# Electronic Supplementary Information

## From 3D channelled frameworks to 2D layered structures in molecular salts of L-serine and DL-serine with oxalic acid

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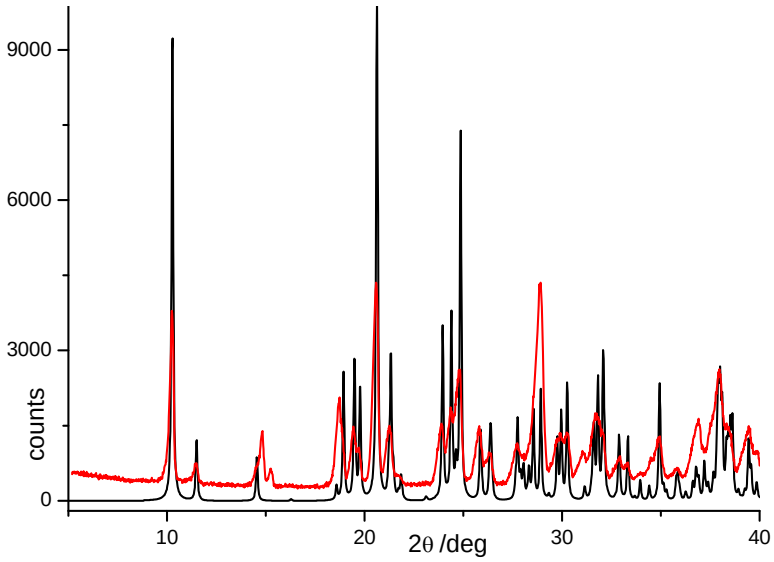


**Figure ESI-1.** Comparison of X-ray powder patterns for crystalline $[DL\text{-}serH]_2[ox]\cdot 2H_2O$, calculated on the basis of single crystal data (black line) and measured (red line) on the product of kneading of DL-serine and oxalic acid in 1:1 ratio. Residual peaks of oxalic acid are present in the experimental pattern.

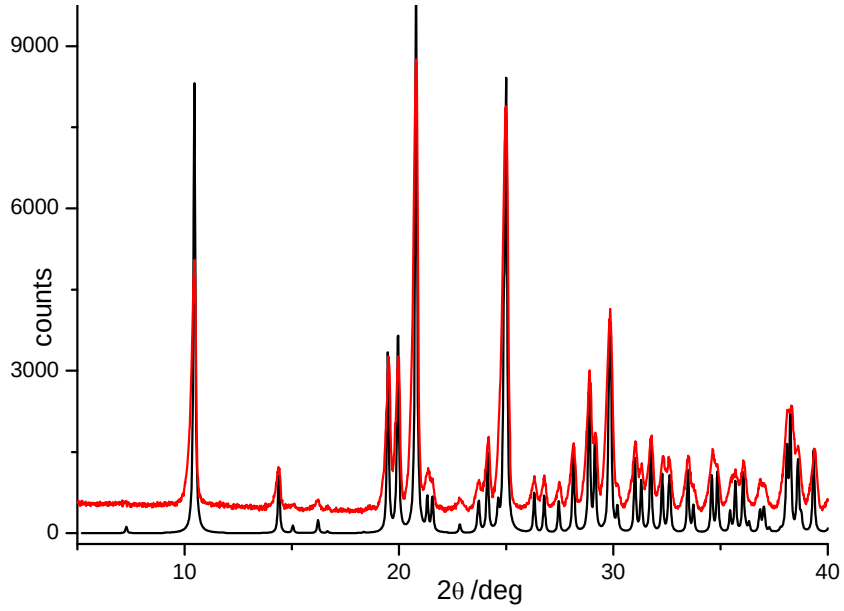


**Figure ESI-2.** Comparison of X-ray powder patterns for crystalline $[L\text{-}serH]_2[ox]\cdot 2H_2O$ form I, calculated on the basis of single crystal data (black line) and measured (red line) on the product of kneading of L-serine and oxalic acid in 2:1 ratio.

