Supplementary Materials: Charge Transport in LDPE Nanocomposites Part I—Experimental Approach

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**Figure S1.** Densities of charging currents as functions of time measured at room temperature (RT) ~20–22 °C, 40 °C, and 60 °C for the reference LDPE (Ref) and LDPE/MgO 3 wt % nanocomposite (NC).

**Figure S2.** Distribution of surface potential during potential decay measurement on LDPE/MgO 3wt % nanocomposite at 60 °C.
Figure S3. Measured surface potentials (a); and calculated decay rates (b) for reference LDPE (Ref) and LDPE/MgO 3 wt % nanocomposite (NC) at different temperatures.

Figure S4. Log-log plot of $J$ vs $E$ for LDPE/MgO 3 wt % nanocomposite at various temperatures.

Figure S5. Schottky plot for LDPE/MgO 3 wt % nanocomposite at various temperatures.
Figure S6. Poole-Frenkel plot for LDPE/MgO 3 wt % nanocomposite at various temperatures.

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