

Electronic Supplementary Information.
Bio-SAXS of Single-Stranded DNA-Binding
Proteins: Radiation Protection by the
Compatible Solute Ectoine

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In the following additional scattering curves and fitting results and data are
presented. Details can be found in the main text.

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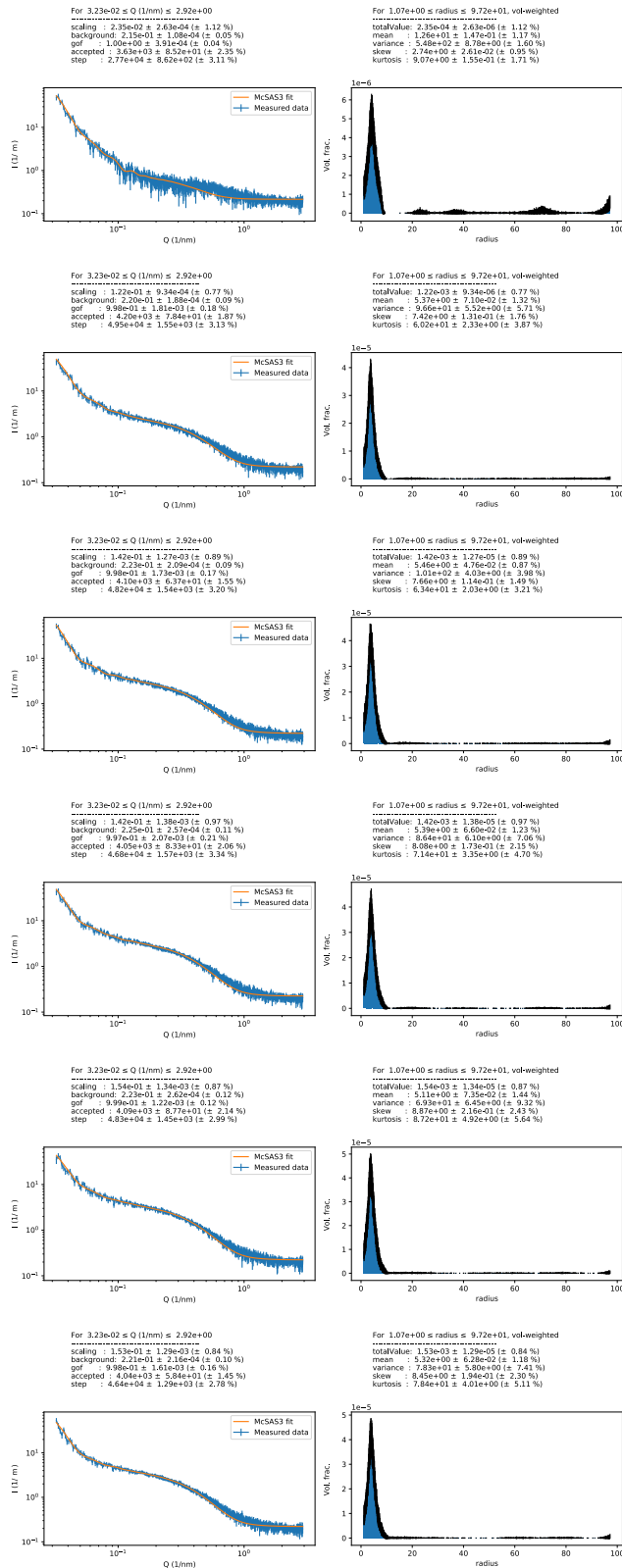


Figure 1: Scattering curves (left) and χ^2 corresponding McSAS3 fitting results (right) for G5P at 1 mg/mL without Ectoine at (top to bottom) at $t=1$ s 100s, 200s, 300s 400s, and 500s.