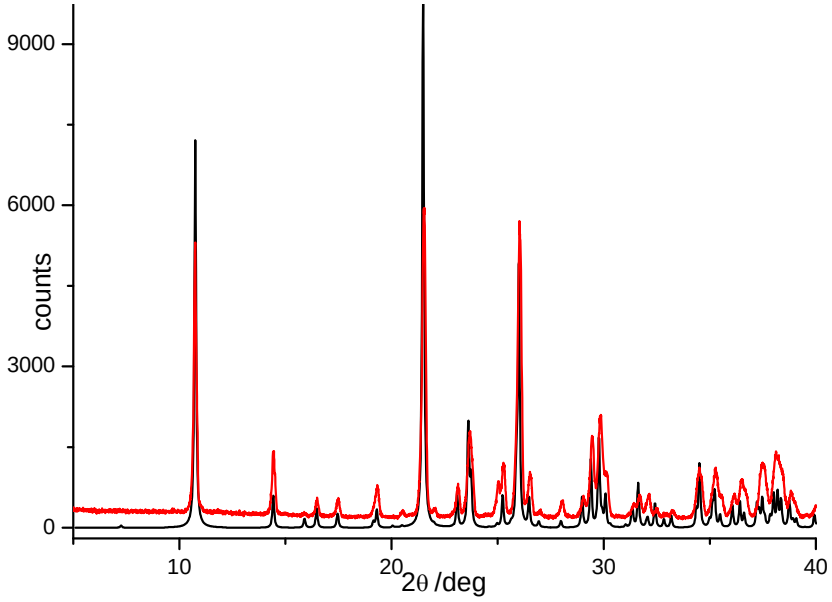


**Figure ESI-3.** Comparison of X-ray powder patterns for crystalline $[L\text{-}serH]_2[ox]\cdot 2H_2O$ form II, calculated on the basis of single crystal data (black line) and measured (red line) on the product of grinding of L-serine and oxalic acid in 2:1 ratio.

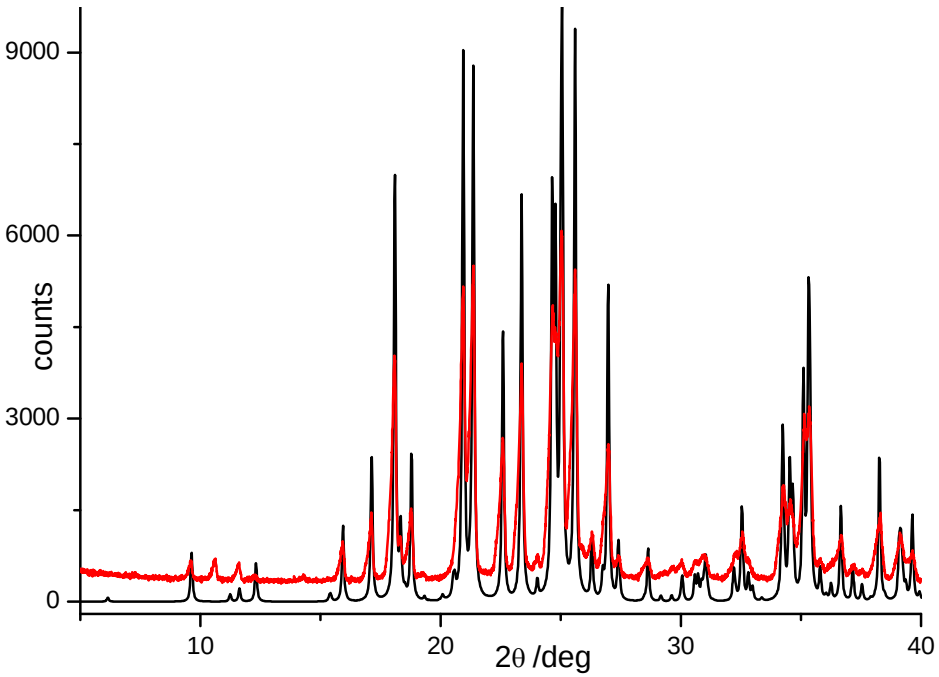


**Figure ESI-4.** Comparison of X-ray powder patterns for crystalline [L-serH][Hox], calculated on the basis of single crystal data (black line) and measured (red line) on the product of grinding of L-serine and oxalic acid in 1:1 ratio.

