

Supplementary information

Anisotropic sol-gel transition: Influence of sample thickness, pressure and strain

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Contents

- 1) Qualitative testing for the formation of gel.
- 2) Strain amplitude dependence of the storage (G') and loss (G'') moduli for a 100 μm thick sample at 25 °C.
- 3) Thermal variation of complex viscosity η^* for TCMG for two different sample thicknesses.
- 4) Laser transmission profiles as a function of temperature at different pressures.

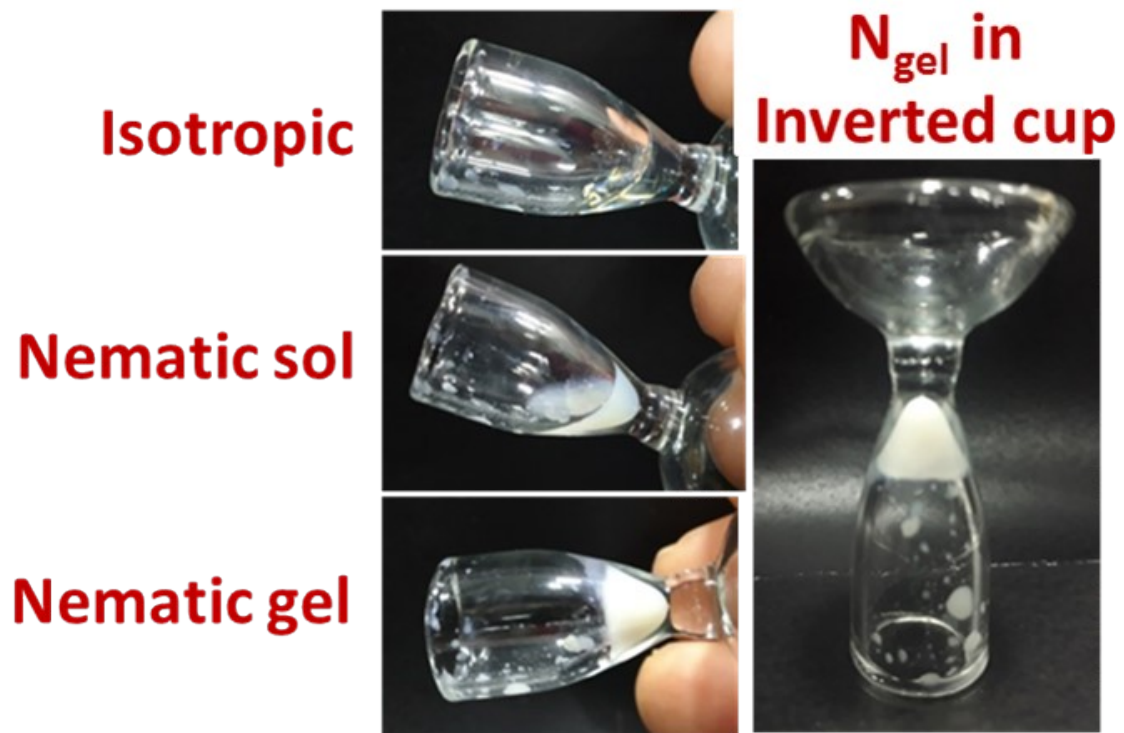


Figure SI-1: Qualitative testing for the formation of gel by tube inversion method. Left panel shows transparent flowing liquid in isotropic, translucent yet fluid in nematic phase and immovable in gel phase. Right side of the image shows inverted cup where the gel phase is formed.