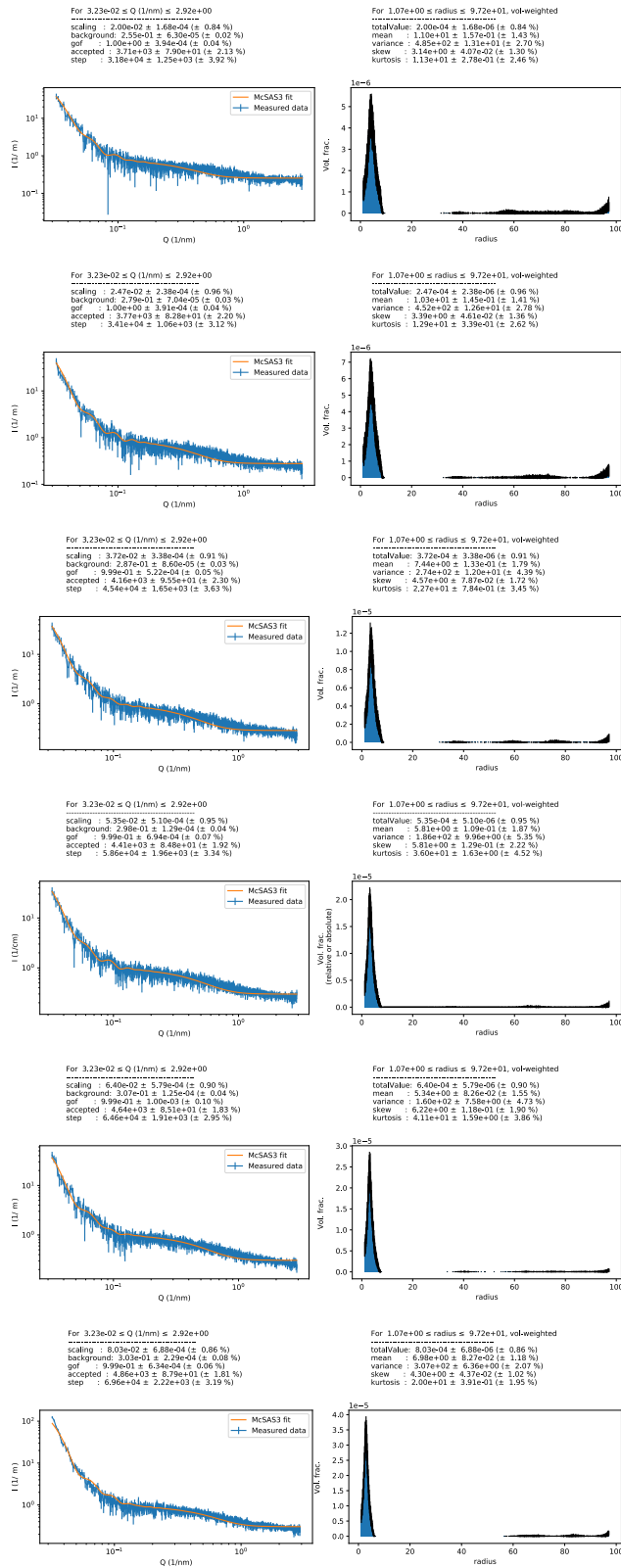


Figure 2: Scattering curves (left) and corresponding McSAS3 fitting results (right) for G5P at 1 mg/mL with Ectoine at (top to bottom) at t=1s 100s, 200s, 300s 400s, and 500s.

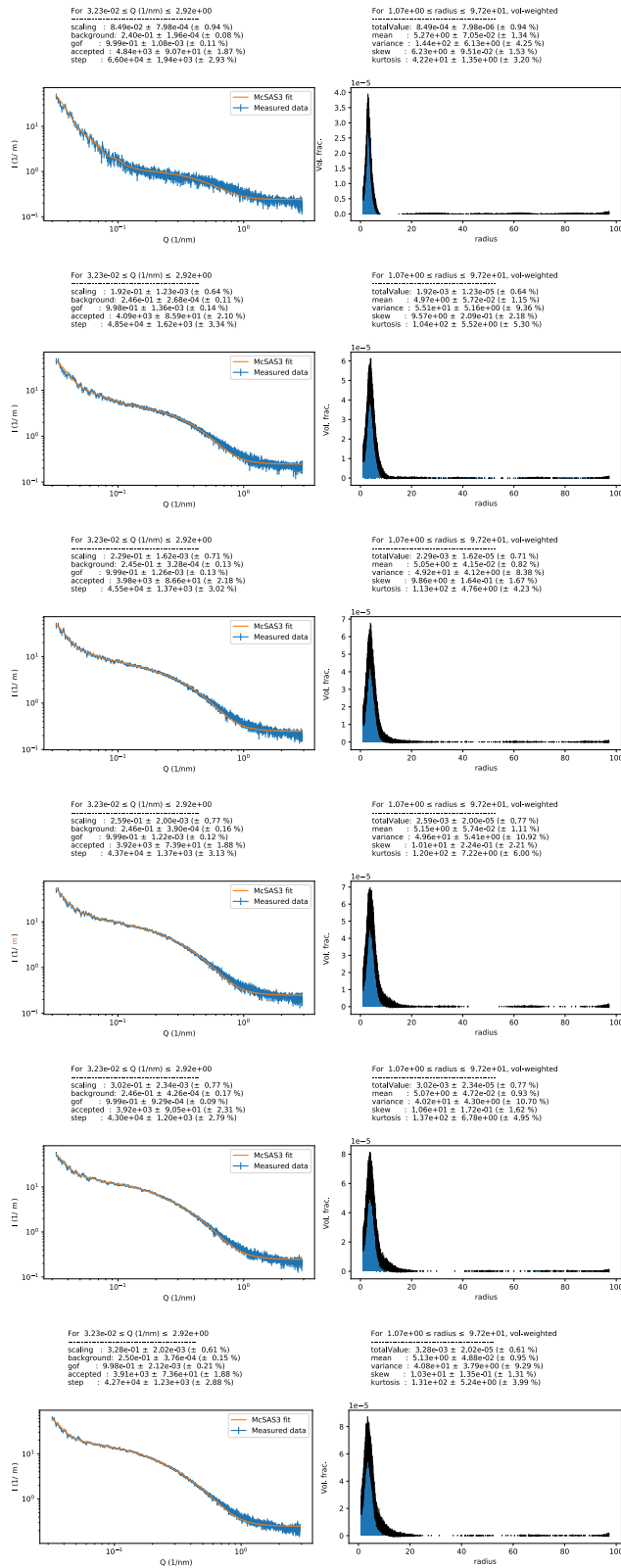


Figure 3: Scattering curves (left) and d^4 corresponding McSAS3 fitting results (right) for G5P at 2mg/mL without Ectoine at (top to bottom) at $t=1$ s 100s, 200s, 300s 400s, and 500s.

