

Supplementary Material

Homogeneity of Liquid Metal Polymer Composites: Impact on Mechanical, Electrical, and Sensing Behavior

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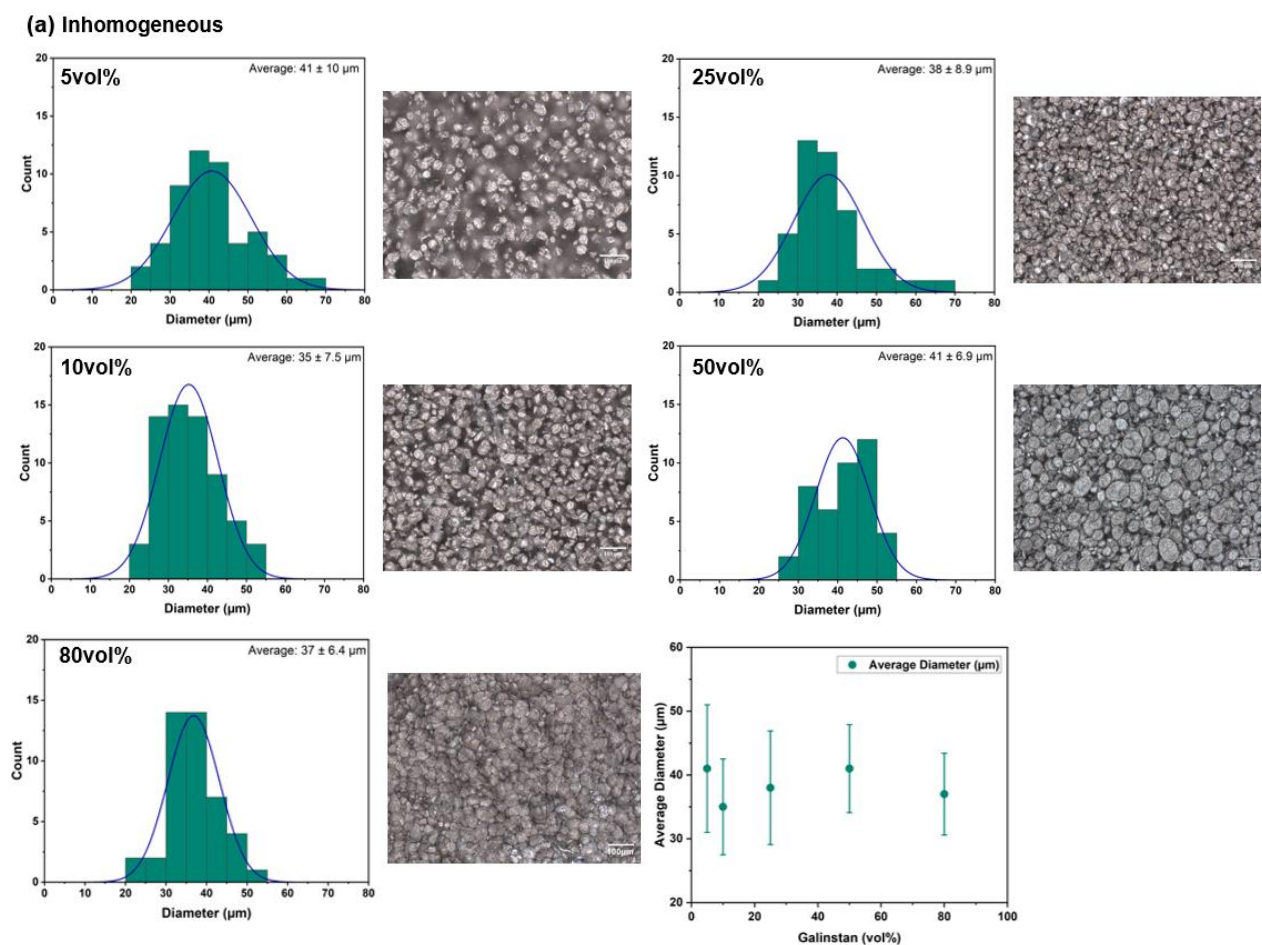
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(b) Homogeneous

