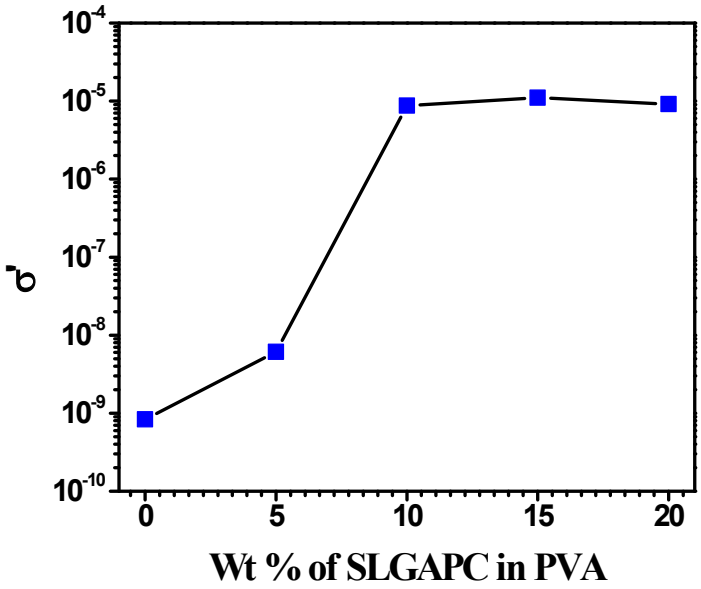
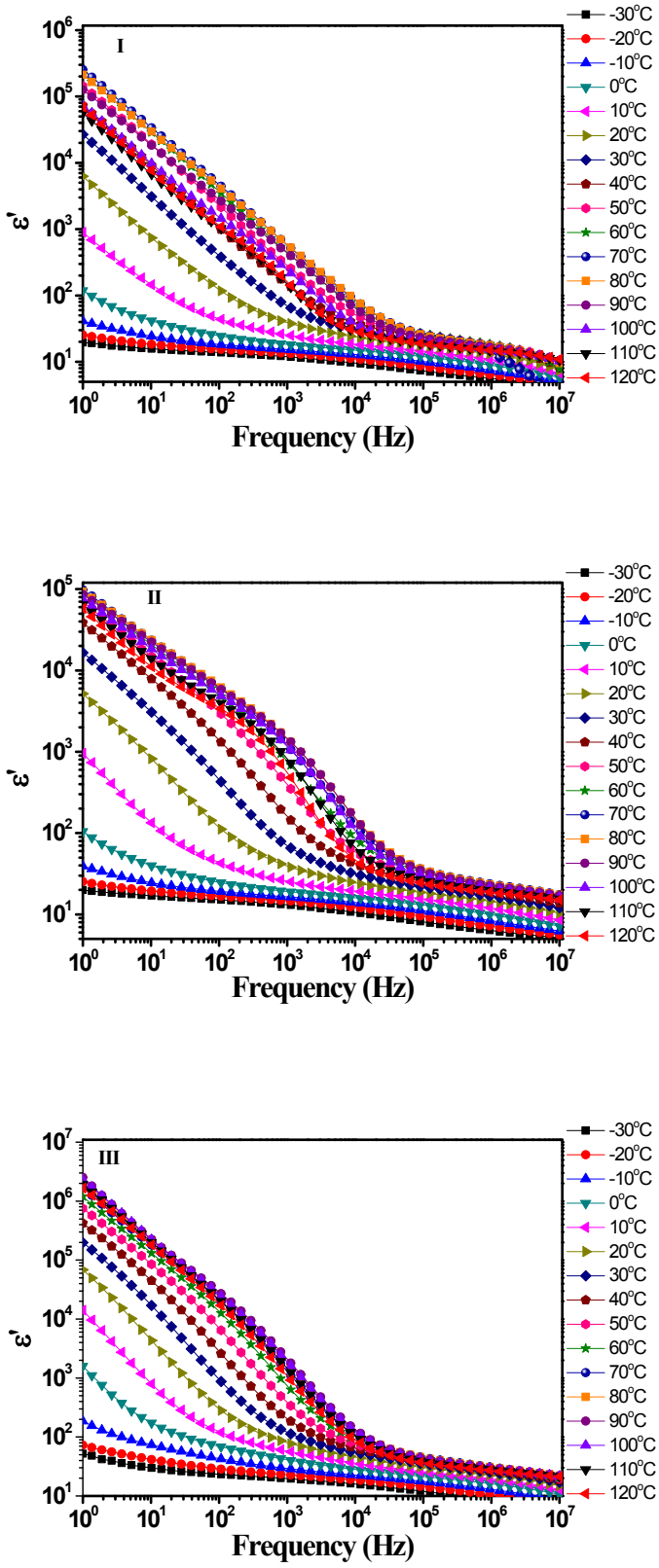
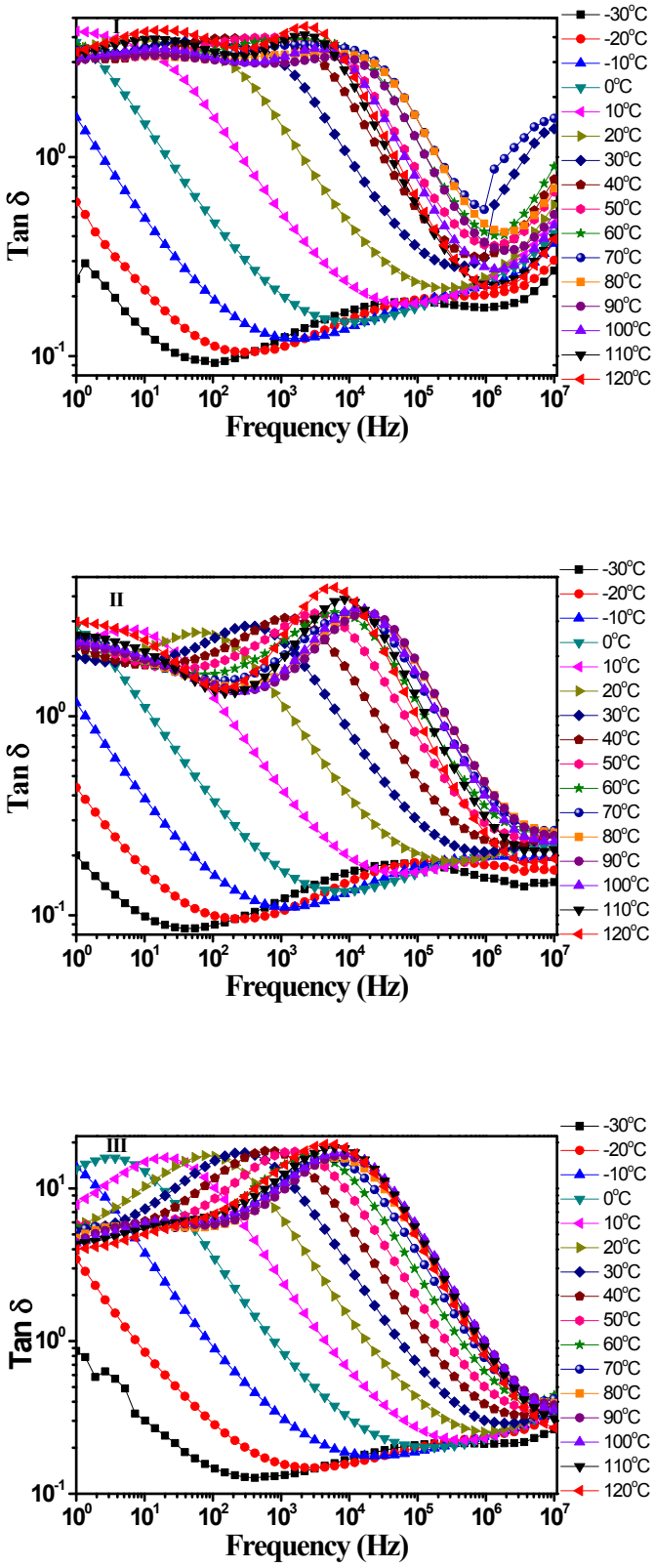