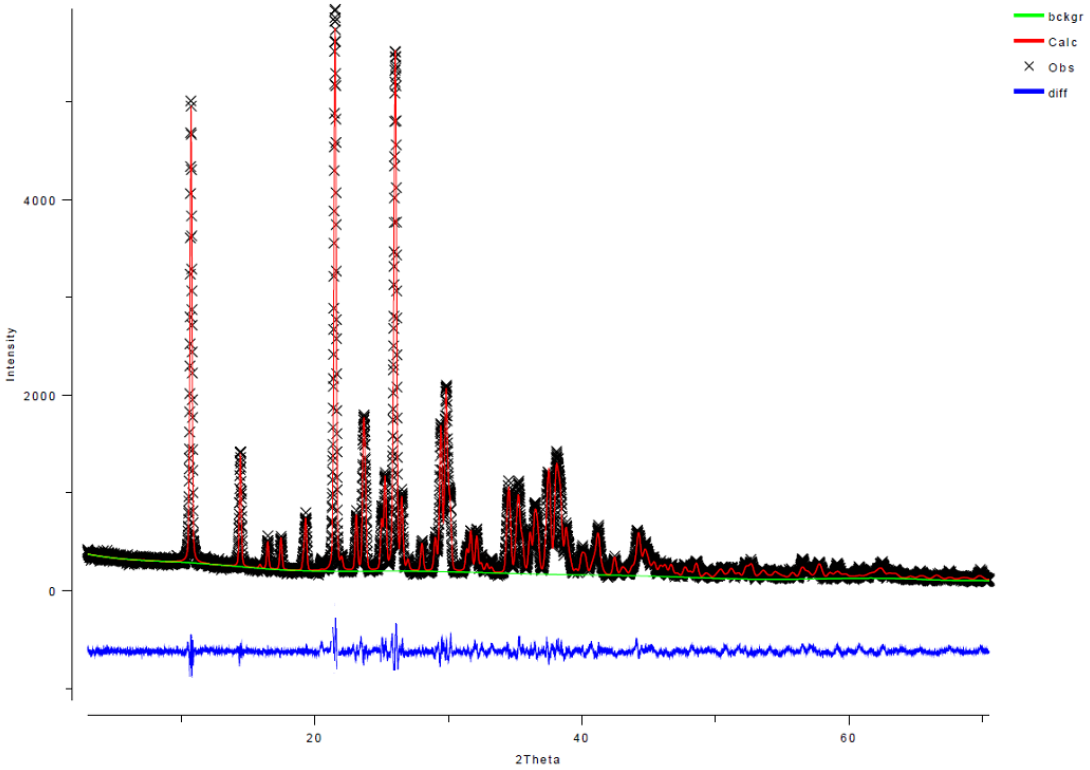


**Figure ESI-5.** Final Rietveld refinement plot for $[L\text{-serH}]_2[ox]\cdot 2H_2O$ Form II

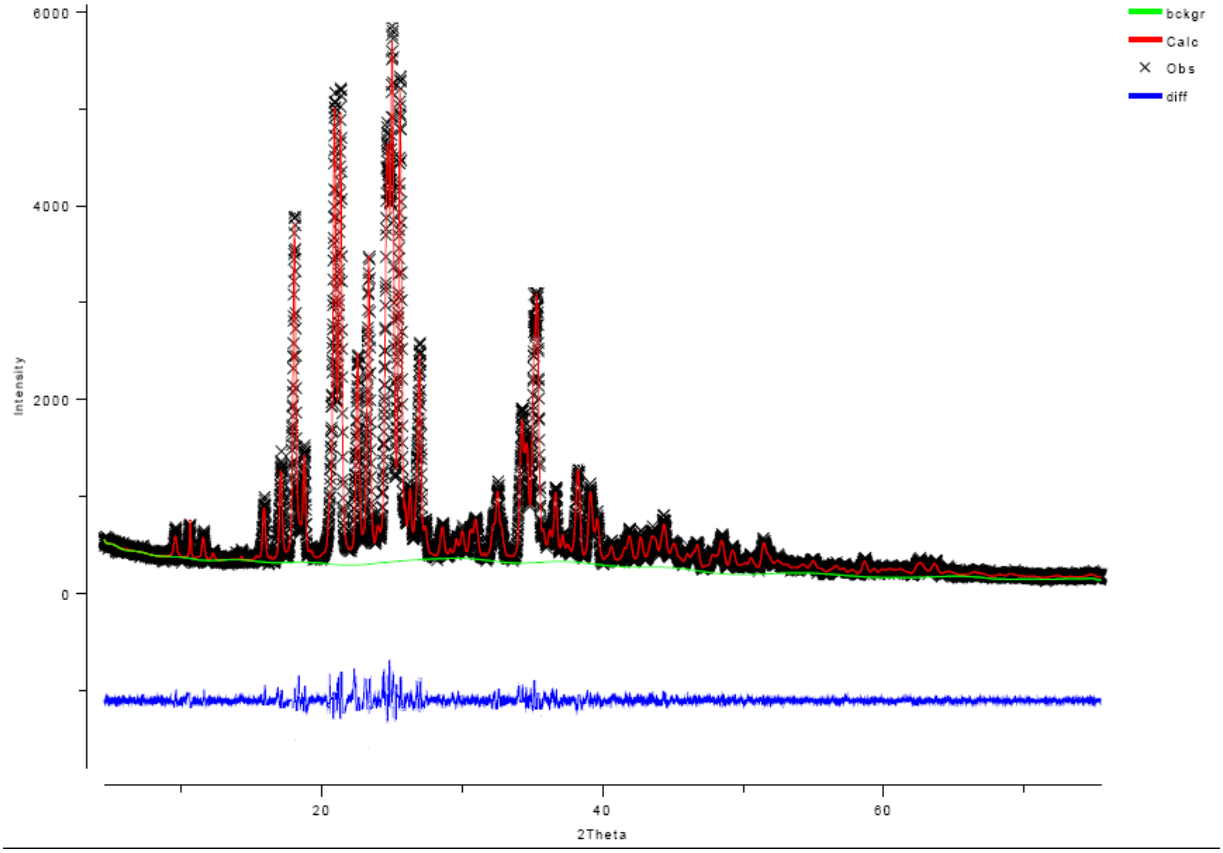


**Figure ESI-6.