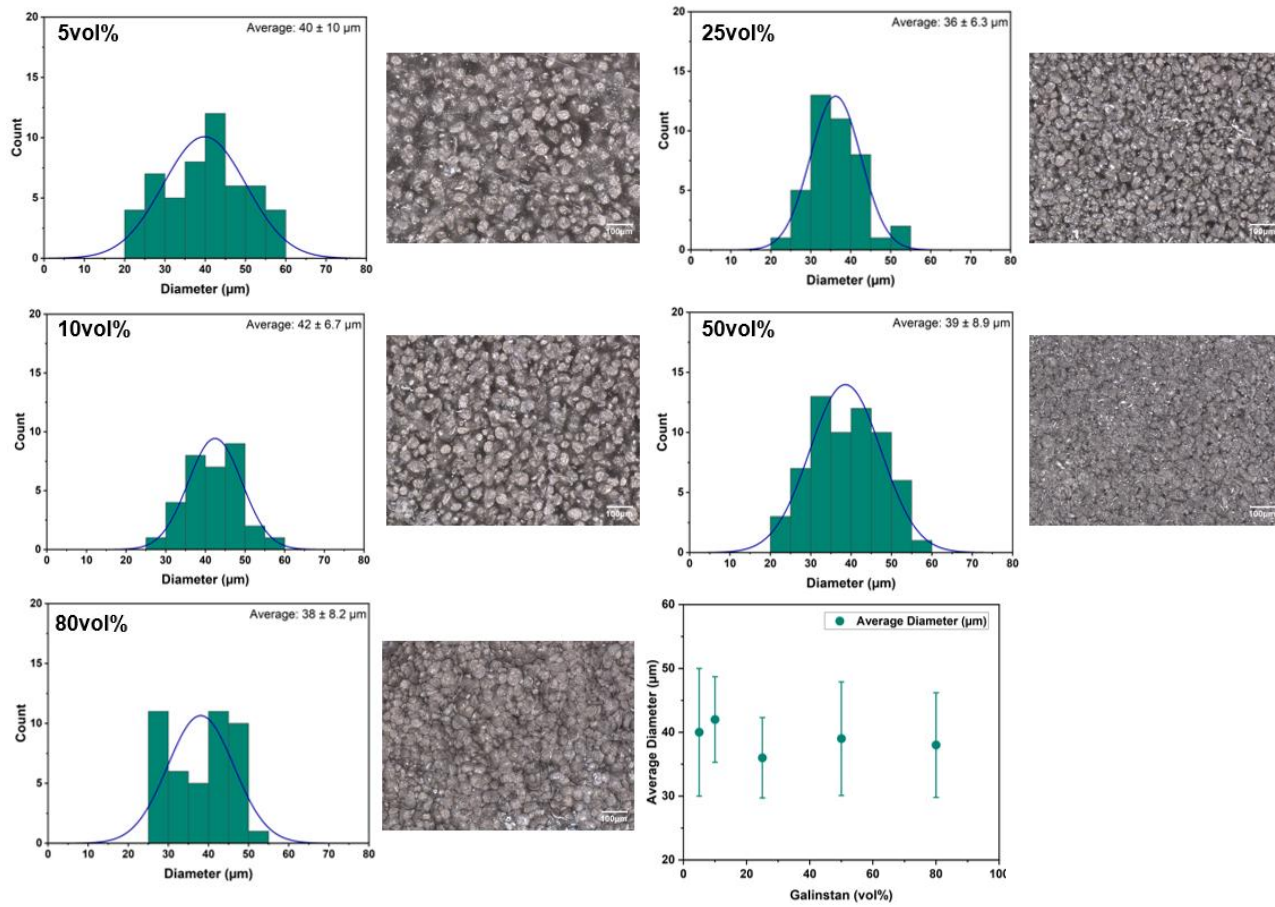


Figure S1: Top view digital microscopy images and the average diameter droplet analysis results of (a) inhomogeneous and (b) homogeneous LMPC at 5-80 vol% Galinstan.

