

Electronic supplementary information

Continuous Flow Hydrothermal Synthesis of Phase Pure Rutile TiO₂ Nanoparticles with a Rod-Like Morphology

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Fig. S1. STEM/EDS Results

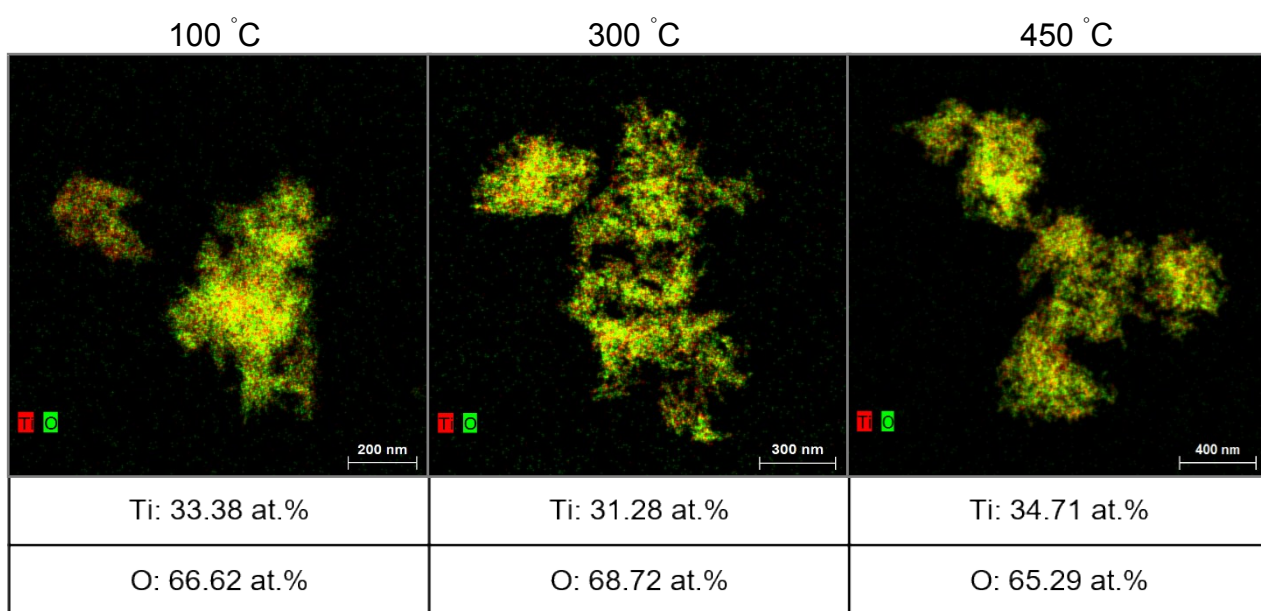
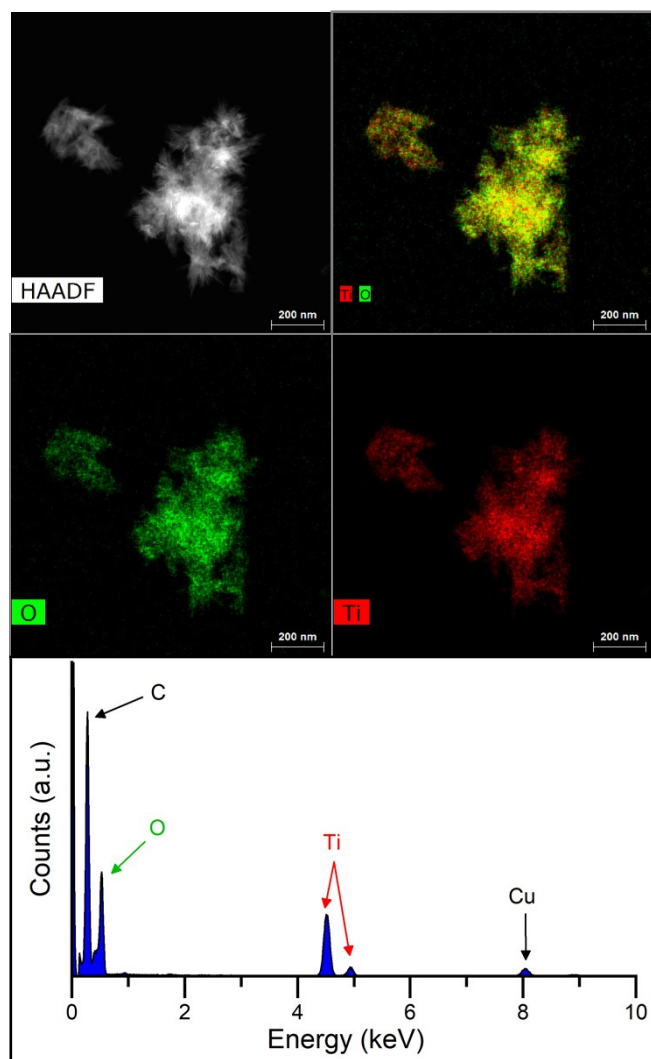