** Final Rietveld refinement plot for anhydrous [L-serH][Hox]

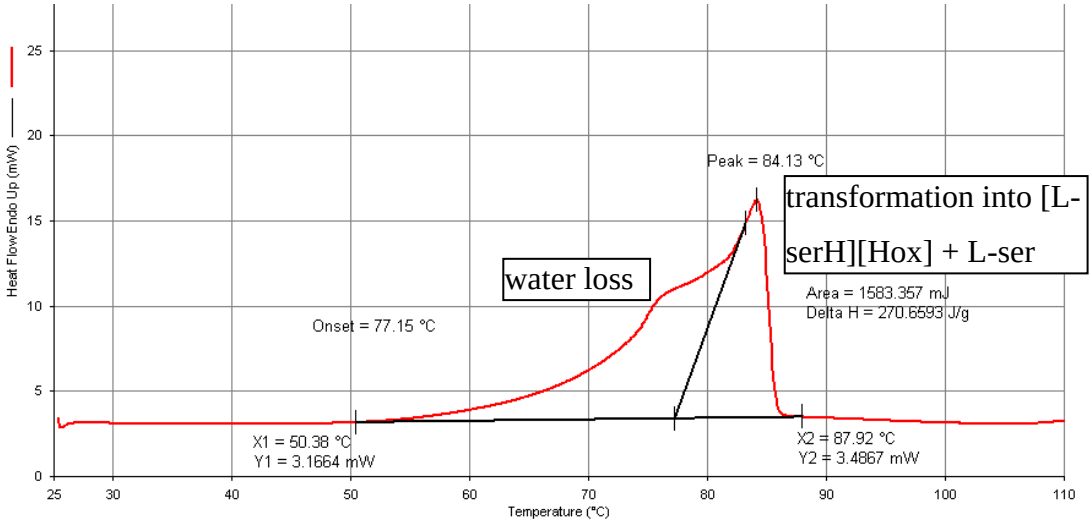


**Figure ESI-7.** DSC in open pan of $[L\text{-serH}]_2[ox]\cdot 2H_2O$ form I : loss of water followed by transformation into [L-ser][Hox] + L-ser.