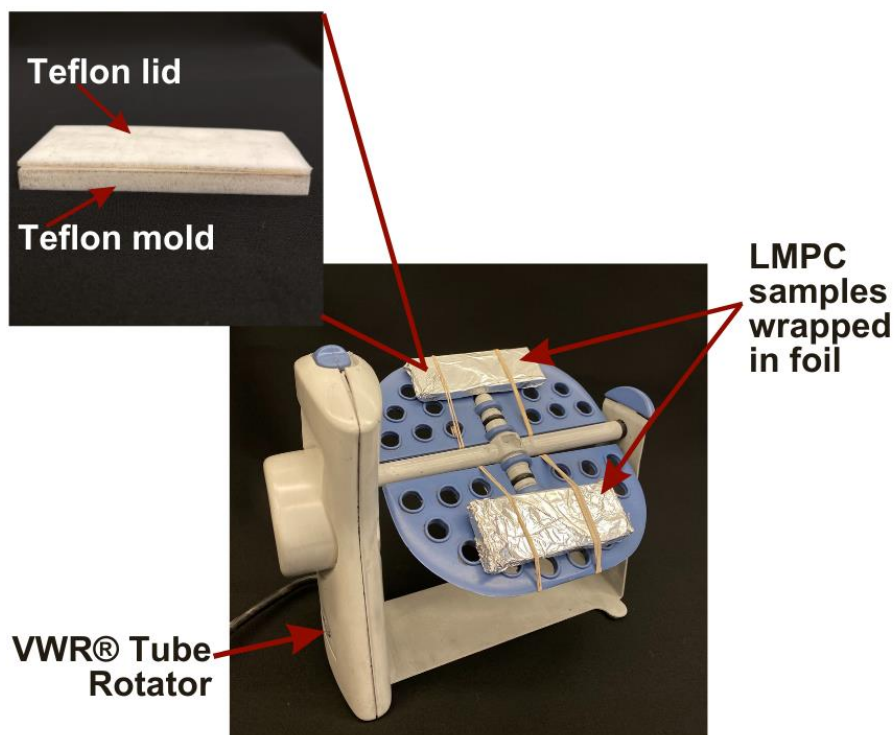


Figure S2. Homogeneous LMPC test setup using the rotator apparatus.

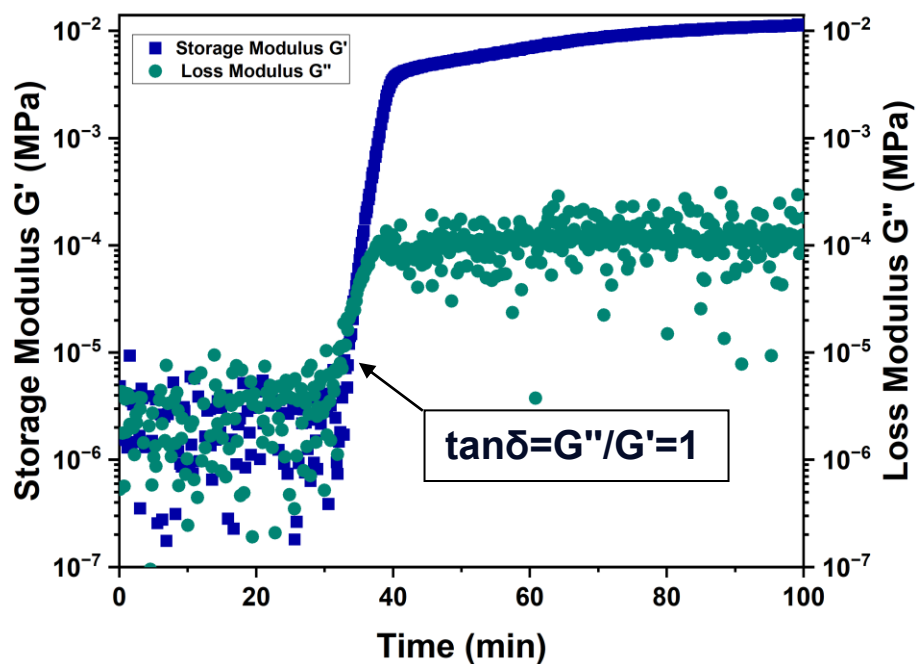


Figure S3. Gelation point, represented by the intersection where $\tan\delta = 1$, as measured via rheology.

