Supplementary Information (SI) for Physical Chemistry Chemical Physics.

Using Neutrons to Ascertain the Impact of Deposition Temperature on Amorphous Solid Water

Supplementary Information

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Figure S1 shows the changes in Radius of Gyration and the s parameter as a function of deposition time for each of the samples created (deposition temperature indicated by the colorbar). These parameters are extracted by fitting the low Q part of the NIMROD DCS as a function of Q curves with a double Guinier-Porod model. This set of values is for the Guinier-Porod fit that probes the smaller-scale set of pores.

Figure S2 shows the Sans2d intensity as a function of Q curves throughout the deposition for each sample. The merged Sans2d + NIMROD intensity as a function of Q are then

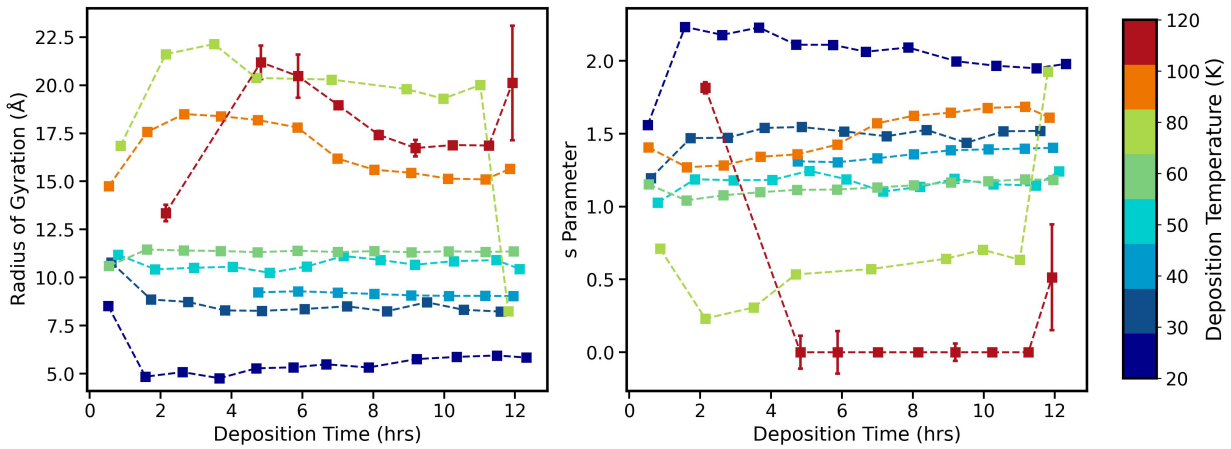

Figure S1: Guinier-Porod model parameters of Radius of Gyration (left panel) and s (right panel) as a function of deposition time, for each sample. Trace colours represent the temperature the sample was deposited at, represented in the colourbar on the right hand side. For the s parameter, $s = 0$ indicates spheres, $s = 1$ indicates cylinders and $s = 2$ indicates platelets.

presented in Figure S3.

Using the MAXE software, poresize distributions were calculated for every sample as a function of deposition time. This data is shown in Figure S4, whereby the colour maps show the pore sizes as a function of deposition time and the plots next to each map shows the respective cumulative porosity for that sample.