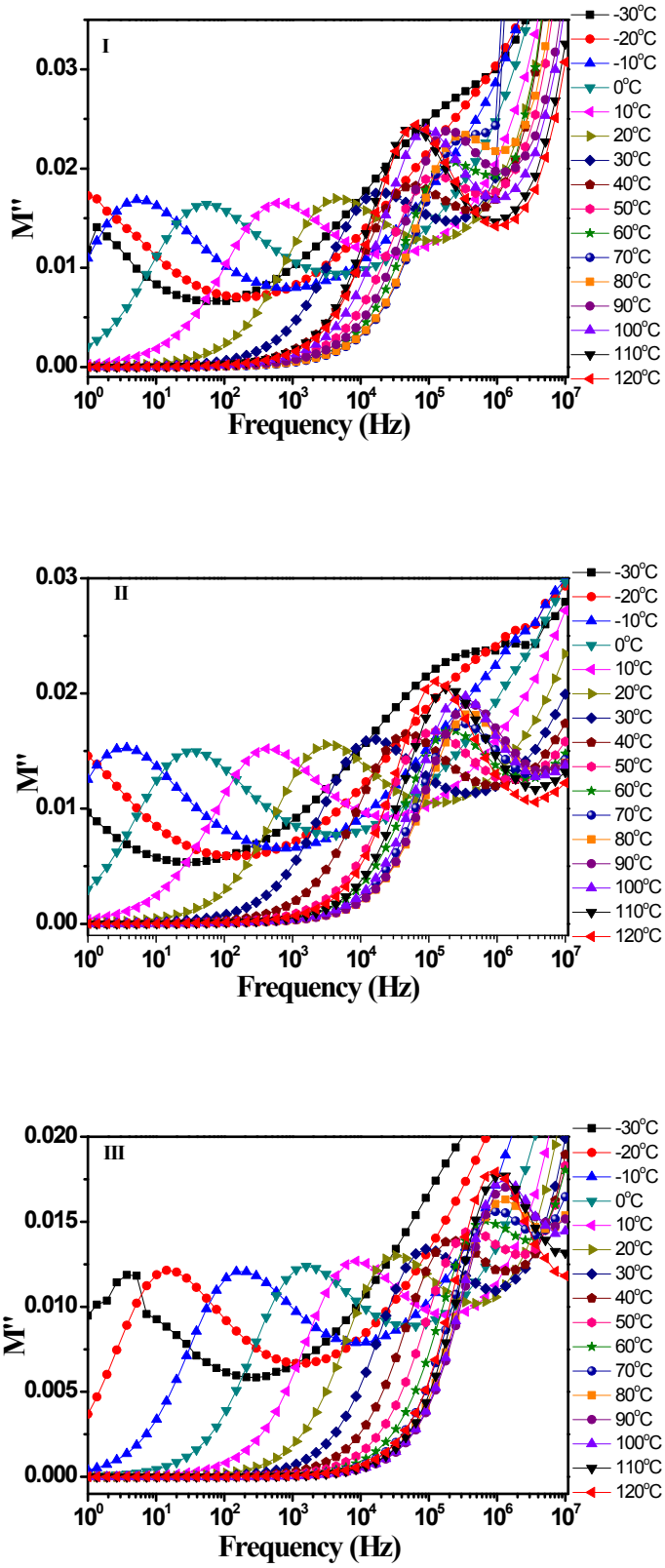
Figure S 1 shows conductivity (σ') with reference to wt % of SLGAPC in PVA composites at 1.133 KHz.