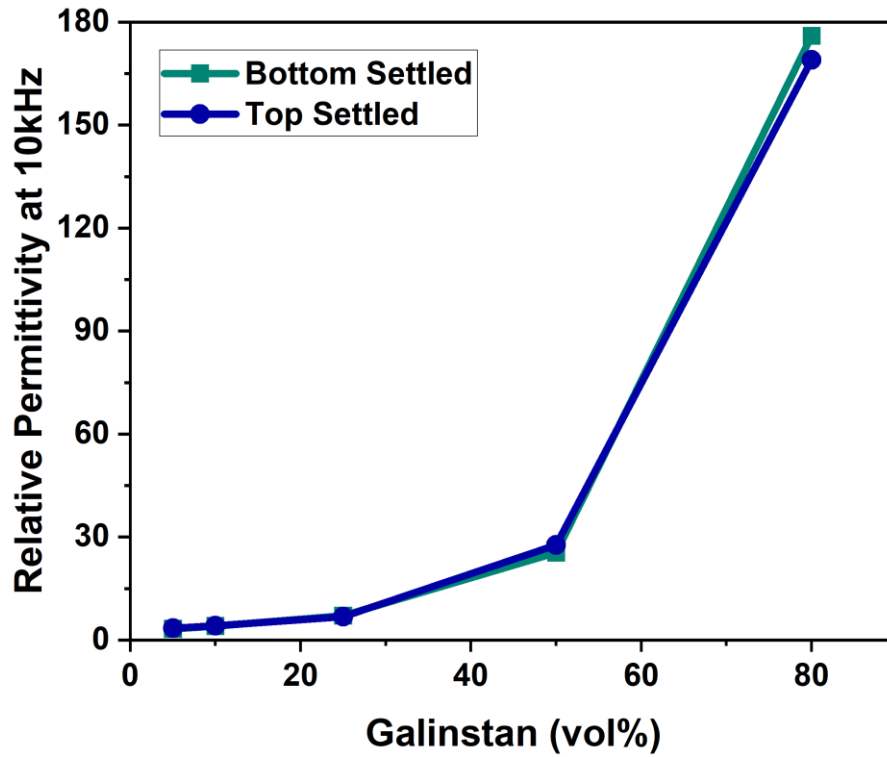


Figure S4. Relative permittivity of inhomogeneous LMPCs at 10 kHz with respect to loading of bottom settled and top settled configuration.

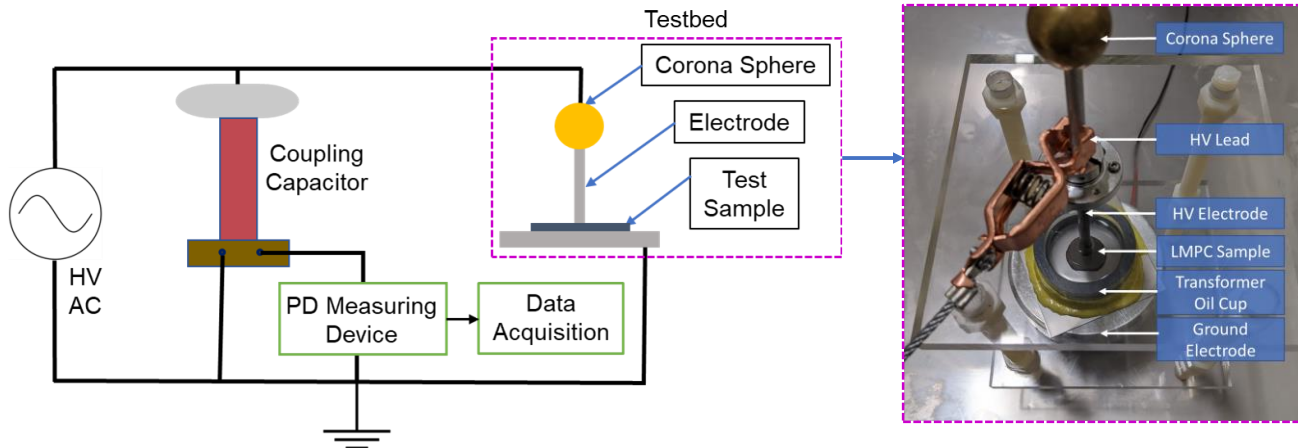


Figure S5. Schematic diagram and testbed for AC breakdown and PD measurements.