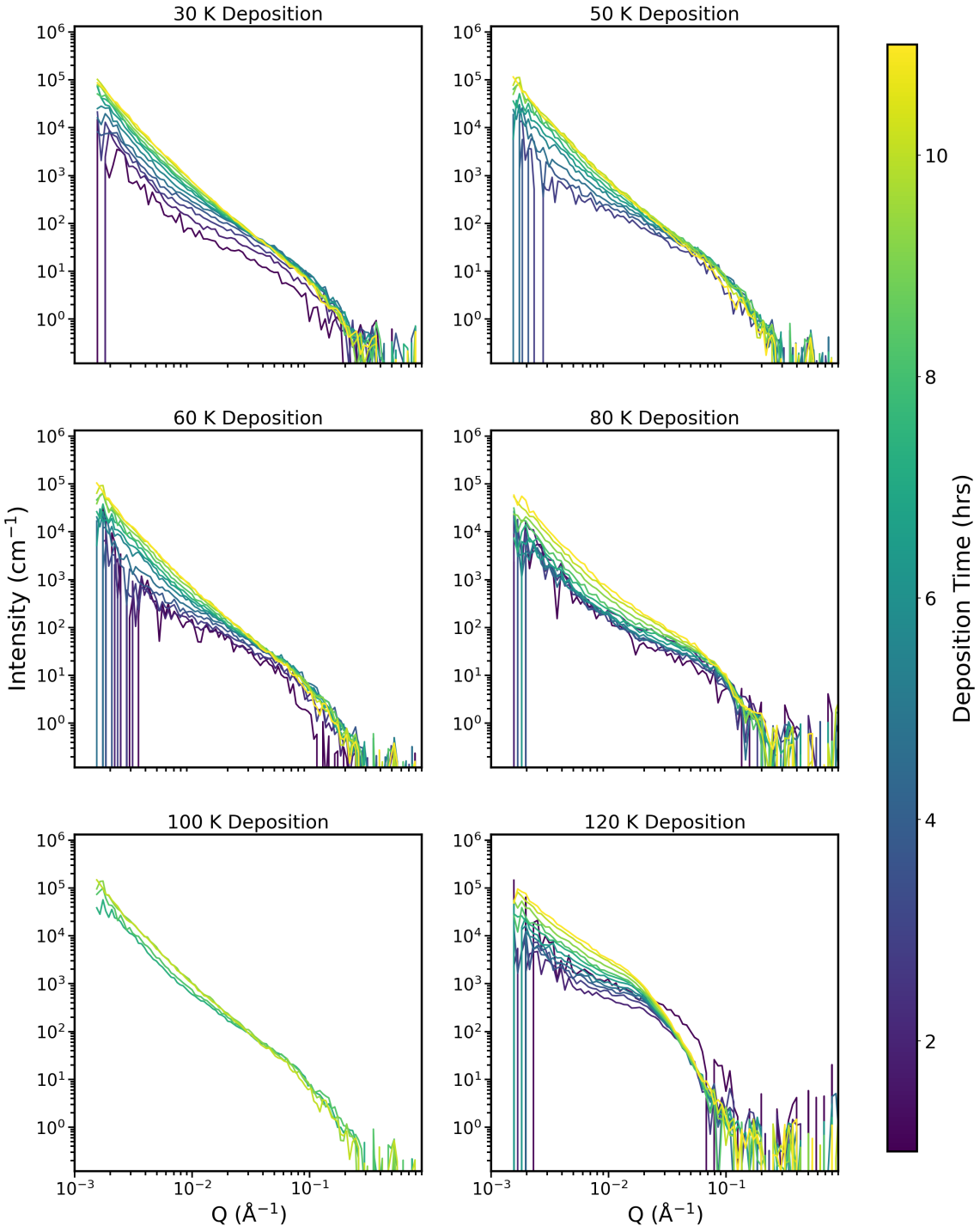

Figure S2: Intensity as a function of Q for the raw Sans2D data of every sample, with the respective deposition temperature written above the plots. Trace colours represent the deposition time shown by the colourbar on the right hand side.

