

## **Supplementary Information**

Fig. S1a Shear rate dependence of the viscosity of heated  $\beta$ -lg solutions at different concentrations between 10 g/L and 96 g/L measured with a cone and plate geometry. Fig. S1b shows the same data after superposition by horizontal and vertical shifts to reference curve at 68°C.



Fig. S2a Shear rate dependence of the viscosity of heated  $\beta$ -lg solutions at different concentrations between 10 g/L and 96 g/L measured with a couette geometry. Fig. S2b shows the same data after superposition by horizontal and vertical shifts to reference curve at 70°C.



Fig. S2 Comparison of the viscosity extrapolated to zero shear rate obtained from the cone and plate geometry (circles) and the couette geometry (triangles).



Fig. S3 Examples of normalized correlograms (a) and the corresponding relaxation time distributions of dilute solutions of aggregates formed by heating  $\beta$ -lg at different concentrations indicated in the figure. The scattering angle was 30°.



Fig. S4 Dependence of the cooperative diffusion coefficient on q for solutions of aggregates formed by heating at C=96 g/L that were subsequently diluted to different concentrations as indicated in the figure.