

Figure S1. High-resolution XPS spectra of the C1s peak of (a) the blank PVF polymer, (b) the PVF/GO and (c) the PVF/GO/Pb composite. The solid line represents the experimental data where the dashed lines represent the individual contributions. The dotted red line is a fit of a sum of three or four Gaussians to the data.

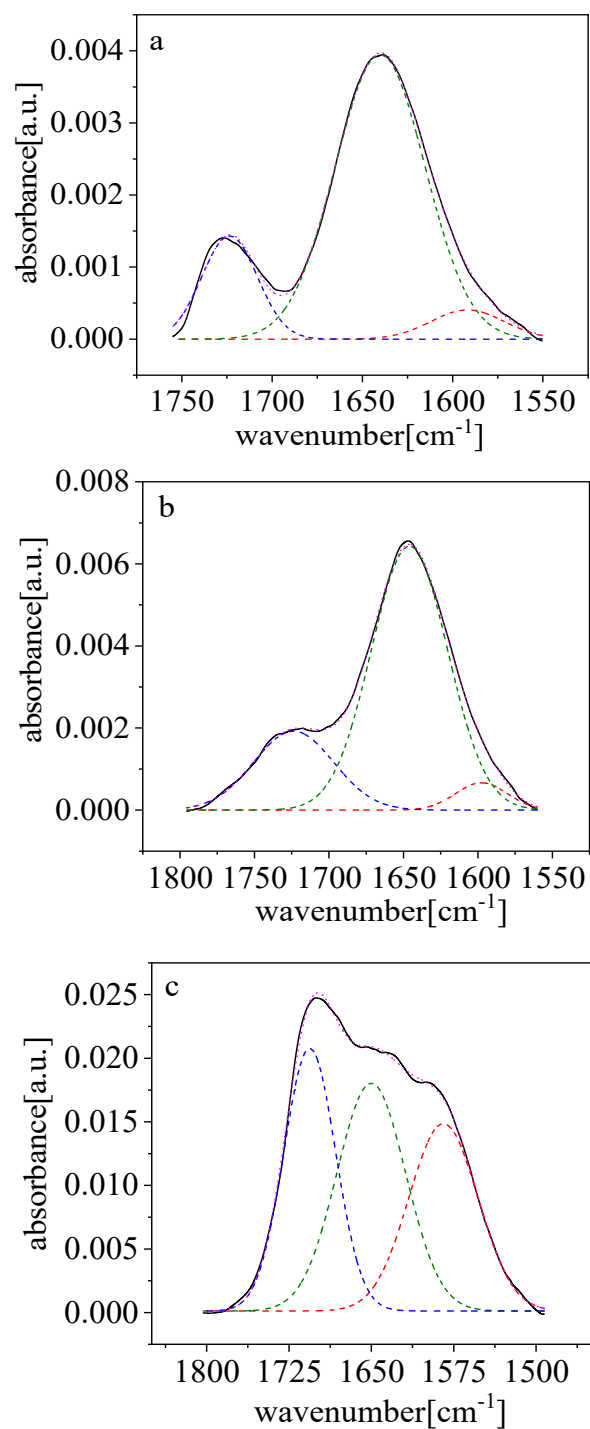


Figure S2. FTIR spectra of stretching band from 1500 to 1800 cm^{-1} for the different materials de-convoluted into three peaks (a) PVF, (b) PVF/GO and (c) PVF/GO/Pb composite.