Fig. S2

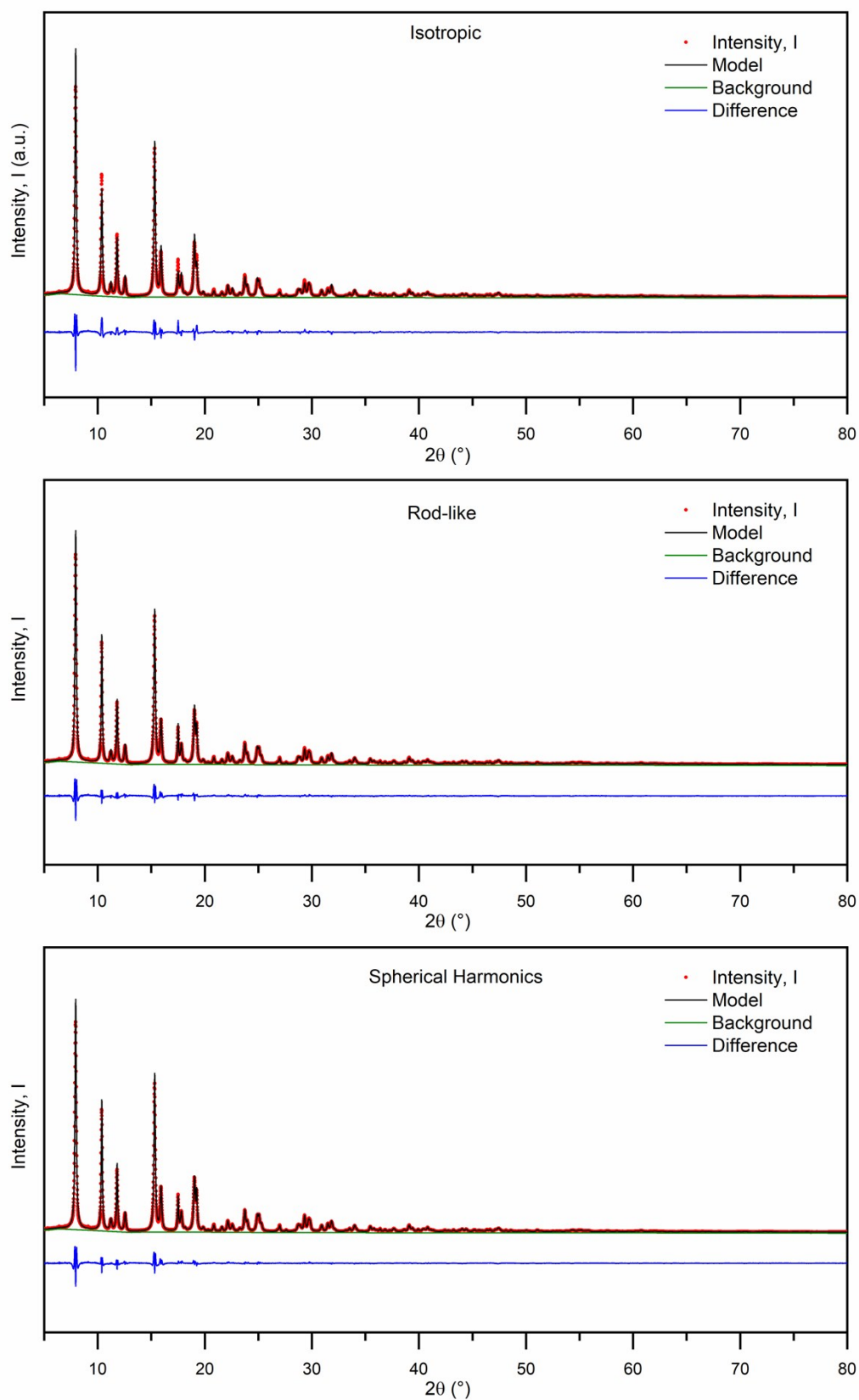


Figure S2. Full angular range for the Rietveld Refinements of the 300 °C sample using the (top) isotropic model, (middle) rod-like model, and (bottom) spherical harmonics model.