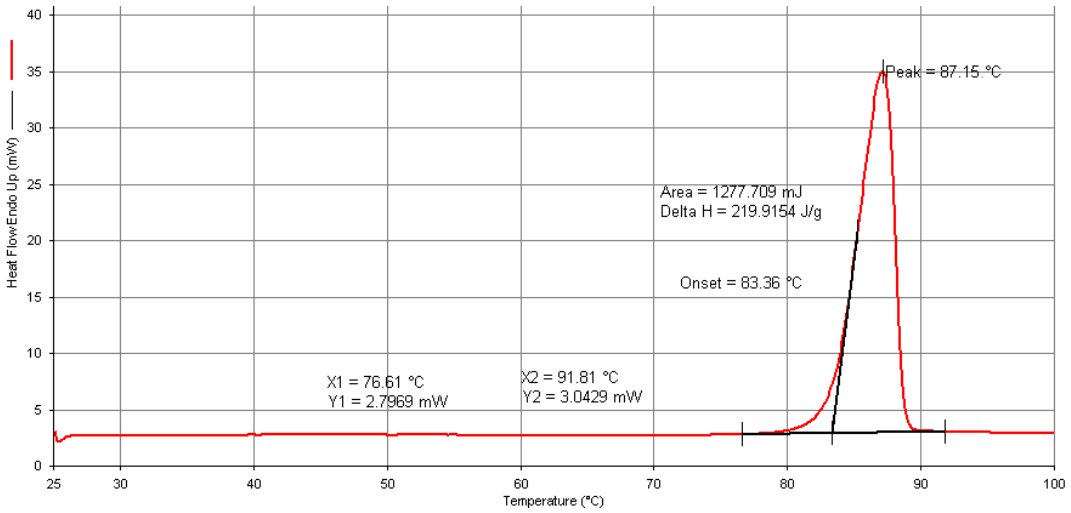


**Figure ESI-8.** DSC in sealed pan of $[L\text{-serH}]_2[ox]\cdot 2H_2O$ form I (congruent melting).

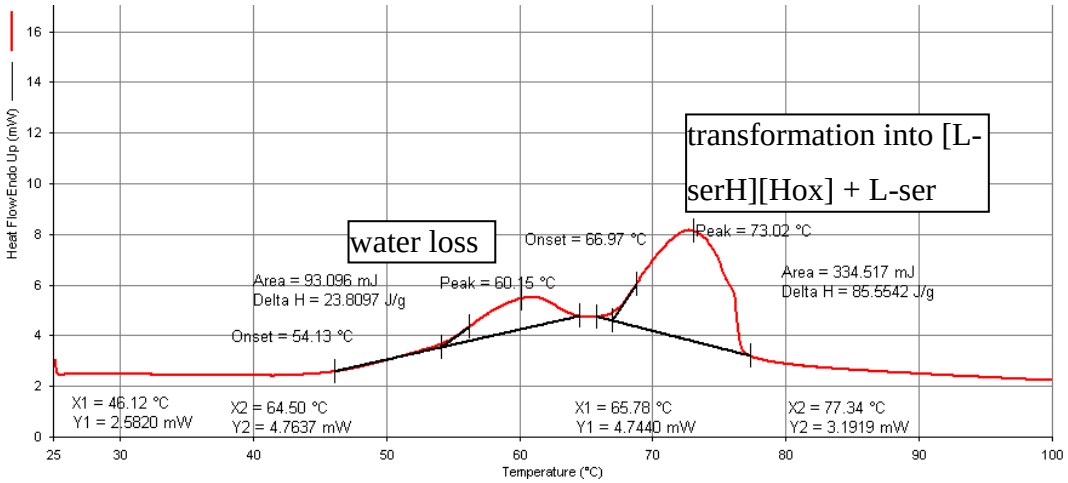


**Figure ESI-9.** DSC in open pan of $[L\text{-serH}]_2[ox]\cdot 2H_2O$ form II: loss of water followed by transformation into [L-ser][Hox] + L-ser.