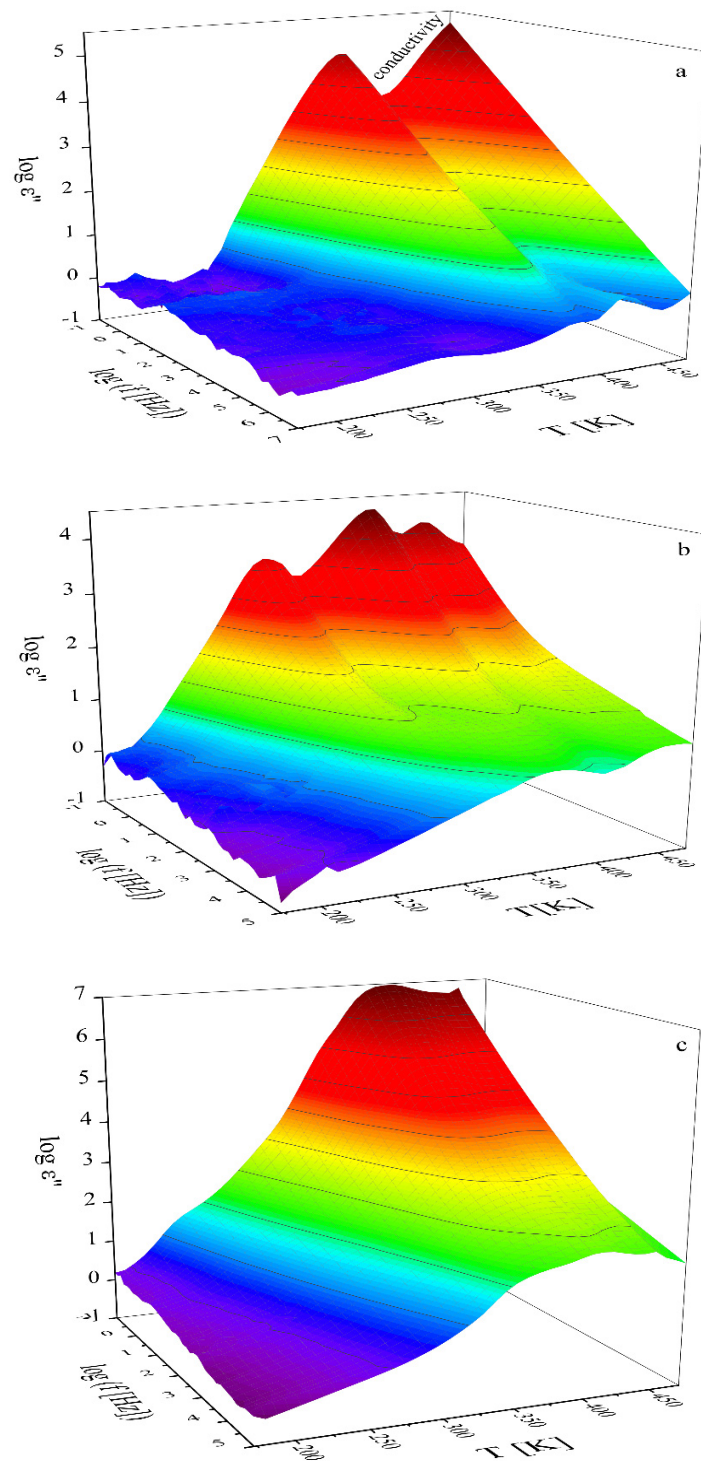


Figure S3. 3D representation of the dielectric loss ($\log \varepsilon''$) as function of frequency and temperature for the heating cycle of (a) PVF, and (b) PVF/GO and (c) PVF/GO/Pb composites.

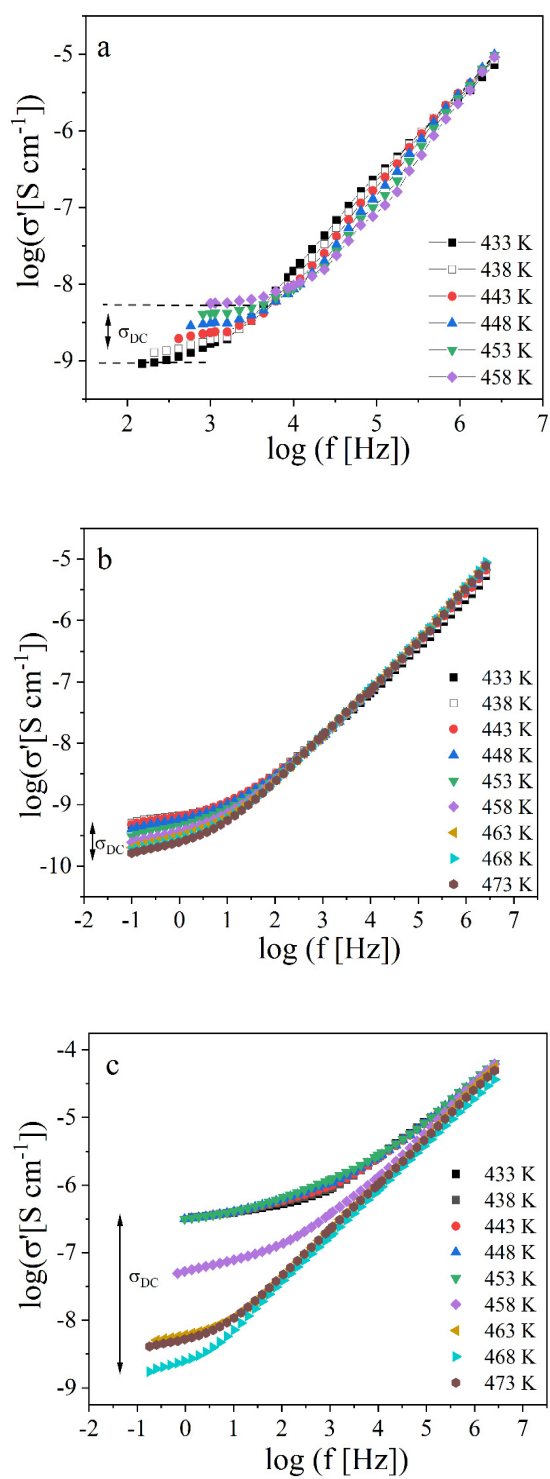


Figure S4. Real part of the complex conductivity σ' vs. frequency f at the indicated temperatures on the heating run; (a) PVF, (b) PVF/GO and (c) PVF/GO/Pb.