Fig. S3

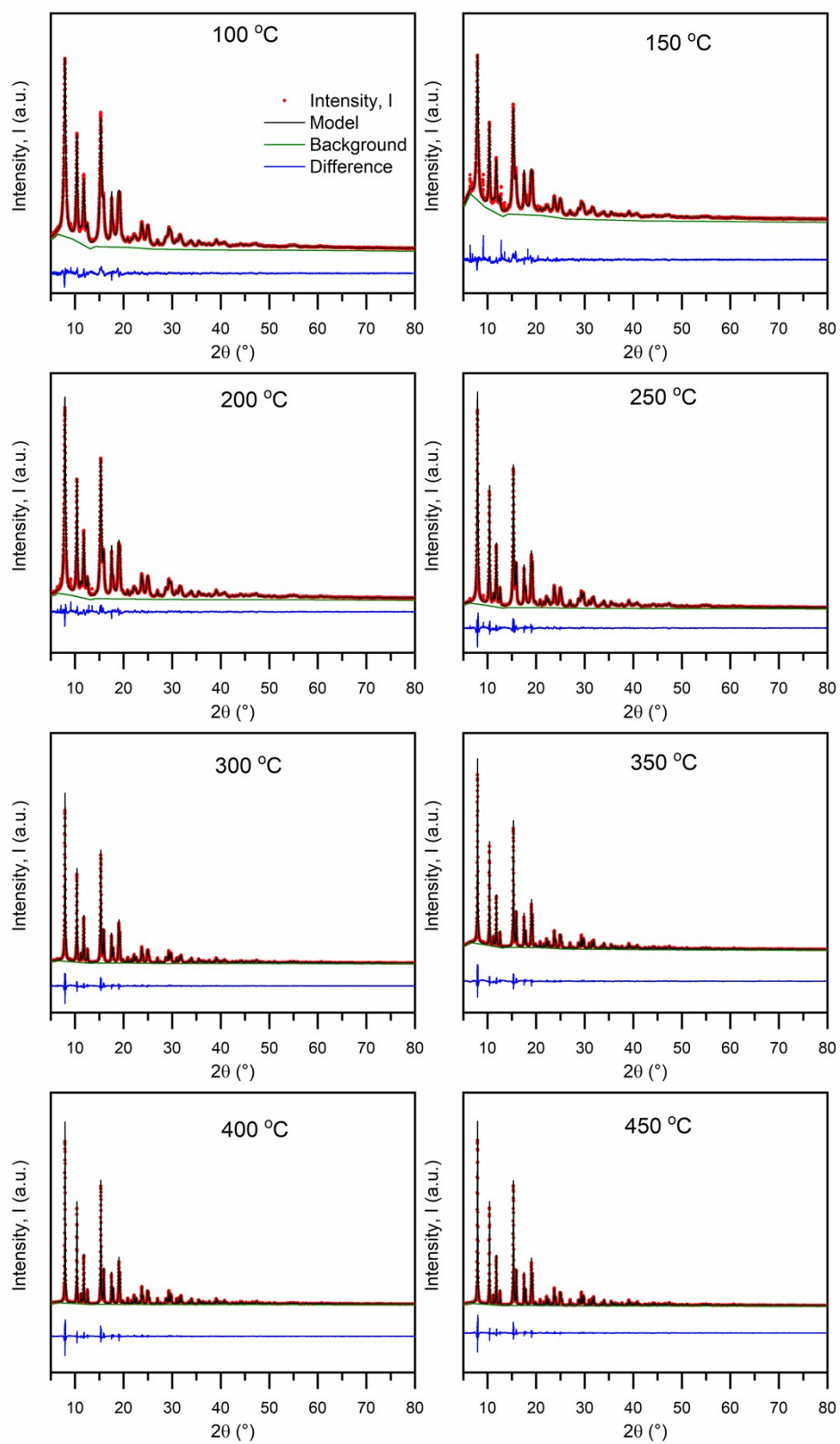


Figure S3. Full angular range for the Rietveld Refinements of all 8 samples using the rod-like model, i.e. model (ii).

Fig. S4

Sample	R_{Bragg}	R_{wp}	χ^2
100 °C	1.7	7.06	5.95
150 °C	2.69	11.4	10.2
200 °C	1.71	7.05	10.2
250 °C	1.73	8.27	12.8
300 °C	2.01	9.21	15.7
350 °C	3.74	10.7	19.7
400 °C	2.28	9.78	20.7
450 °C	2.54	10.2	16.6

Figure S4 – Agreement factors R_{wp} , R_{Bragg} and χ^2 for the Rietveld Refinements of all 8 samples using the rod-like model, i.e. model (ii).