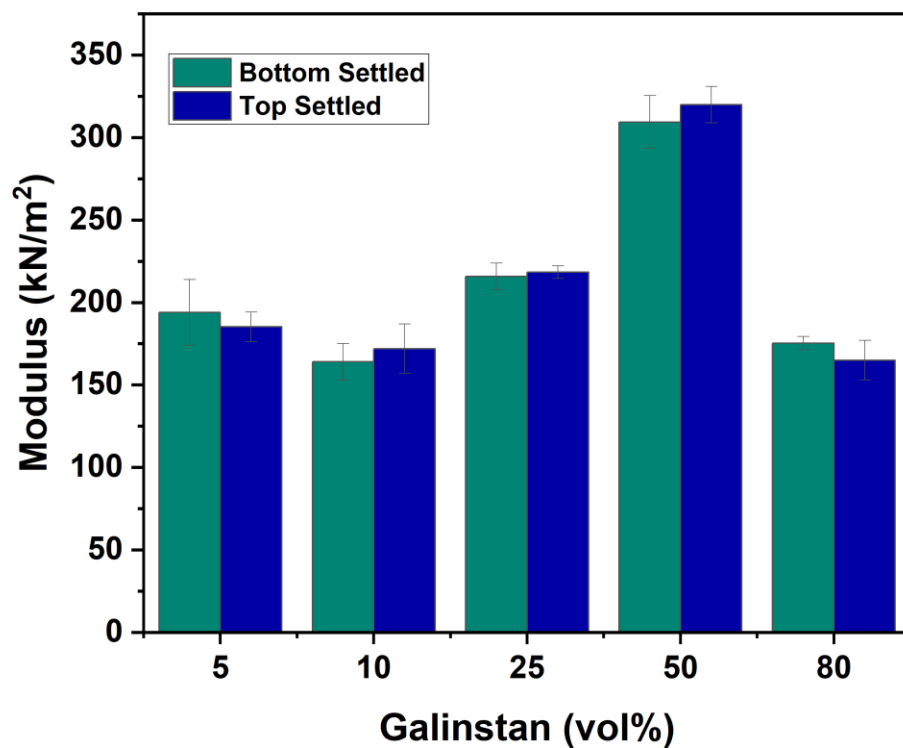
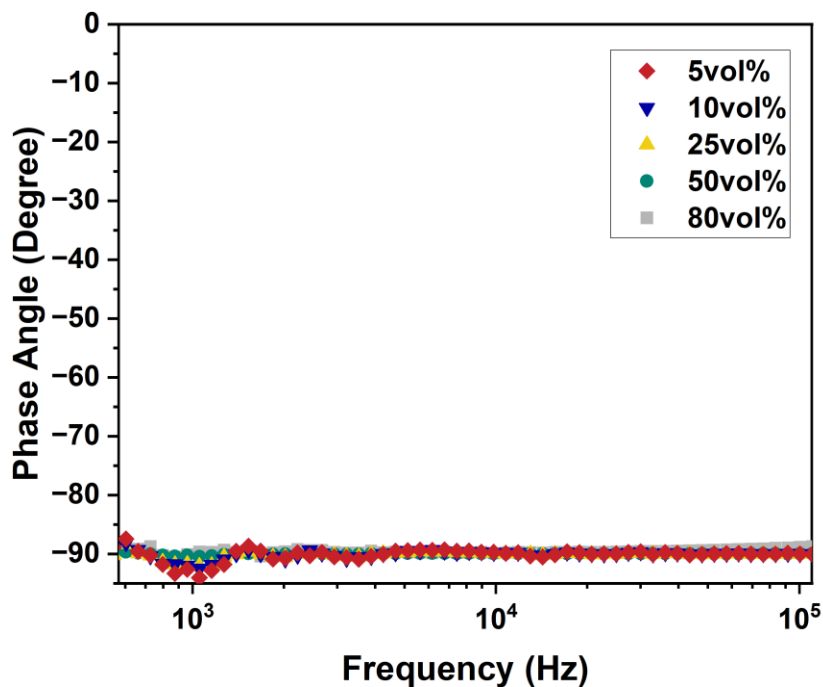


Figure S6. Compressive modulus of inhomogeneous LMPCs with respect to loading of bottom settled and top settled configuration.