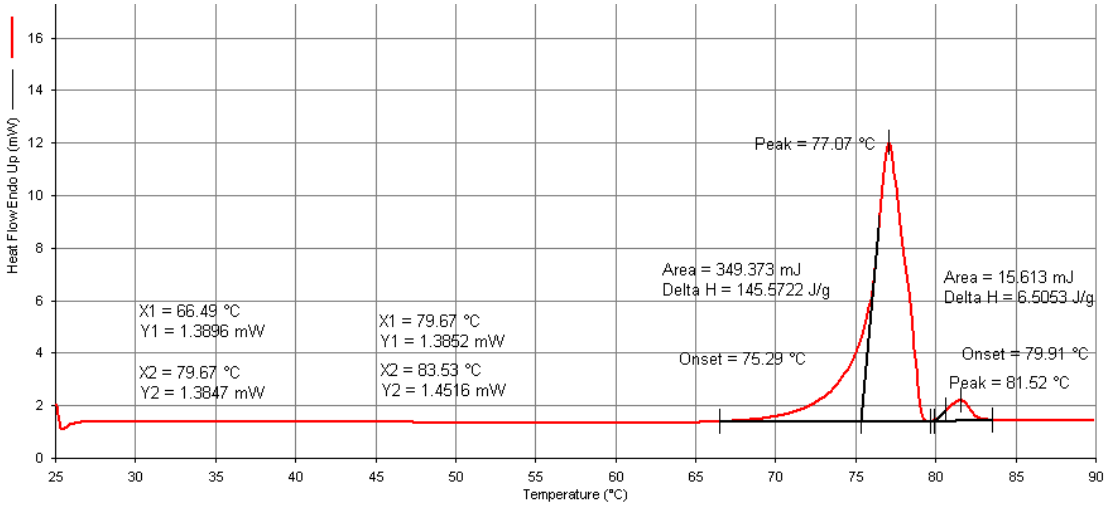


**Figure ESI-10.** DSC in sealed pan of $[L\text{-serH}]_2[ox]\cdot 2H_2O$ form II.

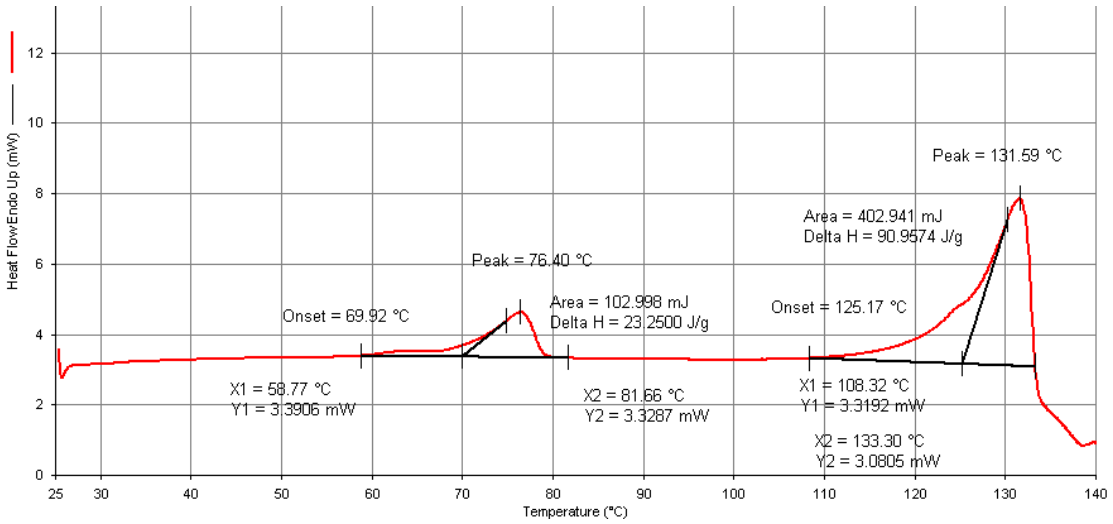


**Figure ESI-11.** DSC in open pan of [L-serH][Hox]: the first peak is due to an impurity of Form II.

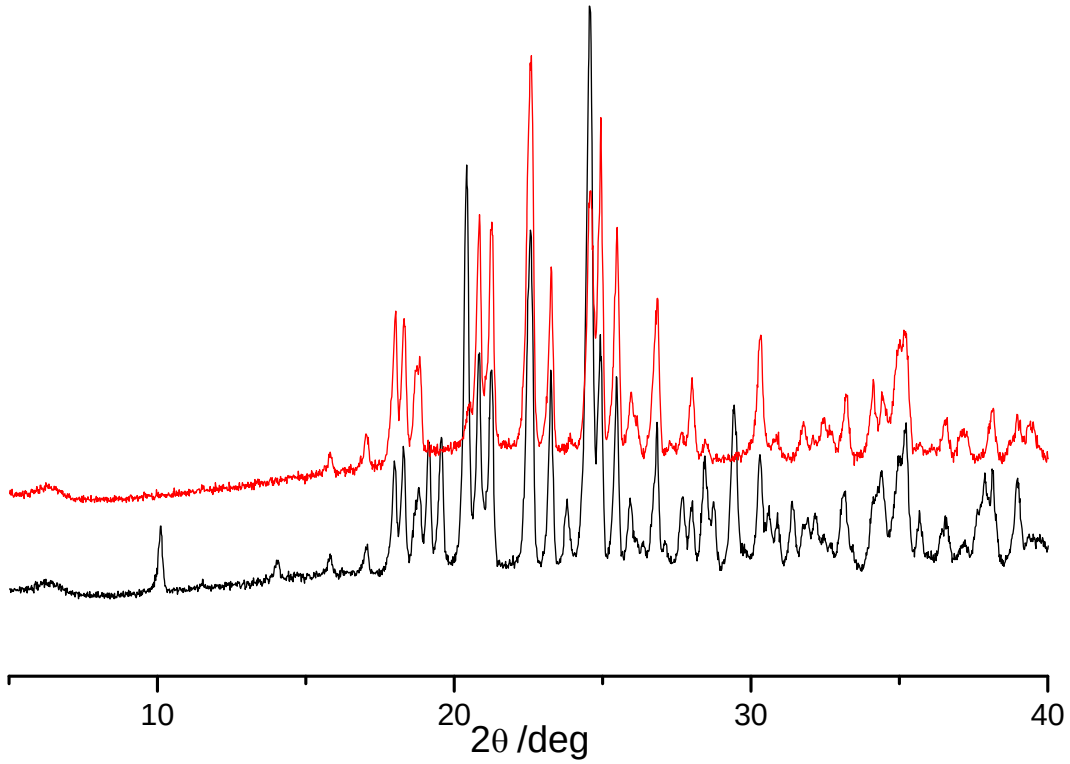


**Figure ESI-12.** Variable temperature X-ray powder diffraction measurements for $[L\text{-serH}]_2[ox]\cdot 2H_2O$ form