Fig. S5

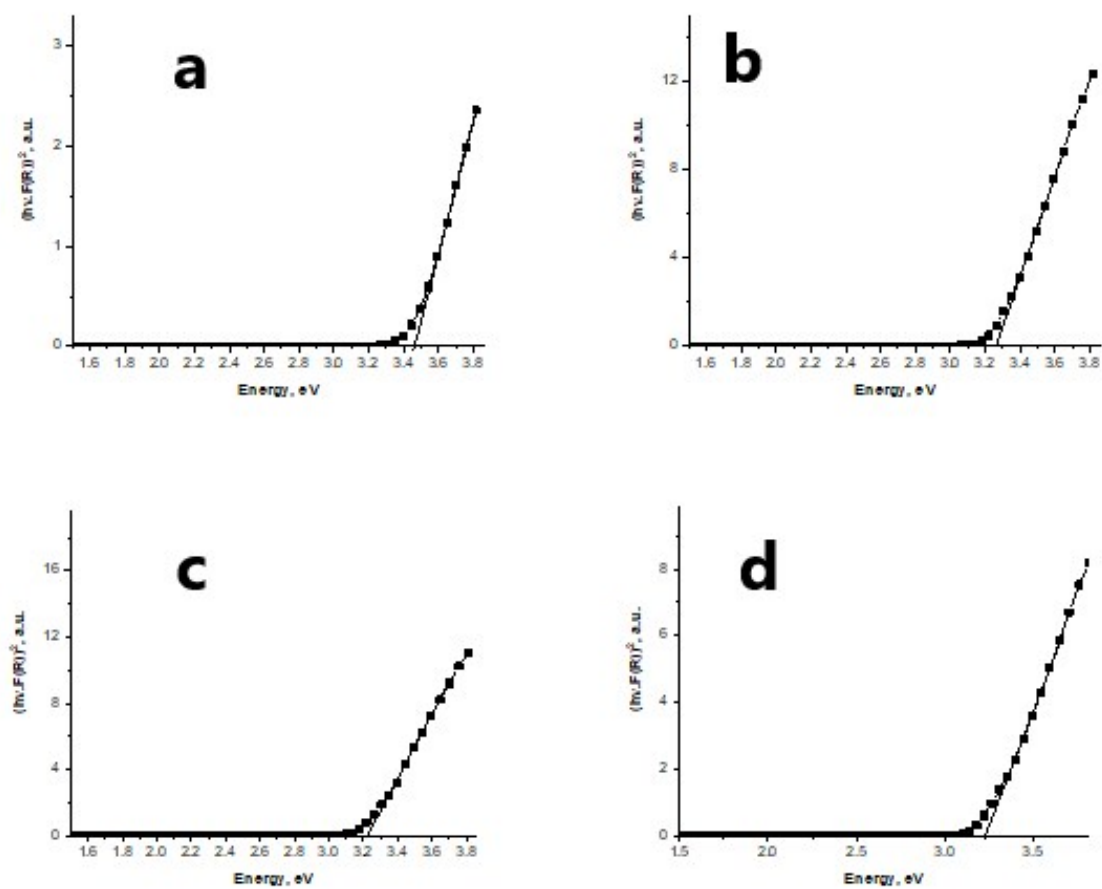


Figure S5 I. Tauc plots for the (a) 100 °C, (b) 150 °C, (c) 200 °C, and (d) 250 °C samples. Extracted band gap energies are reported in Table 1.