(a) Inhomogeneous



(b) Homogeneous

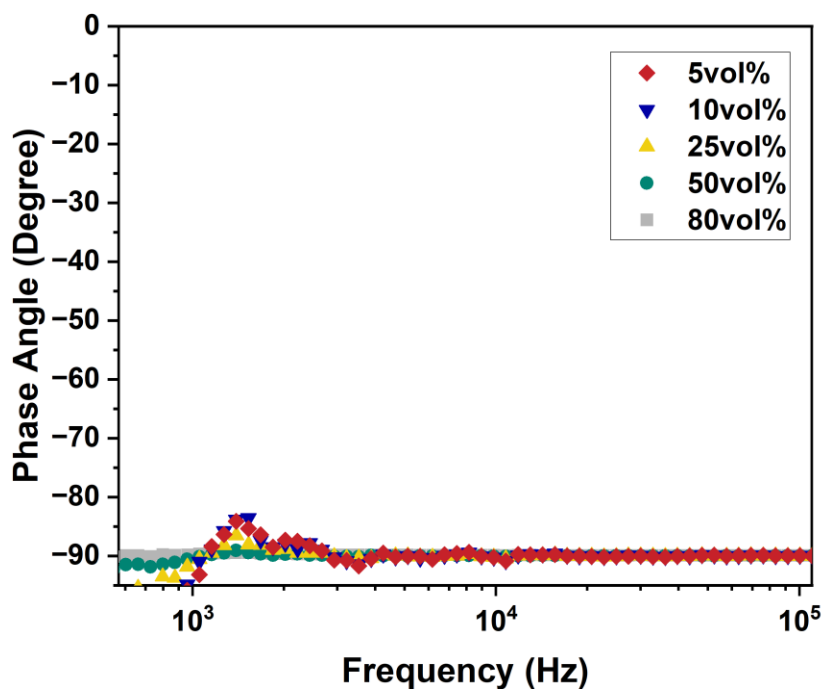


Figure S7: Phase angle of (a) inhomogeneous and (b) homogeneous LMPCs with respect to galinstan concentrations.

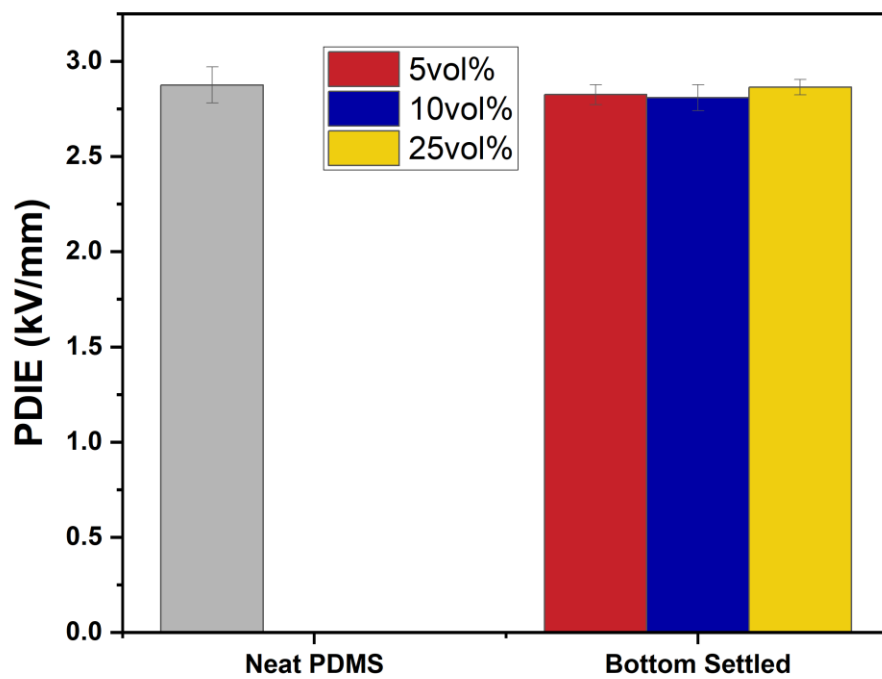


Figure S8. PDIE of neat PDMS and bottom settled samples.