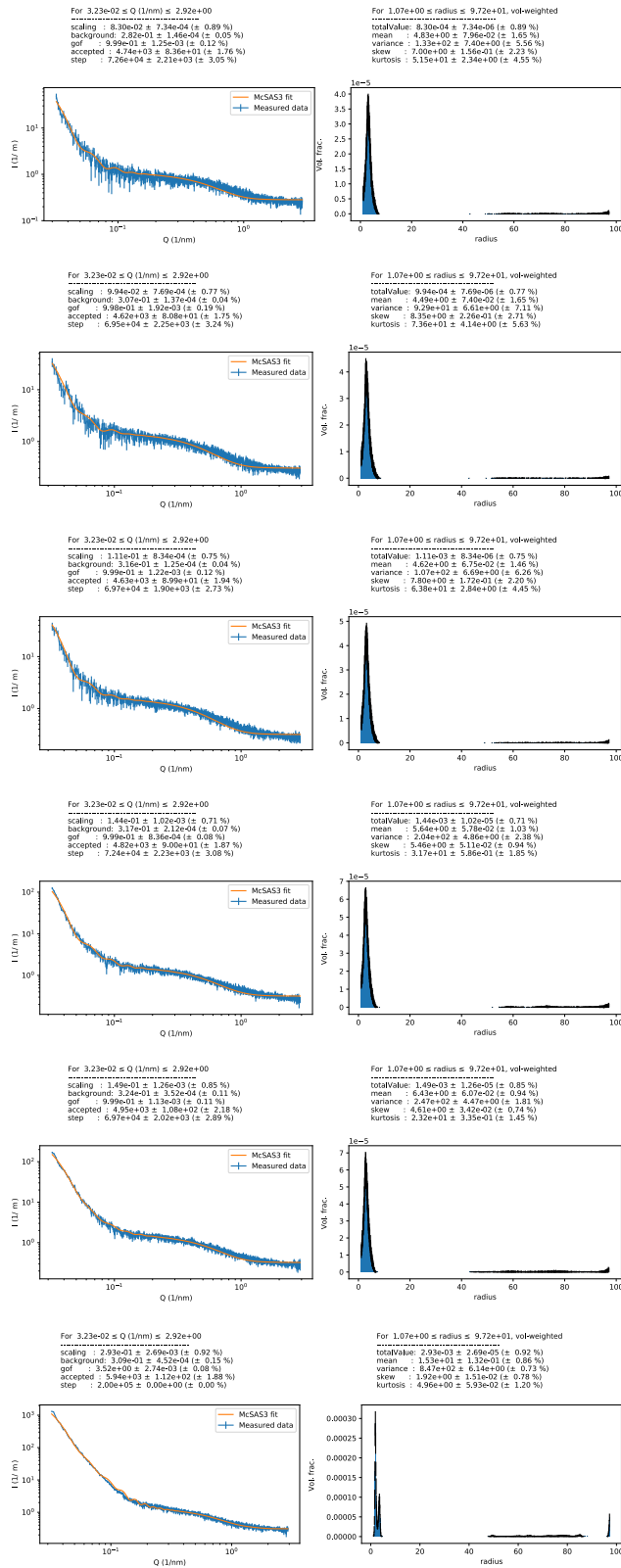


Figure 4: Scattering curves (left) and \bar{v} corresponding McSAS3 fitting results (right) for G5P at 2mg/mL with Ectoine at (top to bottom) at t=1s 100s, 200s, 300s 400s, and 500s.