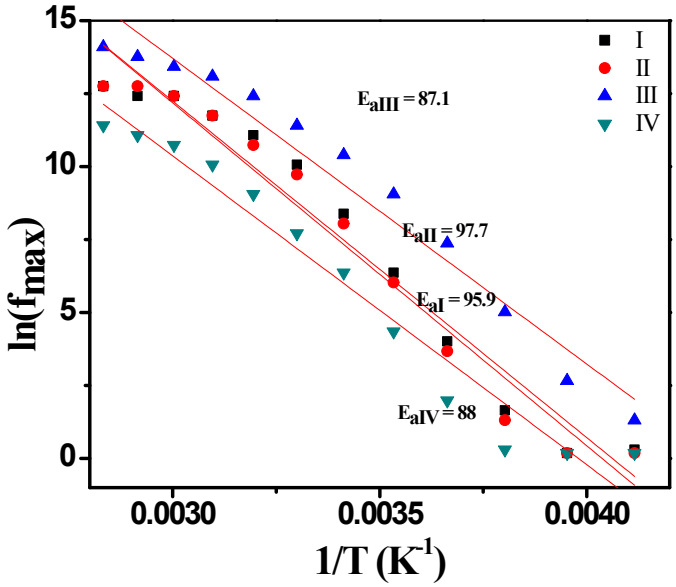
Figures S 2 shows Temperature dependence of dielectric permittivity (ε') as a function of frequency of I) PVA, II) PVA- Fe_3O_4 and III) PVA-SLGAPC composites.



