



Supporting Information for

Stress-Activated Friction in Sheared Suspensions Probed with Piezoelectric Nanoparticles

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Figs. S1 to S5

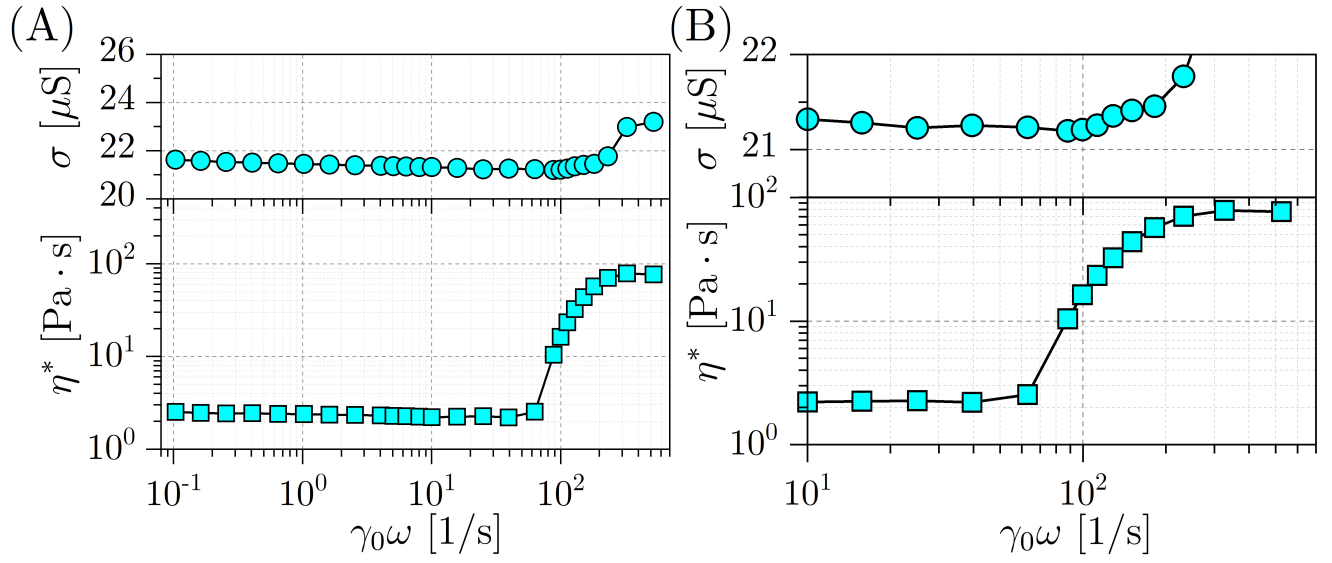


Fig. S1. (A) Raw ac conductance (σ , top) and dynamic viscosity (η^* , bottom) of a representative ZnO suspension ($\phi = 0.36$) in glycerol, measured at angular frequency $\omega = 50 \text{ rad s}^{-1}$ (cyan). (B) Zoomed-in view of data shown in (A).