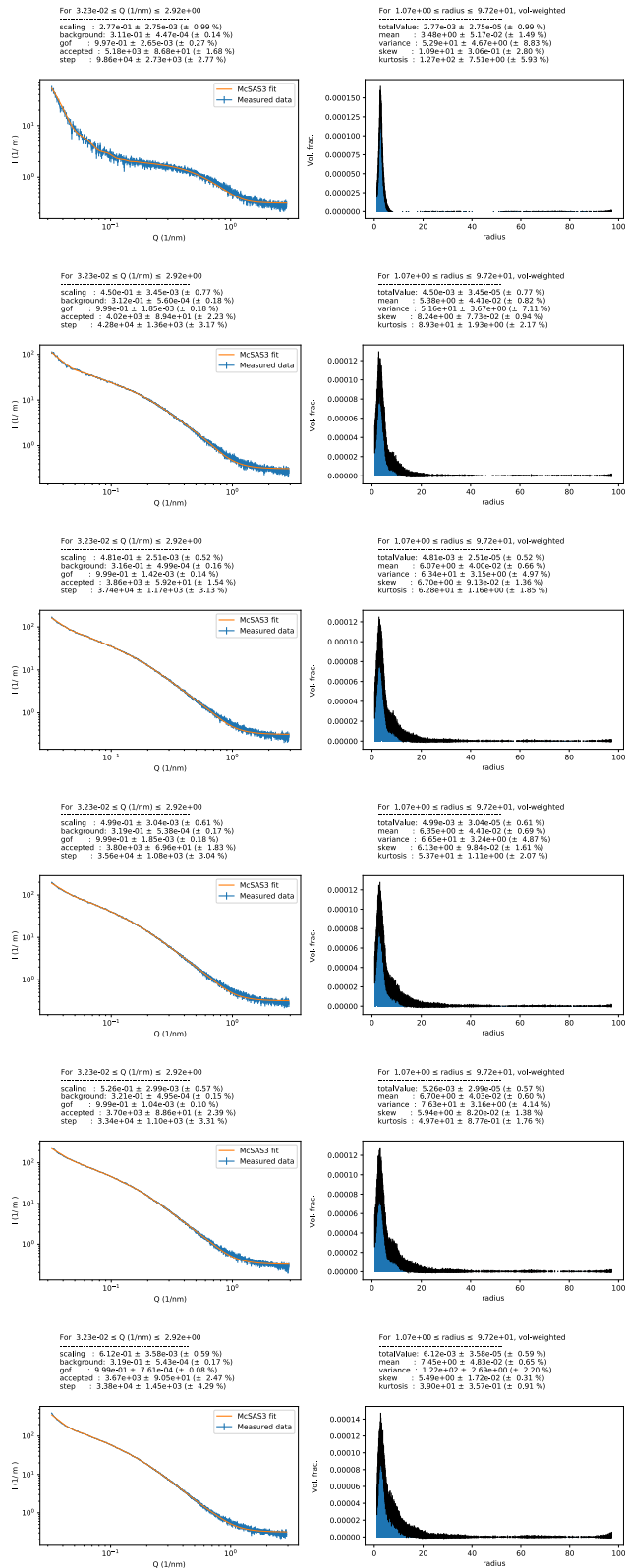


Figure 5: Scattering curves (left) and δ corresponding McSAS3 fitting results (right) for G5P at 4mg/mL without Ectoine at (top to bottom) at t=1s 100s, 200s, 300s 400s, and 500s.