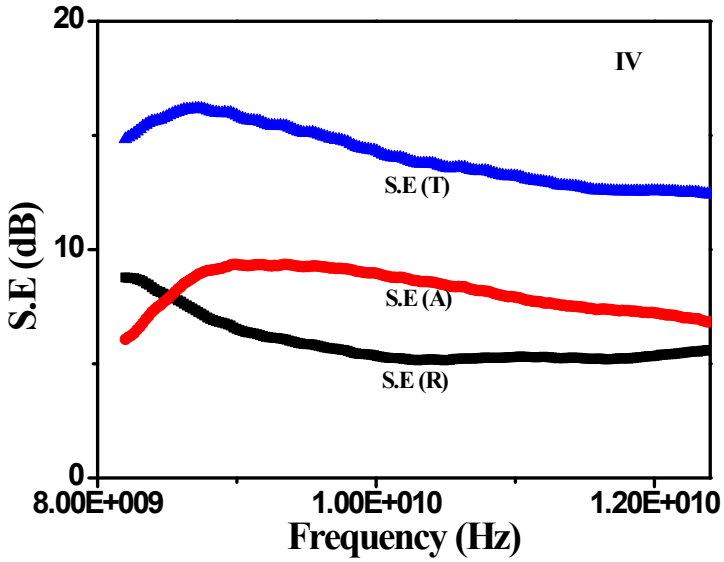
Figures S 3 shows Temperature dependence of loss tangent (Tan δ) as a function of frequency of I) PVA, II) PVA- Fe_3O_4 and III) PVA-SLGAPC composites.

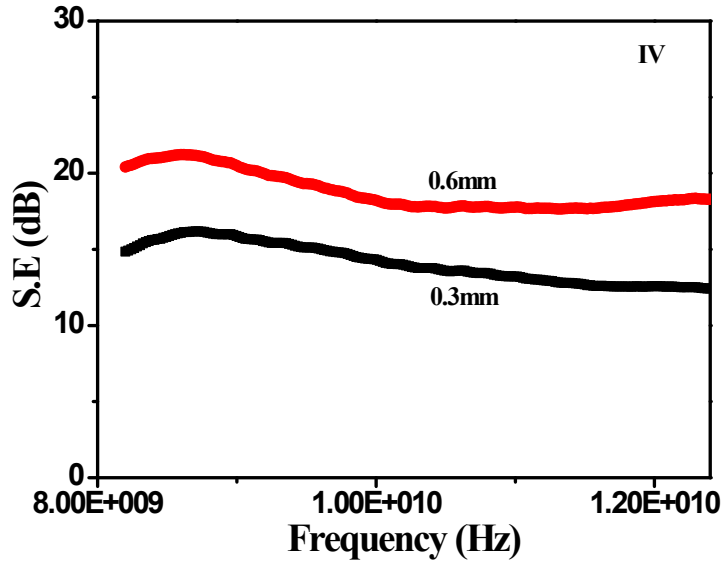


Figures S 4 shows Temperature dependence of electric modulus (M") as a function of frequency for I) PVA, II) PVA- Fe_3O_4 and III) PVA-SLGAPC composites.



Figures S 5 shows Arrhenius plot in I) PVA, II) PVA- Fe_3O_4, III) PVA-SLGAPC and IV) PVA-SLGAPC- Fe_3O_4 composites.





Figures S 6 a) shows shielding effectiveness (S.E) in terms of individual components i.e. transmission, reflection and absorption vs frequency of sample IV- PVA-SLGAPC- Fe_3O_4. *b) shows shielding effectiveness vs frequency for different thickness of sample IV- PVA-SLGAPC- Fe_3O_4.*