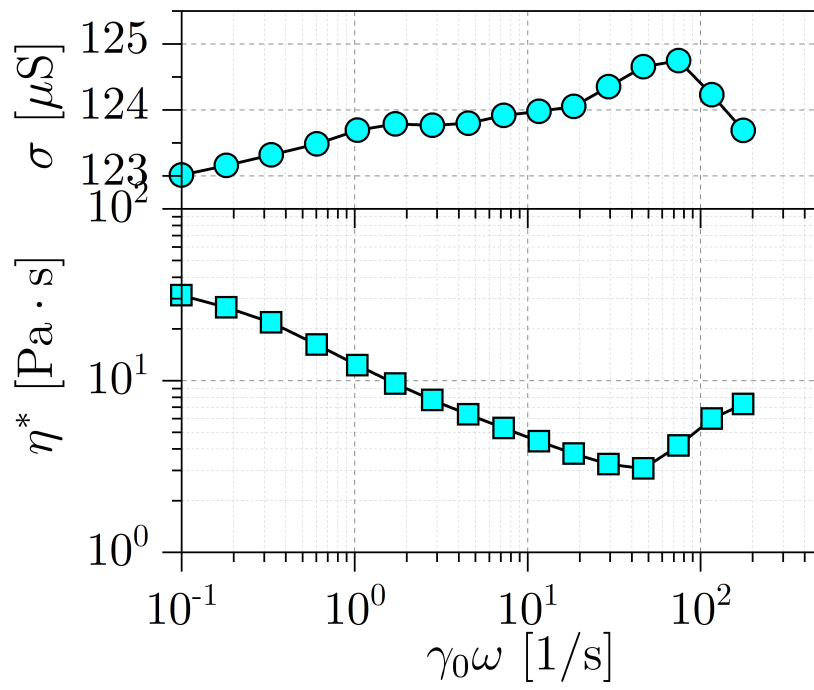


Fig. S2. Raw ac conductance (σ , top) and dynamic viscosity (η^* , bottom) of a representative barium titanate suspension ($\phi = 0.33$) in glycerol, measured at angular frequency $\omega = 50 \text{ rad s}^{-1}$ (cyan)

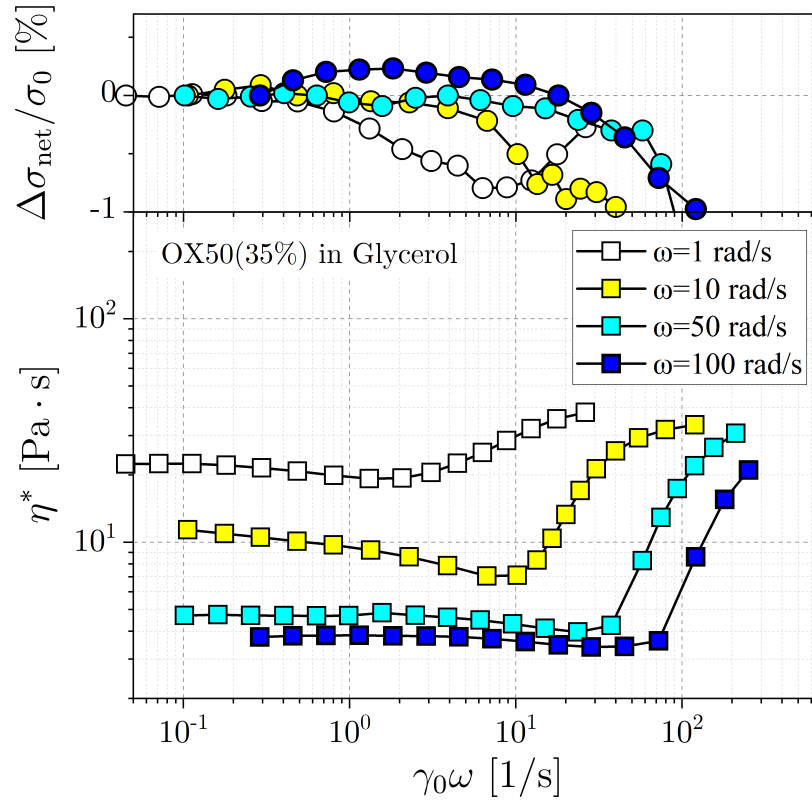


Fig. S3. Dynamic viscosity (η^* , bottom) and normalized net conductance difference ($\Delta\sigma_{\text{net}}/\sigma_0$, top) measurements of fumed silica particles (OX50) suspended in glycerol with weight fraction $\phi_w=0.35$.