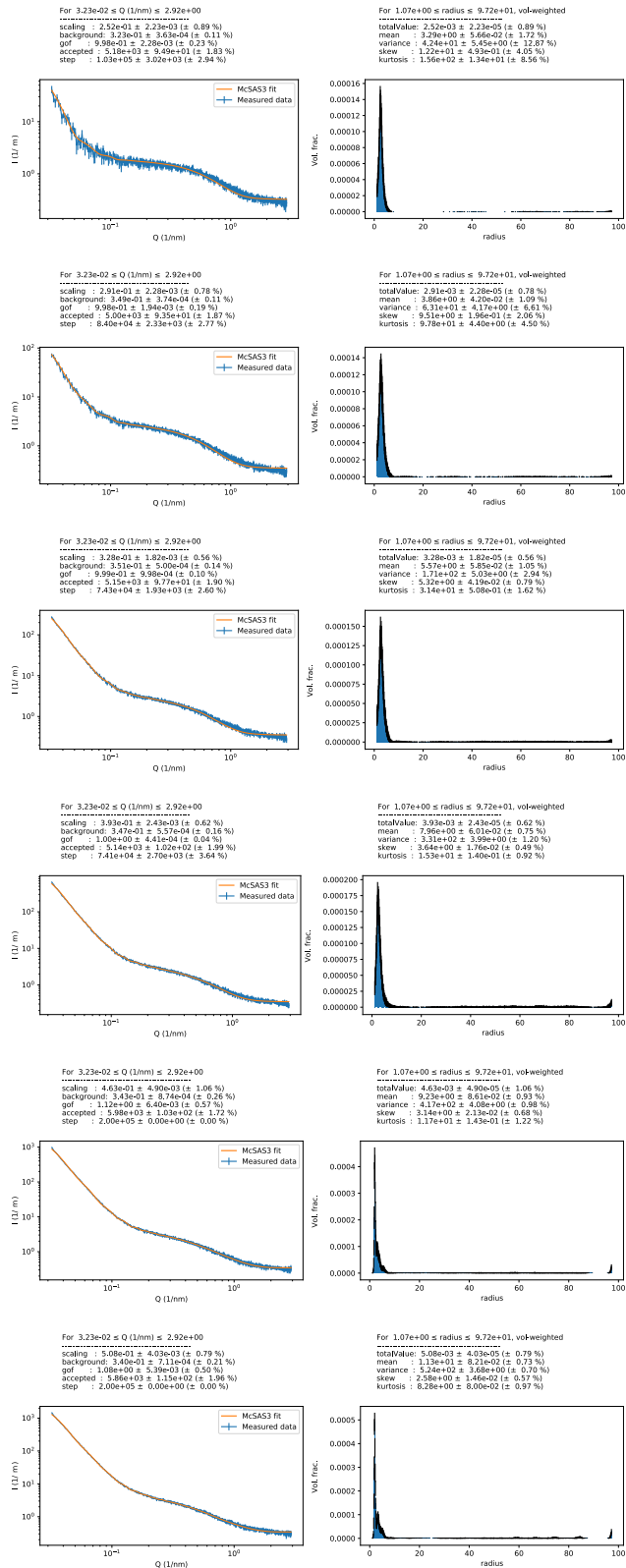


Figure 6: Scattering curves (left) and \bar{r} corresponding McSAS3 fitting results (right) for G5P at 4mg/mL with Ectoine at (top to bottom) at t=1s 100s, 200s, 300s 400s, and 500s.

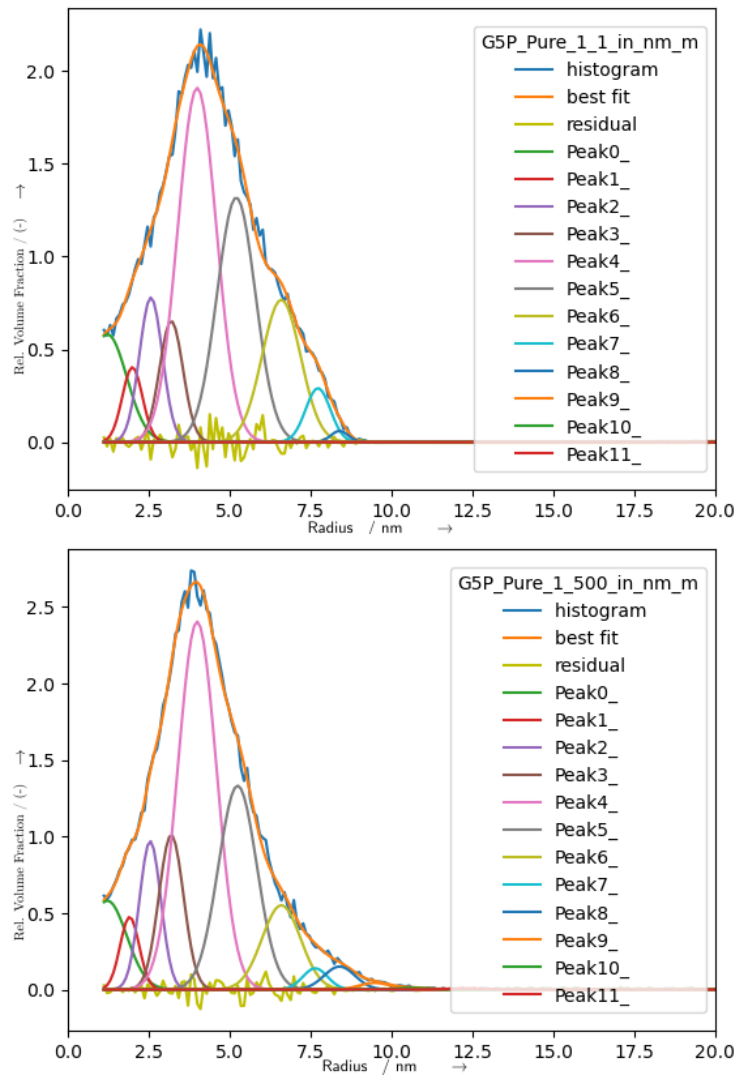


Figure 7: Exemplary histograms of the fitted radii for pure solutions (1 mg/mL) at the beginning (top) and end (bottom) of the irradiation. For details see the main text.