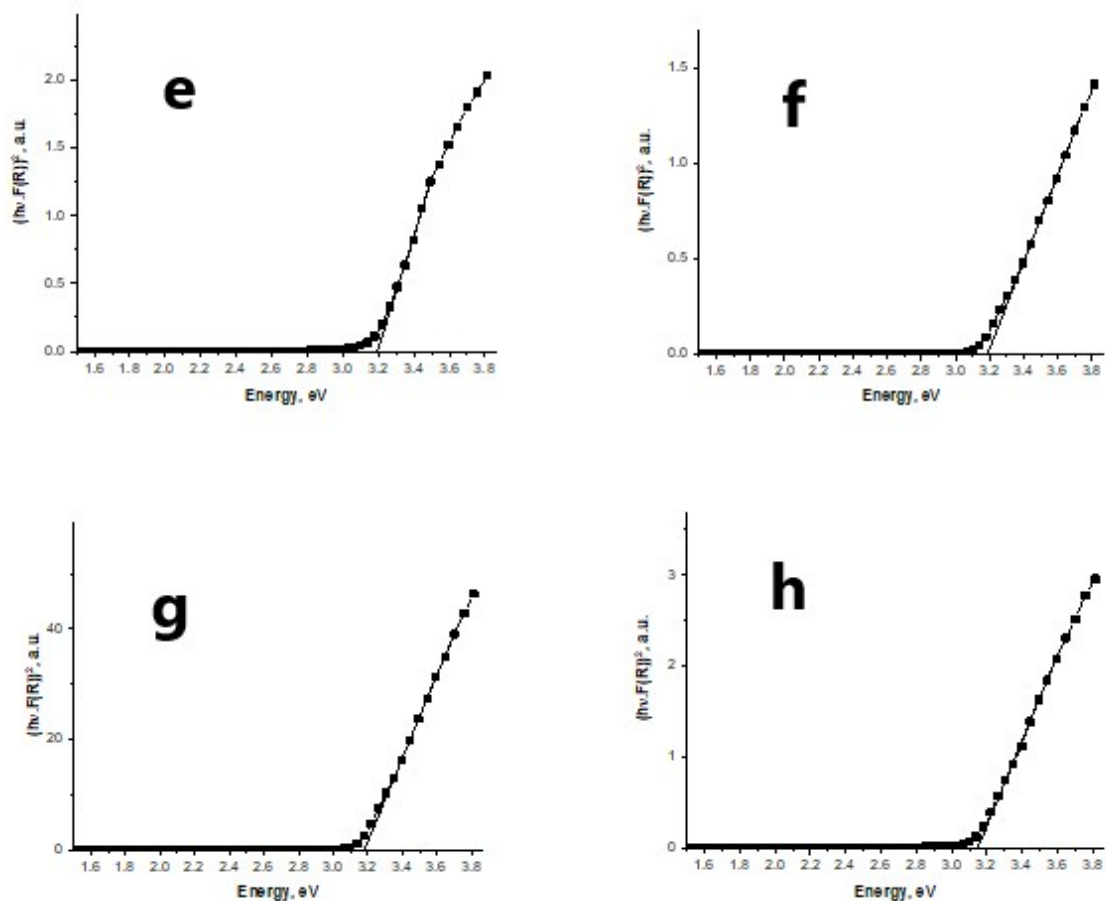


Figure S5 II. Tauc plots for the (e) 300 °C, (f) 350 °C, (g) 400 °C, and (h) 450 °C samples. Extracted band gap energies are reported in Table 1.

Fig. S6

