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Arrested and temporarily arrested states in a protein-polymer mixture studied by USAXS and VSANS

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1 Supporting Information

In this supporting information we present our observation of a three-stage coarsening behavior for an intermediate quench depth in a BSA – YCl₃ LCST system, studied in detail in a previous publication (reference 43 in the main text). Typical 2D-USAXS data pertaining to the late “resumption” stage of the three-stage coarsening for the γ -globulin / PEG 1000 mixture are also shown.

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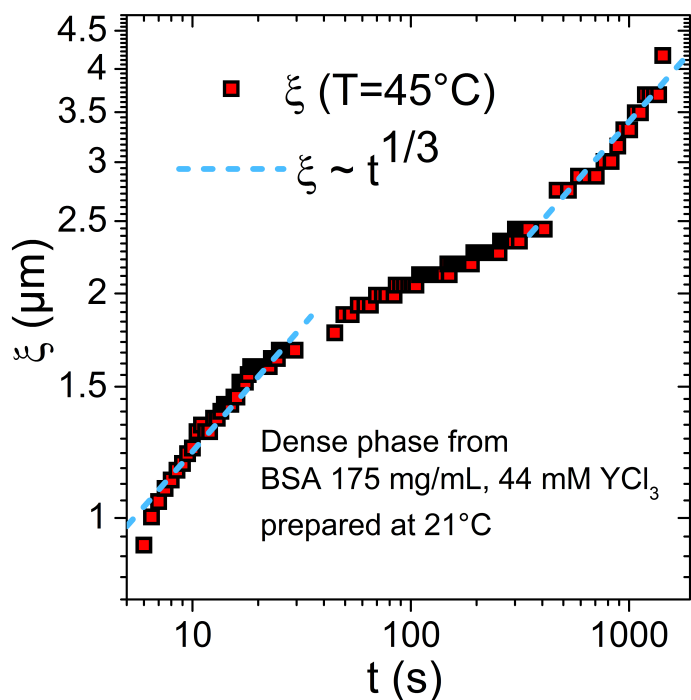


Fig. S1 Time evolution of the characteristic length, ξ , for a dense phase sample obtained by equilibration at 21 °C of BSA 175 mg/mL in presence of 44 mM YCl_3 . As BSA – YCl_3 solutions feature LCST-LLPS, heating the system above the preparation temperature results in an off-critical quench analogous to the UCST ones presented in this work. The dashed lines are power laws with growth exponent 1/3 and different prefactors, as a guide to the eye to show the initial and late stage of the three-stage coarsening. At the quench temperature of 45 °C this system is not yet dynamically arrested.

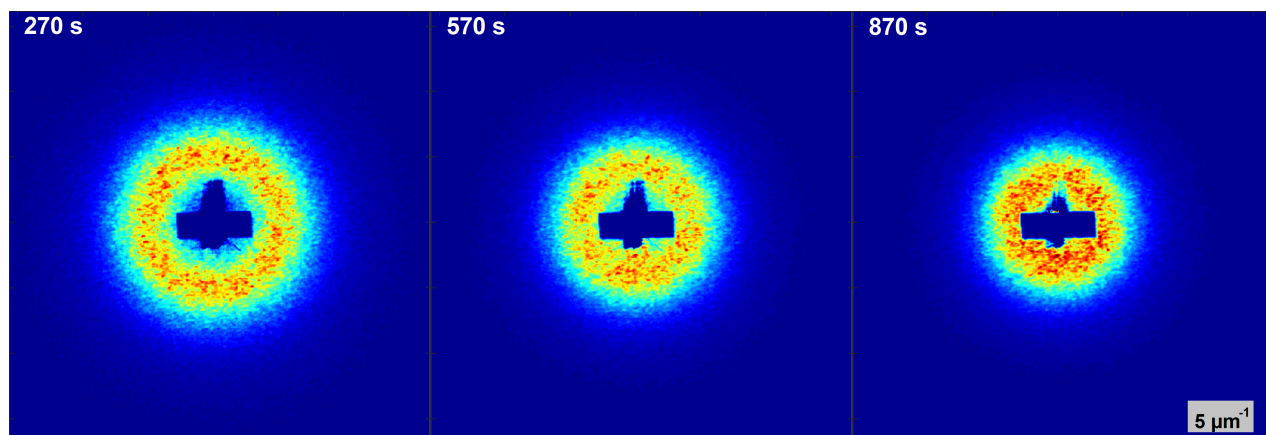


Fig. S2 Typical 2D scattering patterns during the reprise of the coarsening. Here we show the 2D scattering patterns of sample III quenched to 4 °C, at 270 s, 570 s, and 870 s, after the temporary arrest. It can be seen that the scattering pattern remains isotropic. The dynamic range of the intensity color map for the 870 s pattern has been rescaled to clearly display the spinodal ring.