

ELECTRONIC SUPPLEMENTARY INFORMATION

Unravelling structural rearrangement of polymer colloidal crystals under dry sintering conditions

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Figure S1 GTSAXS intensity profiles (dots) and fitting curves (lines) for the PS colloidal crystal samples (a) A, (b) B and (c) C at RT. For each sample the top and the bottom profiles refer to q_y - and q_z -directions (depicted as dashed lines in Figure 3 of the main text), respectively. q_y -profiles include diffraction peaks up to (220) order and q_z -profiles include peaks up to (003) order. Structural parameters deduced from fitting curves are summarized in Table 1 of the main text.

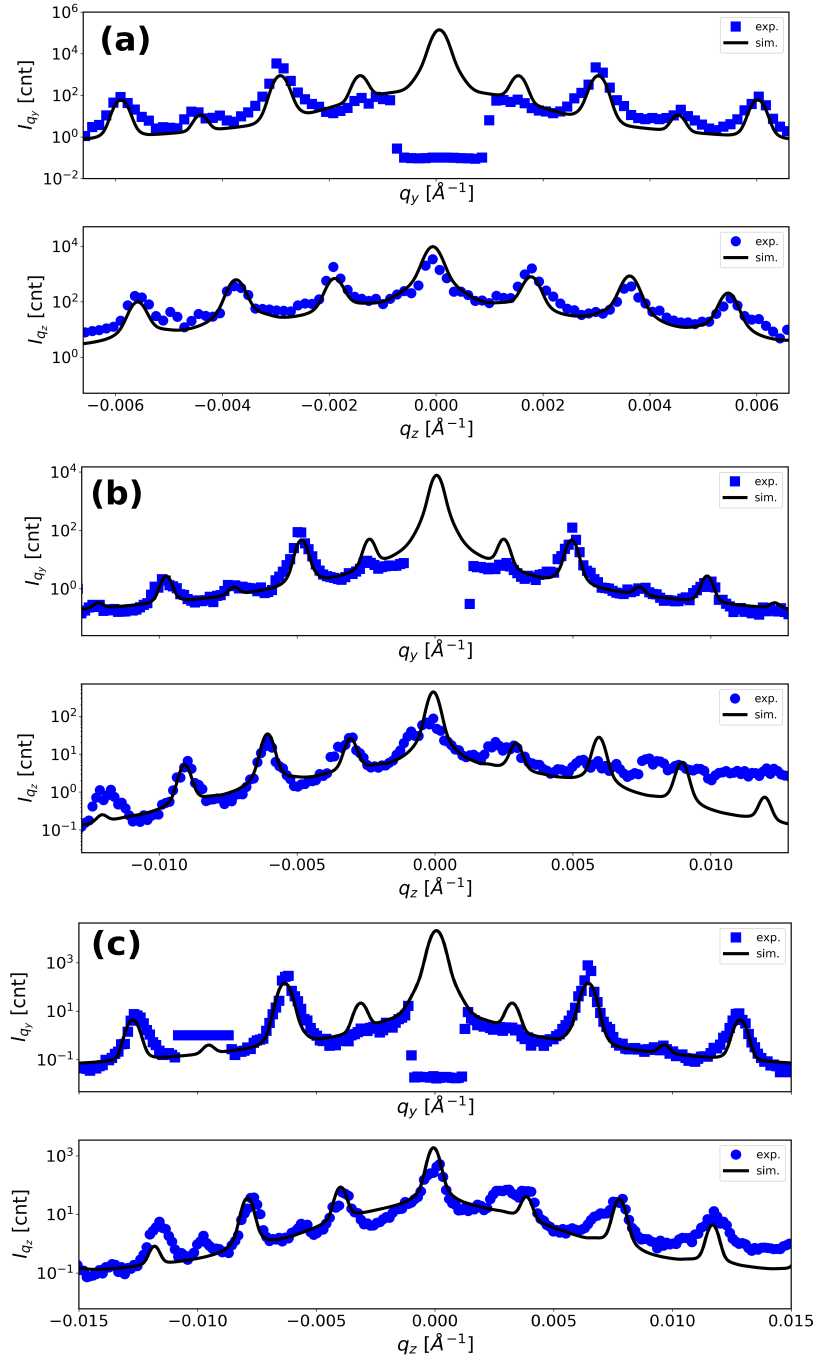


Figure S2 Temperature dependences of GTSAXS peak positions, integrated intensities and widths of the PS colloidal crystal sample B for (a-c) in-plane and (d-f) out-of-plane directions.