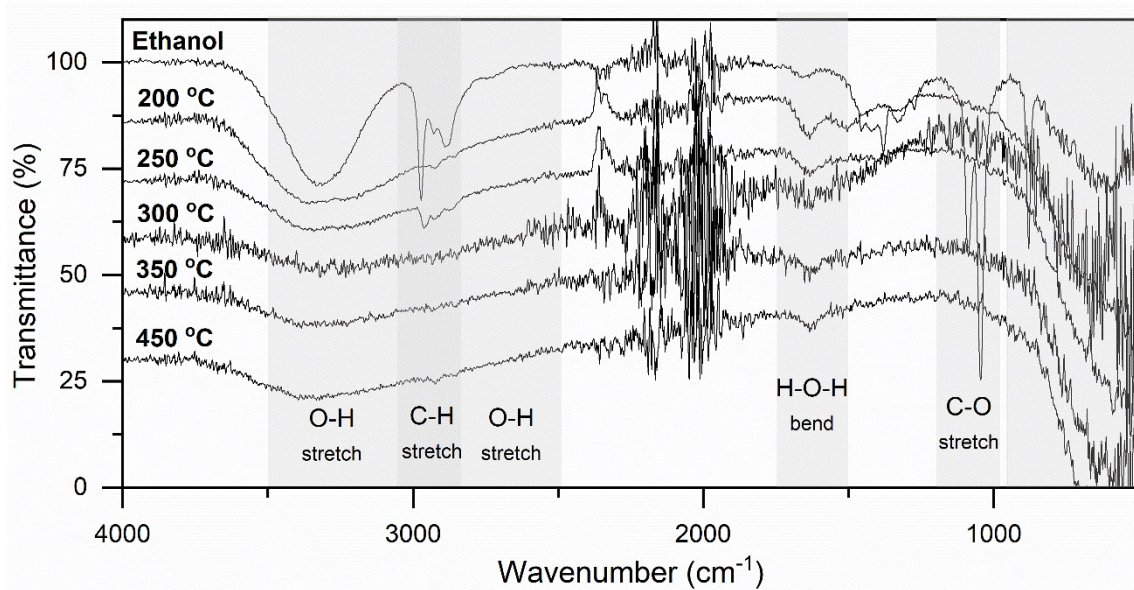


Figure S6. FTIR spectra of the 200 – 450 °C samples. Some weak C-H signals just below 3000 cm^{-1} are seen for the 250 °C sample indicating the presence of ethanol.