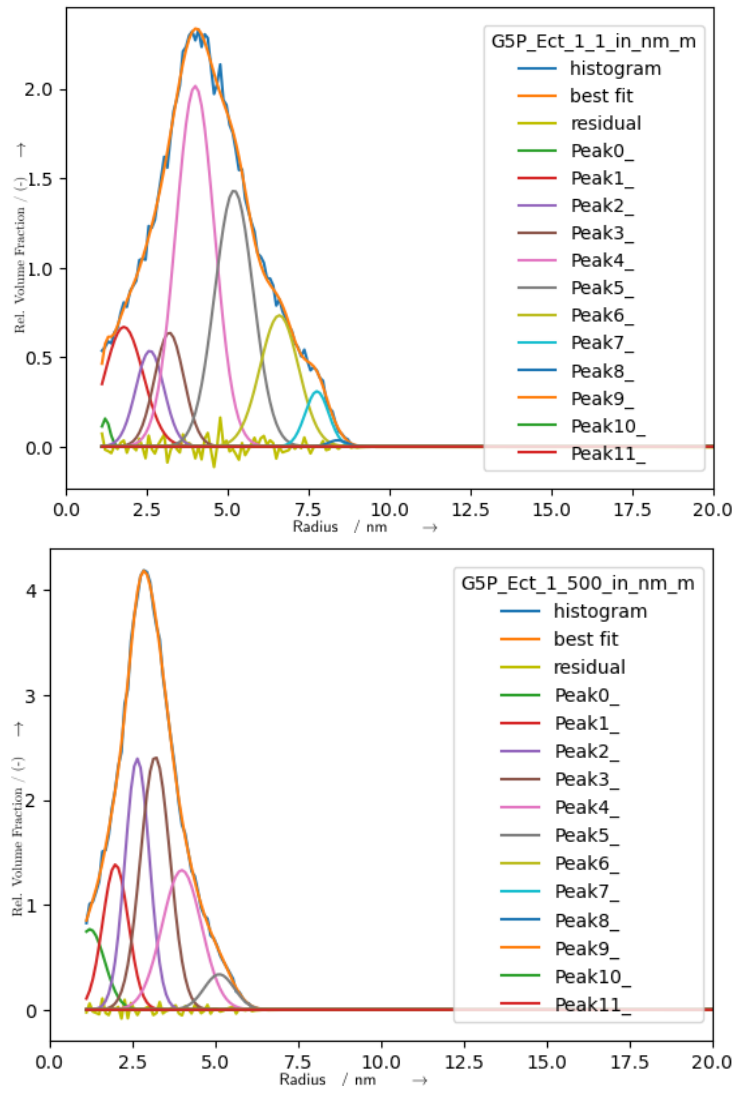


Figure 8: Exemplary histograms of the fitted radii for Ectoine containing solutions (1 mg/mL) at the beginning (top) and end (bottom) of the irradiation. For details see the main text.

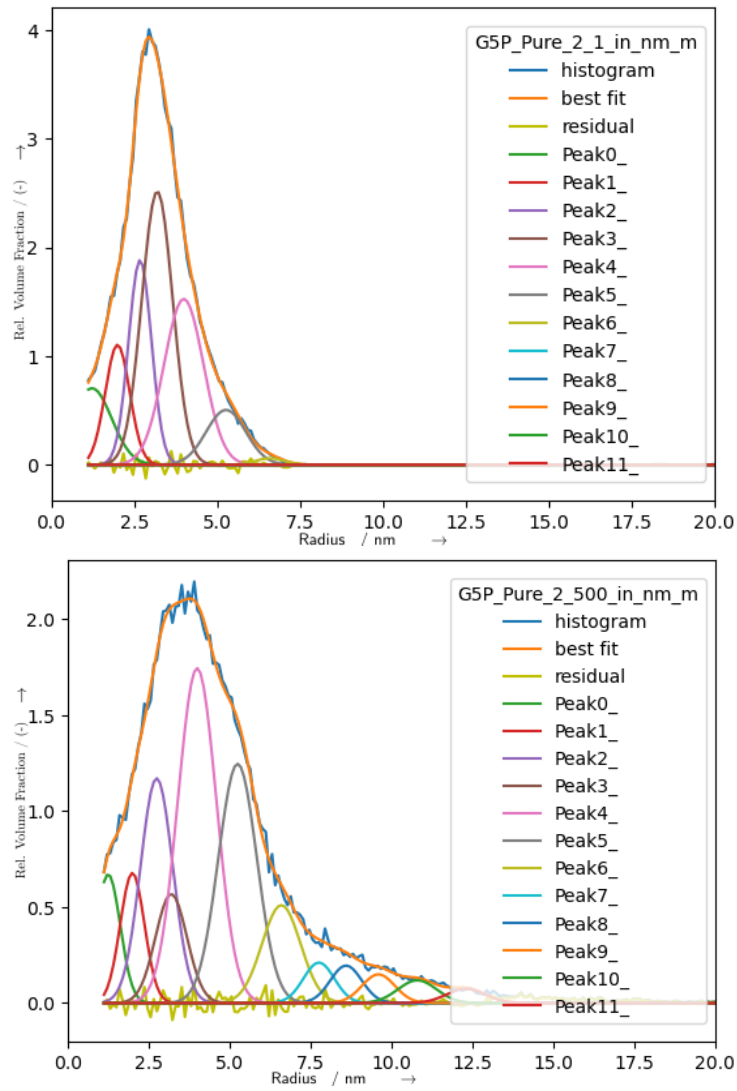


Figure 9: Exemplary histograms of the fitted radii for pure solutions (2 mg/mL) at the beginning (top) and end (bottom) of the irradiation. For details see the main text.