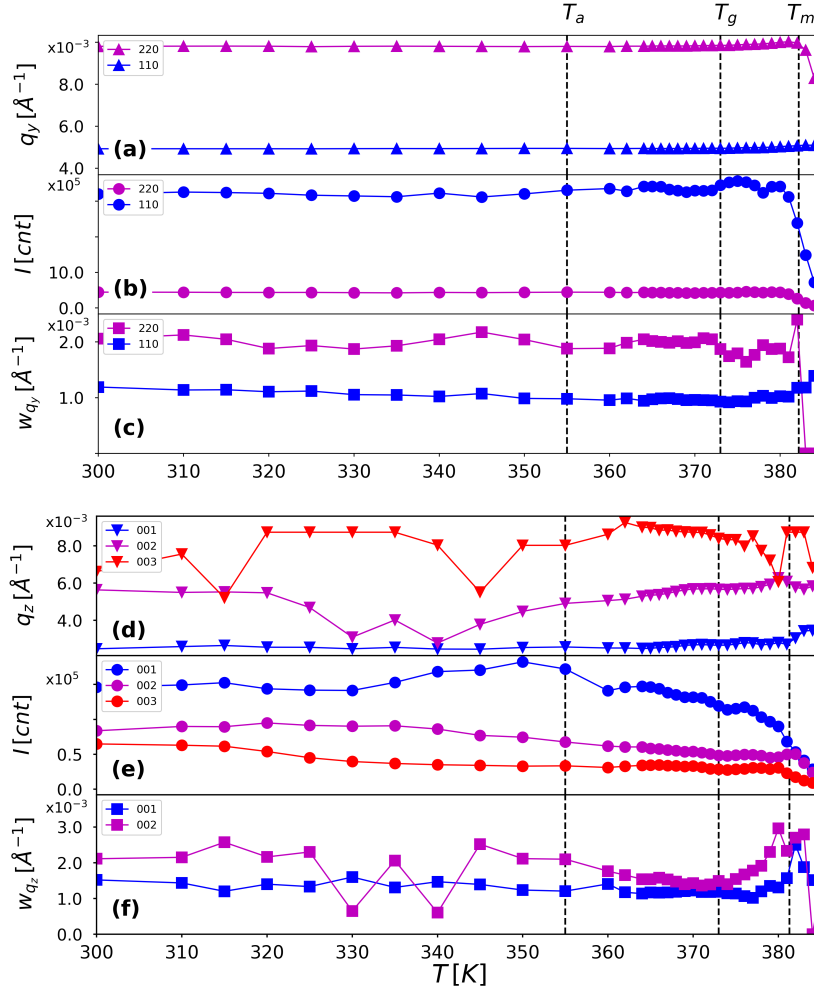


Figure S3 Temperature dependences of GTSAXS peak positions, integrated intensities and widths of the PS colloidal crystal sample C for (a-c) in-plane and (d-f) out-of-plane directions.