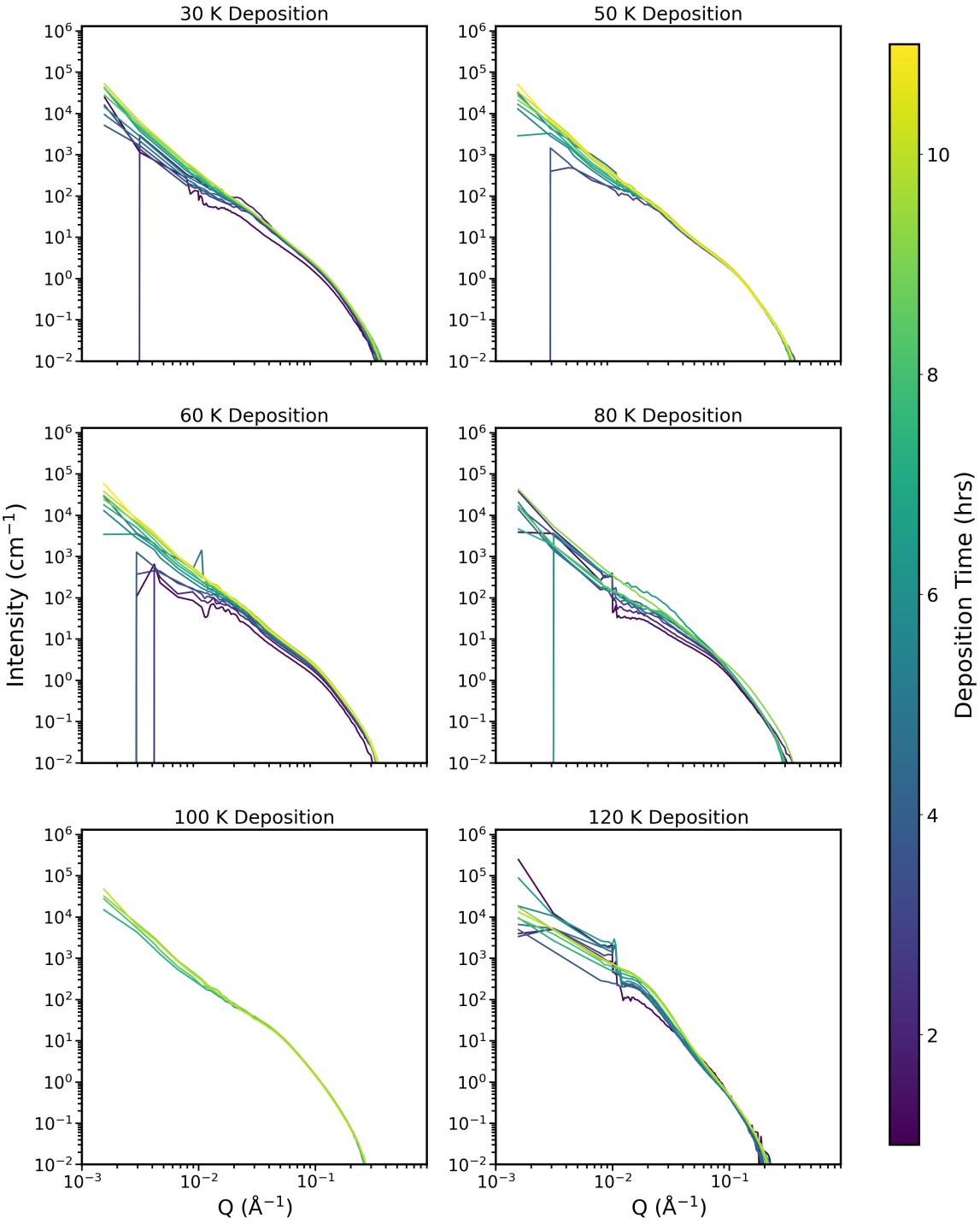

Figure S3: Intensity as a function of Q for the merged NIMROD and Sans2D data of every sample, with the respective deposition temperature written above the plots. Vertical lines at low Q in some curves is due to poor statistics in the raw Sans2D data that are not omitted through merging. Trace colours represent the deposition time shown by the colourbar on the right hand side.