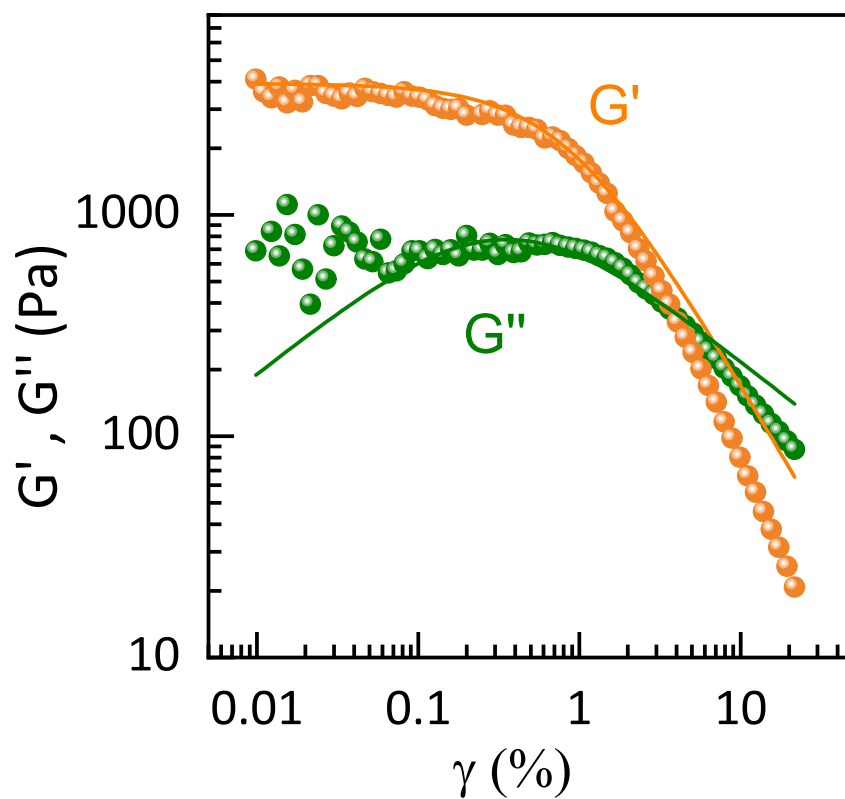


Figure SI-2: Strain amplitude dependence of the storage (G') and loss (G'') moduli for a 100 μm thick sample at 25°C with a fixed angular frequency of 1 rad/s. The solid lines in respective colours indicate the fit to Krauss equations eqs. 6 and 7.

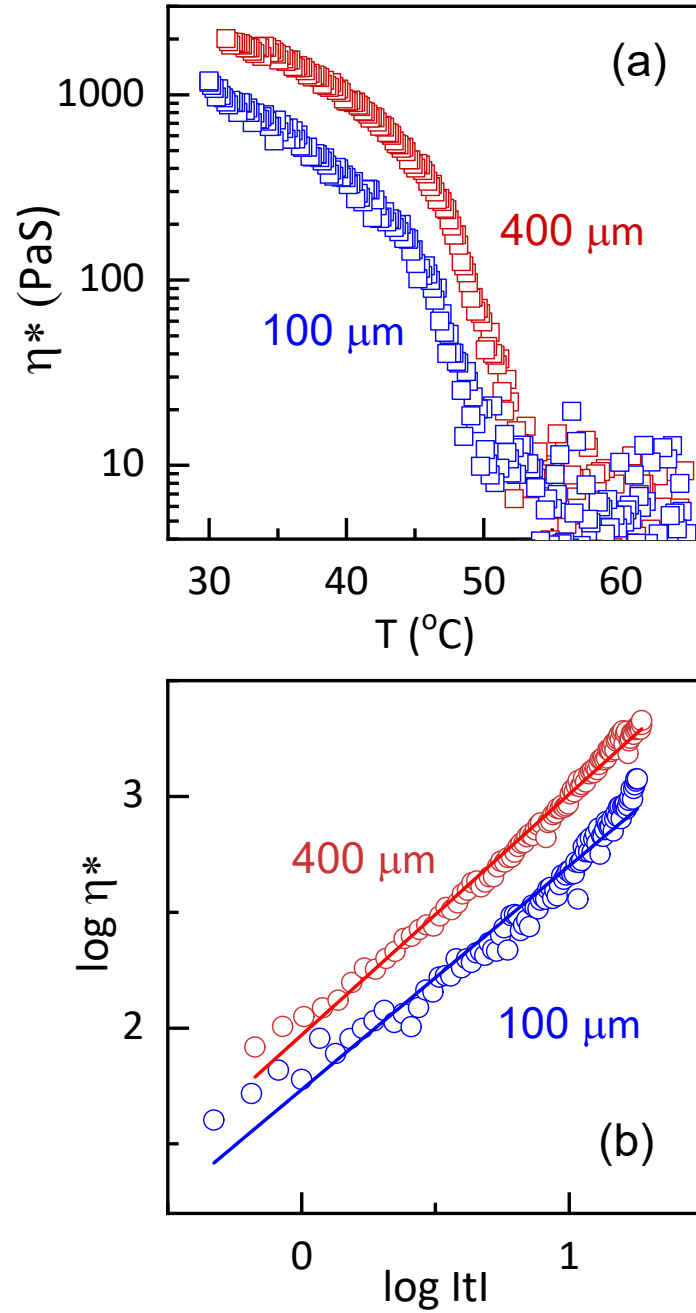


Figure SI-3: (a) Thermal variation of complex viscosity η^* for TCMG for two different sample thicknesses. (b) shows the double logarithmic plot for η^* yielding power-law exponent, p , 1.04 ± 0.01 and 0.97 ± 0.02 for 400 μm and 100 μm respectively.

