

Supplementary Information

Performance tuning of giant electrorheological fluids by interfacial tailoring

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The rheological properties were measured with a circular-plate-type viscometer equipped with electrorheological modules (Haake mars3, Thermo Scientific, 8 mm diameter rotating disc with a gap of 1 mm between the rotor and stator) and a DC high-voltage source (SPELLMAN SL300). The software package RHEOWIN was used to collect the experimental data. A 50 s square voltage pulse was applied to the sample. To ensure the reproducibility and repeatability of the measurements, the ER fluids were re-dispersed before each measurement, and each measurement was repeated at least three times at 24°C. Yield point was obtained from the controlled shear stress mode measurements at a very low shear rate (0.1 s⁻¹).

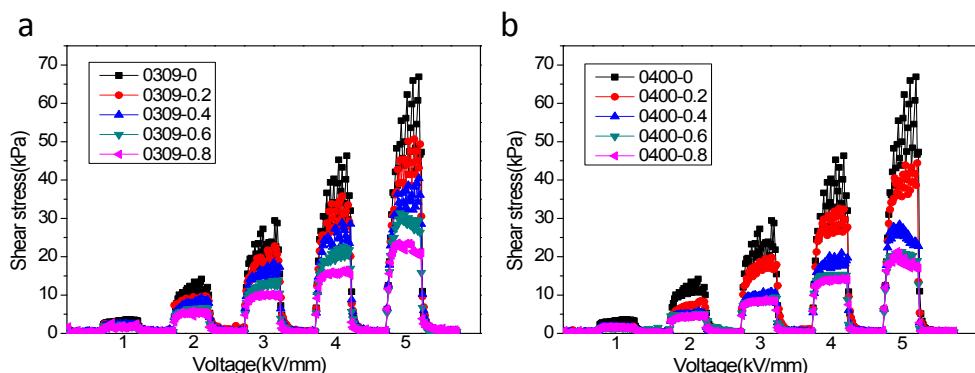


Figure: 1 Yield stress of the GER fluids versus electric field strength