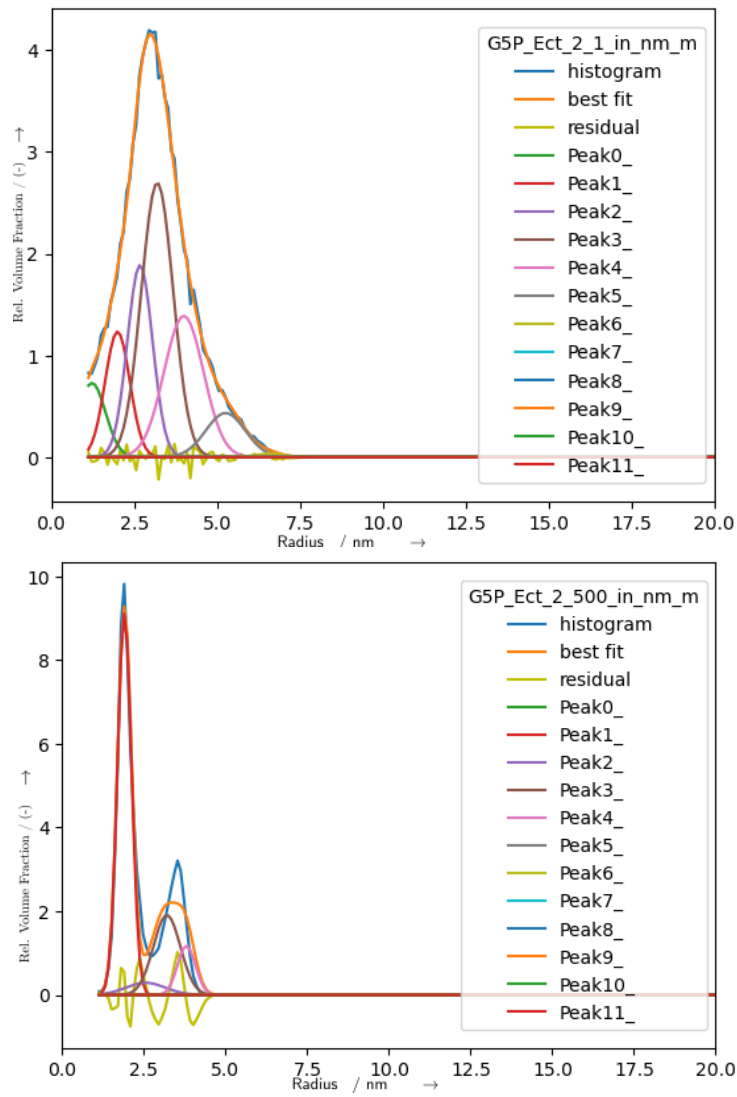


Figure 10: Exemplary histograms of the fitted radii for Ectoine containing solutions (2 mg/mL) at the beginning (top) and end (bottom) of the irradiation. For details see the main text.