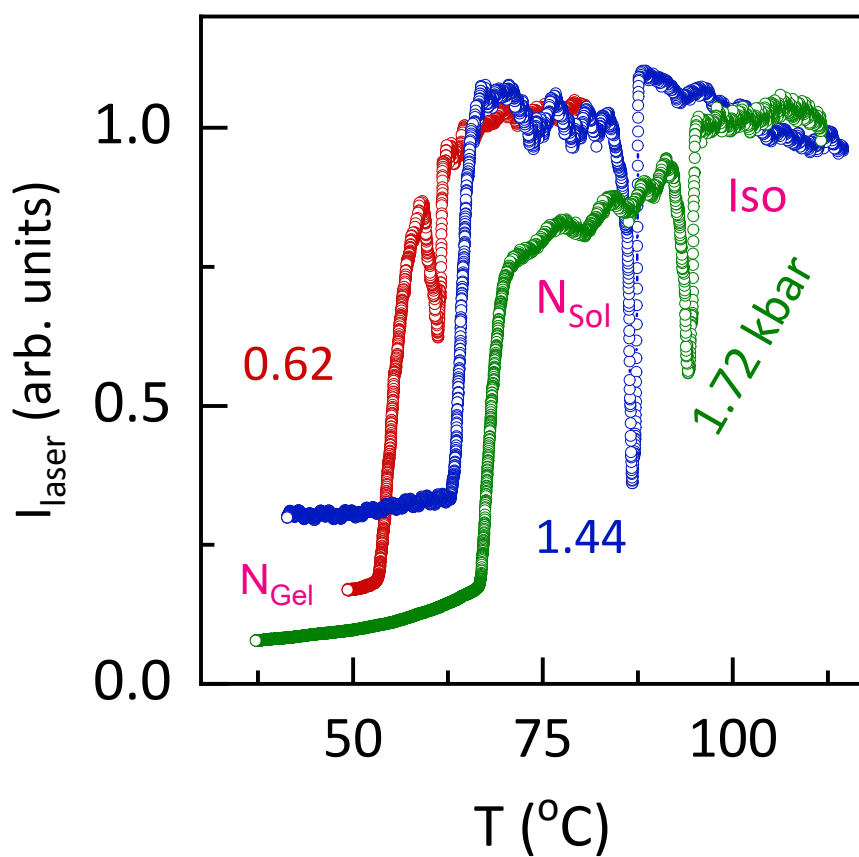


Figure SI-4: Laser transmission profiles as a function of temperature for different pressures. Both T_{sg} and $T_{Iso-Nsol}$, marked by a step and a negative peak, respectively, increase with an increase in pressure.

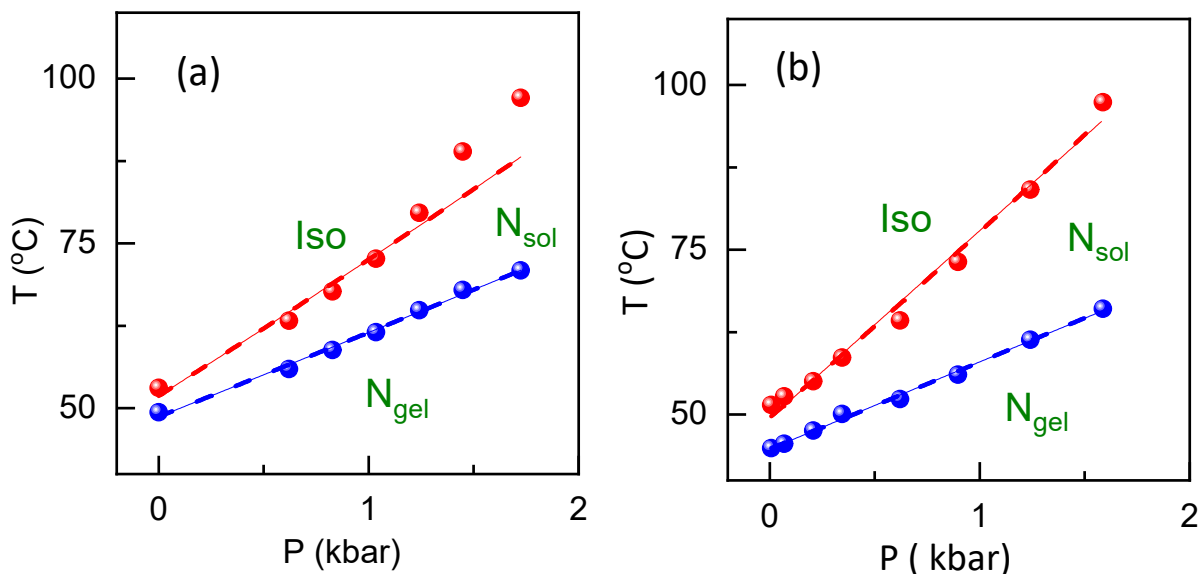


Figure SI-5: Temperature vs. Pressure phase diagram for (a) TCMG (1.5 wt % of HSA) and (b) TCMG_{0.8} (0.8 wt % of HSA). The solid line represents the fit-line to SG eq (13). The dashed line represents the fit for Clausius – Clapeyron eq (12). Both fits are essentially indistinguishable.