Fig. S7

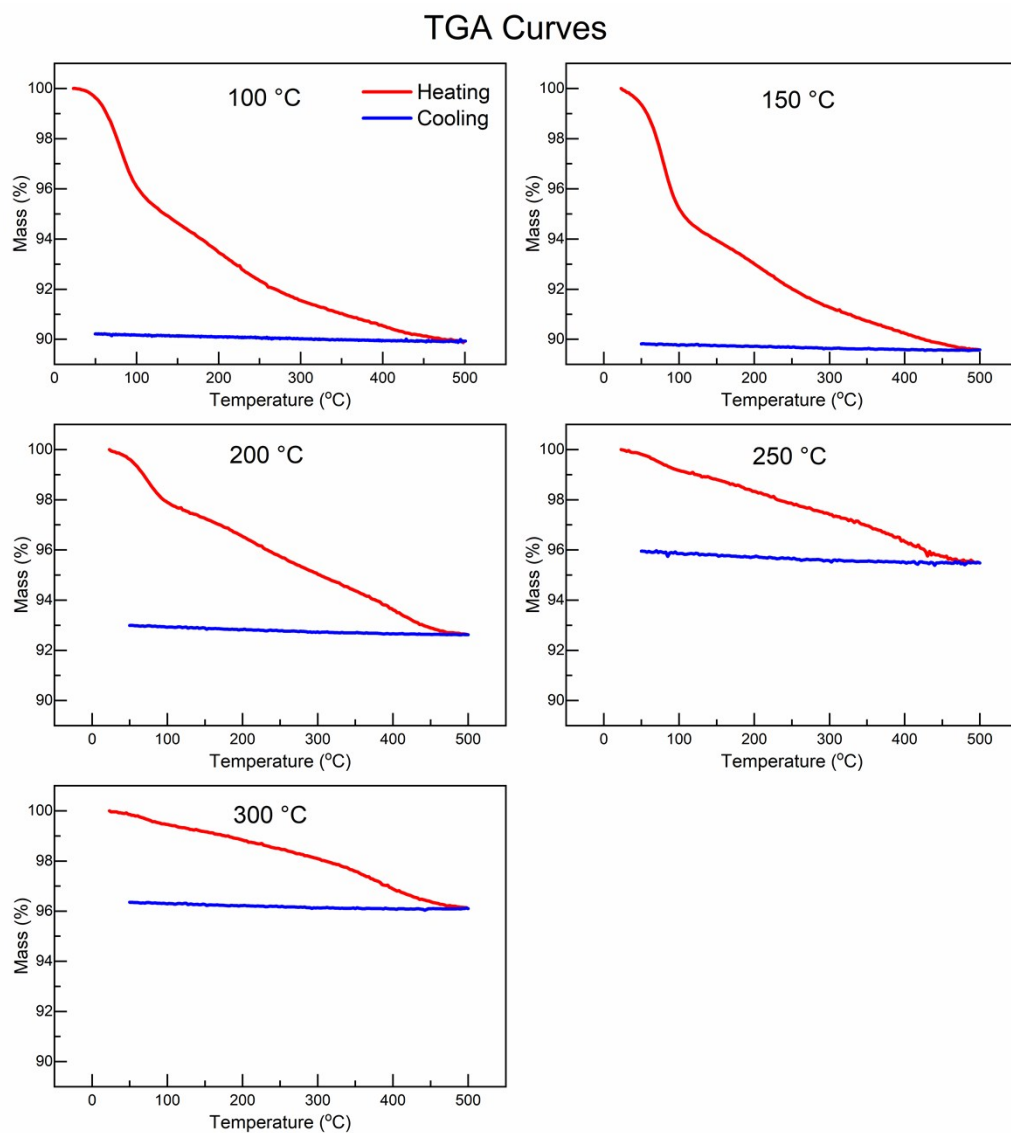


Figure S7. TGA curves for the 100 °C to 300 °C samples. The weight percent of lost water during heating is decreasing as a function of particle size and/or specific surface area.