I: at 80°C (black line) partial transformation into [L-serH][Hox] plus L-ser is observed, which is complete at 85°C (red line).

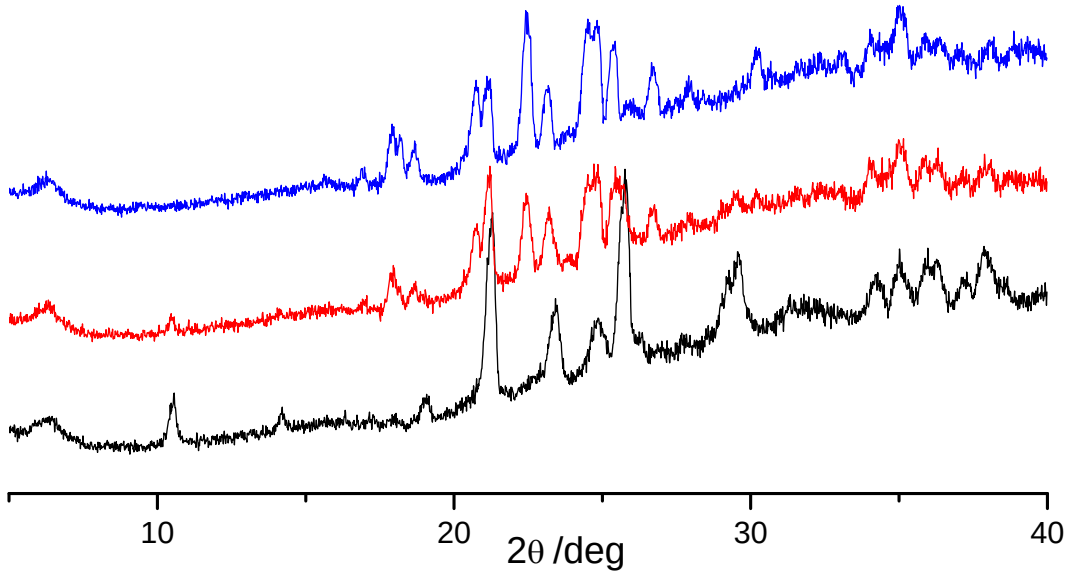


**Figure ESI-13.** Variable temperature X-ray powder diffraction measurements for $[L\text{-serH}]_2[ox]\cdot 2H_2O$ form II (black line at RT): at 70°C (red line) partial transformation into [L-serH][Hox] plus L-ser is observed, which is complete at 75°C (blue line).