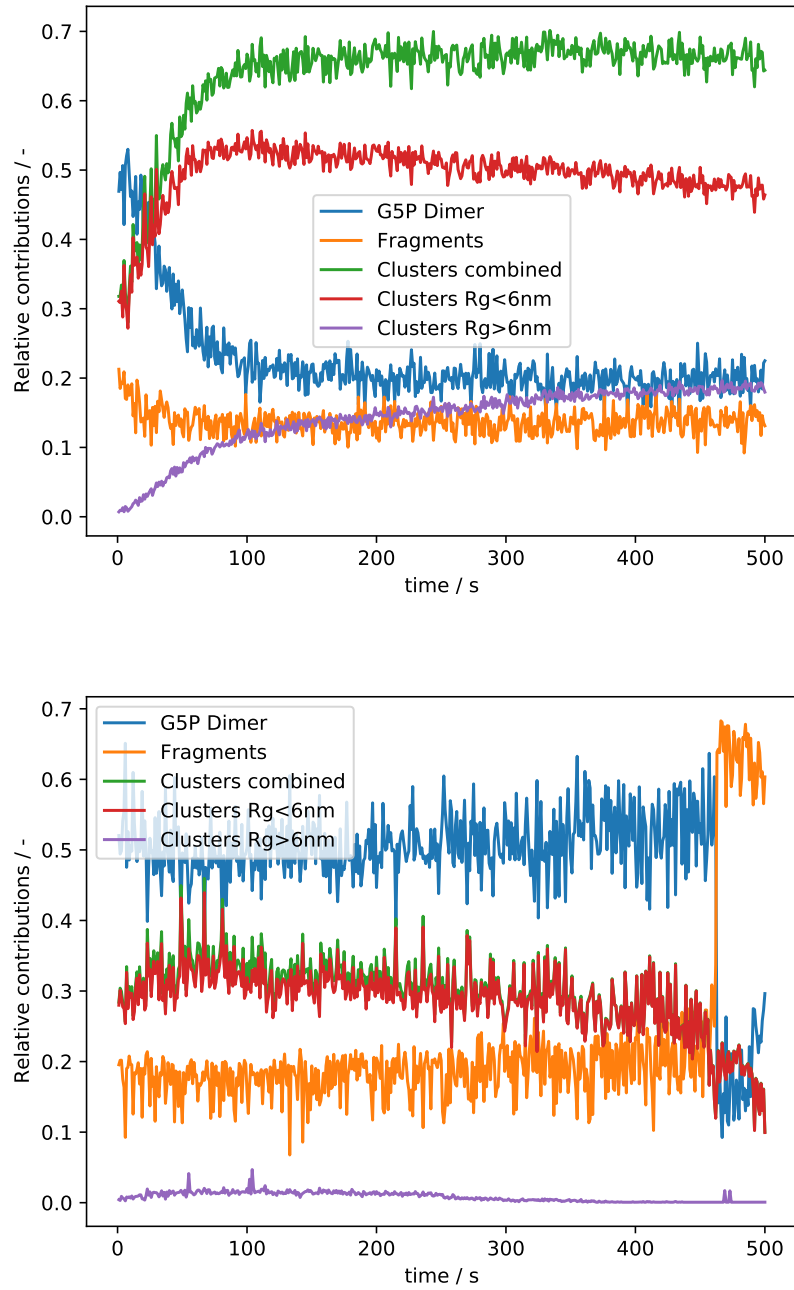


Figure 11: Time evolution of the fits of the different Gaussians corresponding to the various G5P species at concentrations of 2 mg/mL resulting in the distribution of the different fitted radii for pure solutions, without (top) and with (bottom) Ectoine.

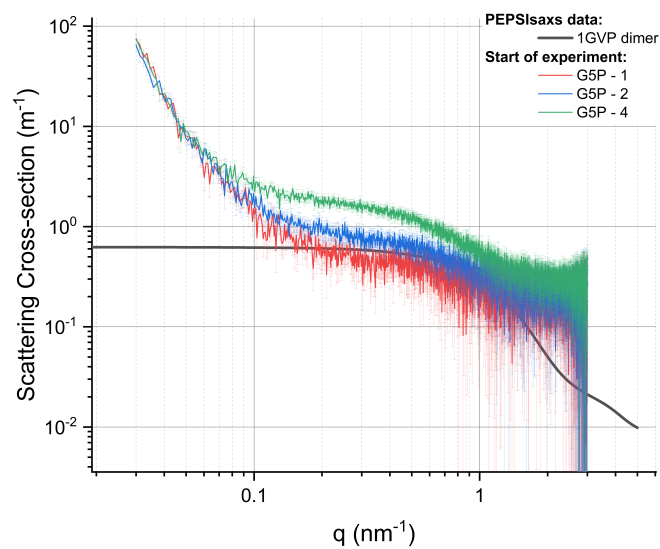


Figure 12: Measured scattering curves of pure G5P with the indicated concentrations at the beginning of the measurements together with the simulated curve from Pepsi-SAXS as described in the main manuscript.

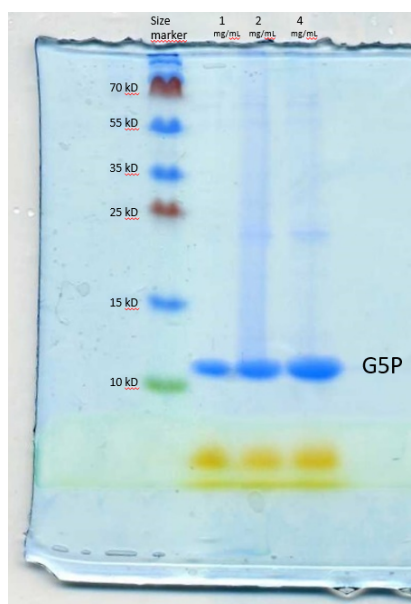


Figure 13: SDS-PAGE (15 %) with G5P purified protein in different concentrations and size marker. The gel was stained with Coomassie brilliant blue.

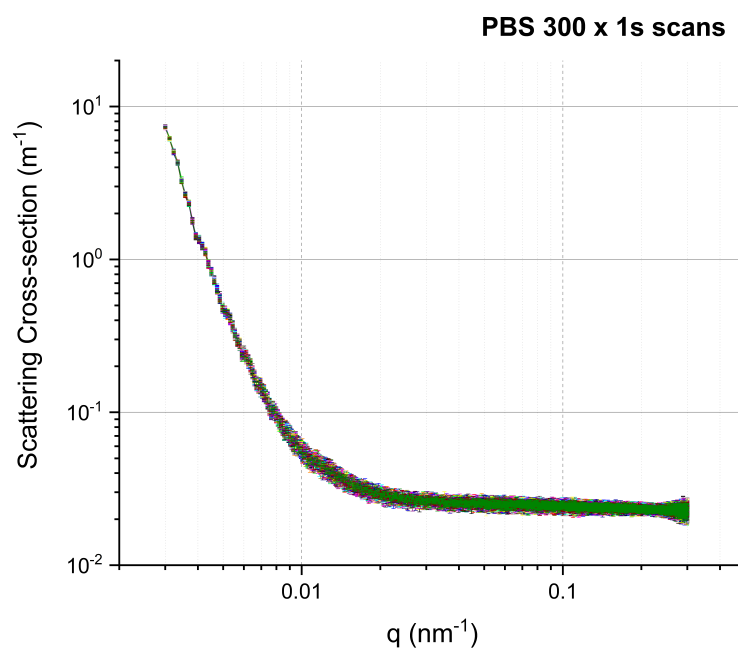


Figure 14: SAXS Scattering curves of the pure PBS buffer at different times. No change is observed for the overlay of 300 curves recorded for 1 s each.