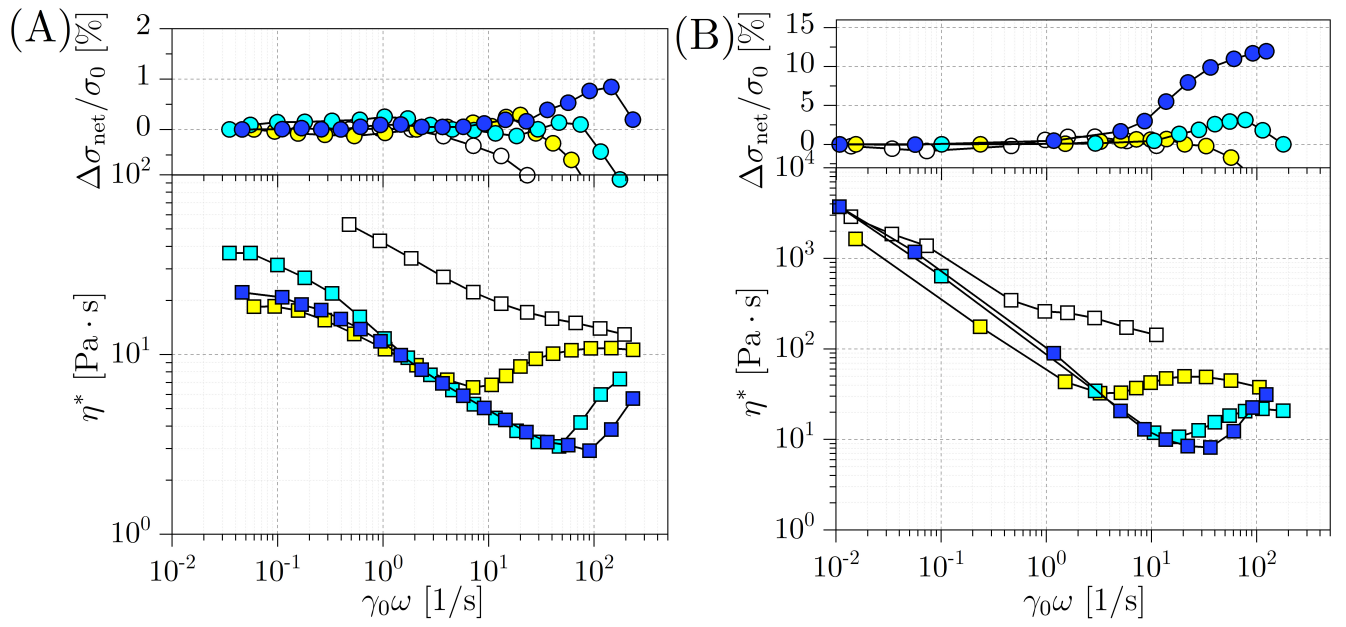


Fig. S4. Dynamic viscosity (η^* , bottom) and normalized net conductance difference ($\Delta \sigma_{\text{net}} / \sigma_0$, top) measurements of BTO suspensions with volume fraction (A) $\phi=0.33$ and (B) 0.46. Stress-controlled oscillatory shear is applied with angular frequencies $\omega = 1$ (white), 10 (yellow), 50 (cyan), and 100 rad/s (blue).

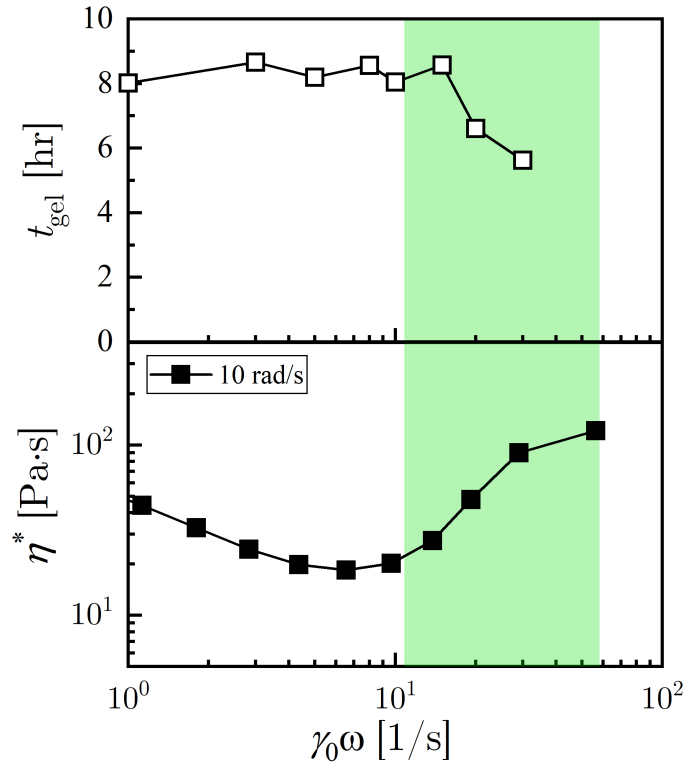


Fig. S5. Enhancement of mechanochemical reactivity by interparticle friction. Changes of η^* (bottom) and gelation time t_{gel} (top) for a 70 w/w % ZnO suspension in a mixture of dipentaerythritol hexakis(3-mercaptopropionate) and tri(ethylene glycol) divinyl ether as a function of different dynamic shear rate $\gamma_0 \omega$ at fixed $\omega = 10 \text{ rad s}^{-1}$. Green area refers to the shear thickening range.