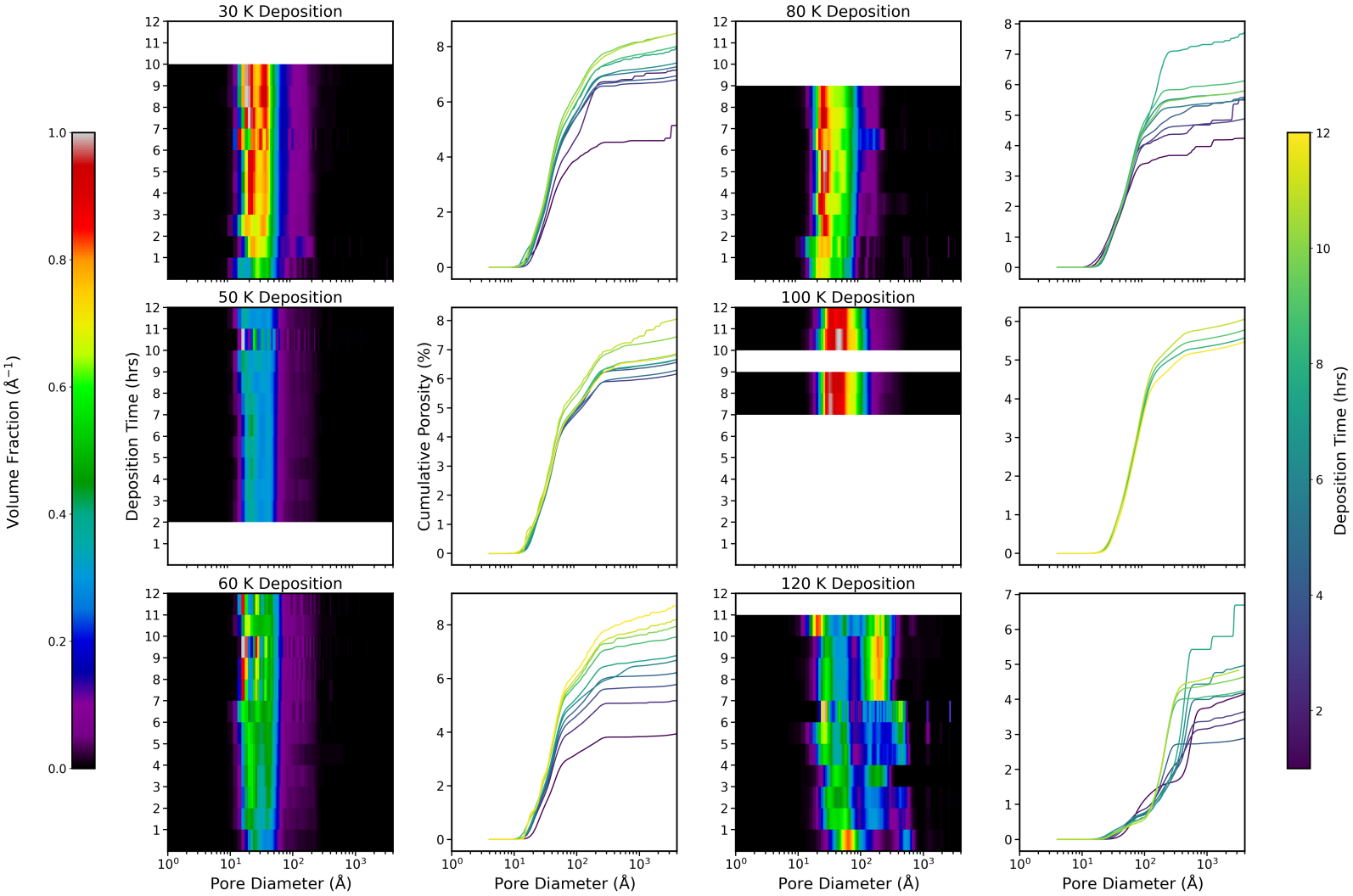

Figure S4: Pores sizes across deposition time, with the colors representing the volume fraction shown by the colourbar on the left hand side, for each sample. In between the volume fraction plots are the respective plots showing the cumulative porosity for each sample as a function pore diameter. Trace colours here represent the deposition time, shown by the colourbar on the right hand side.