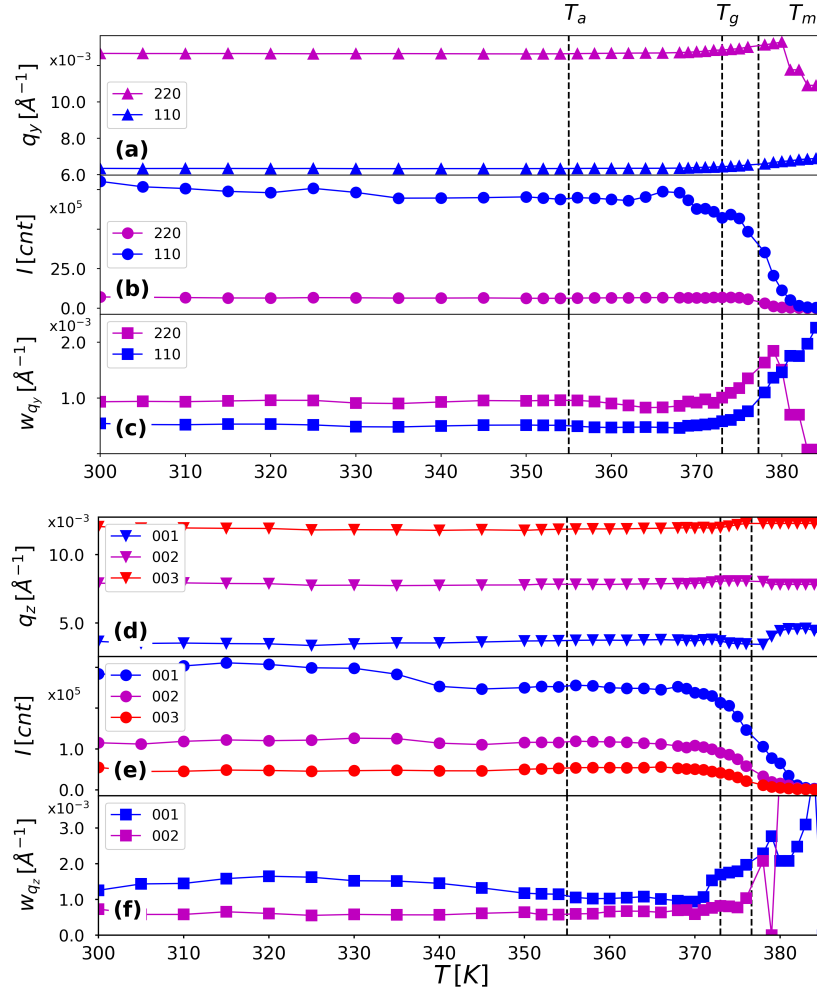


Figure S4 Temperature dependences of (a) CSD sizes and (b) lattice deformation parameters for in-plane (blue filled dots) and out-of-plane (red open dots) directions of the sample C.

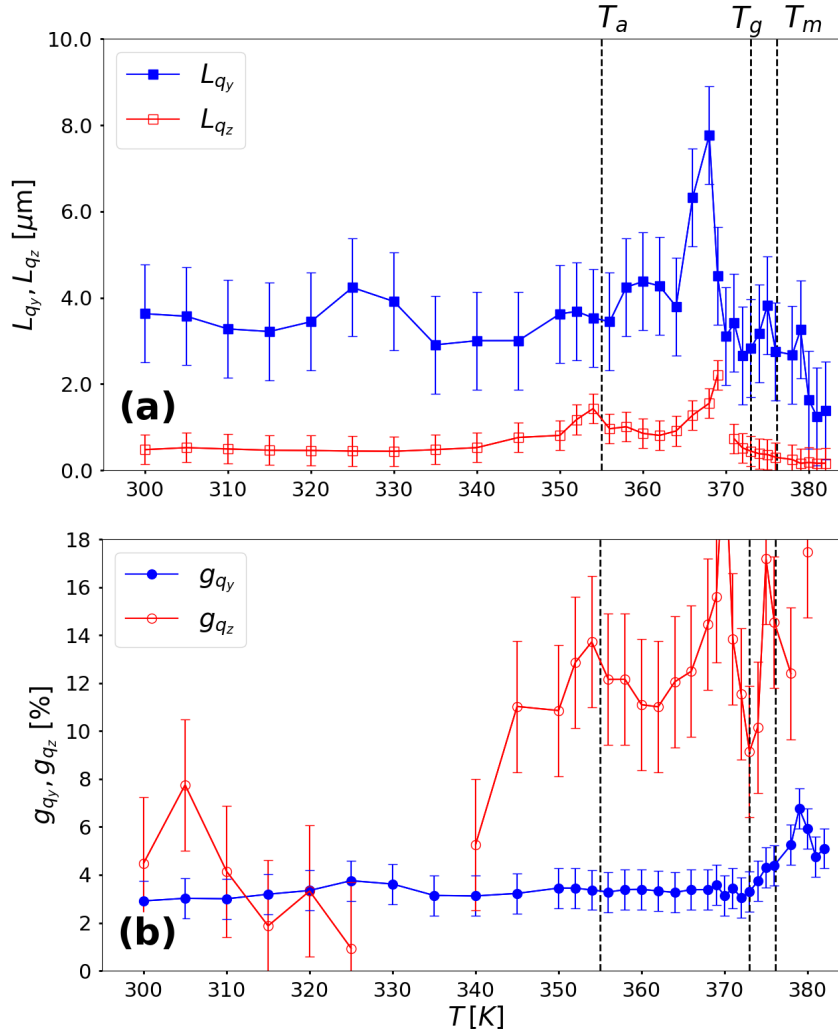


Figure S5 Experimental (dots) and simulated (lines) GTSAXS intensity profiles for the PS colloidal crystal sample A at $T = 376$ K. Calculated curves were obtained using the scattering functions of a single shape (dashed line) and 1:1 mixture of spheres and rhombic dodecahedrons (solid line).

