Electronic supporting information

Tailorable cellulose II nanocrystals (CNC II) prepared in mildly acidic lithium bromide trihydrate (MALBTH)

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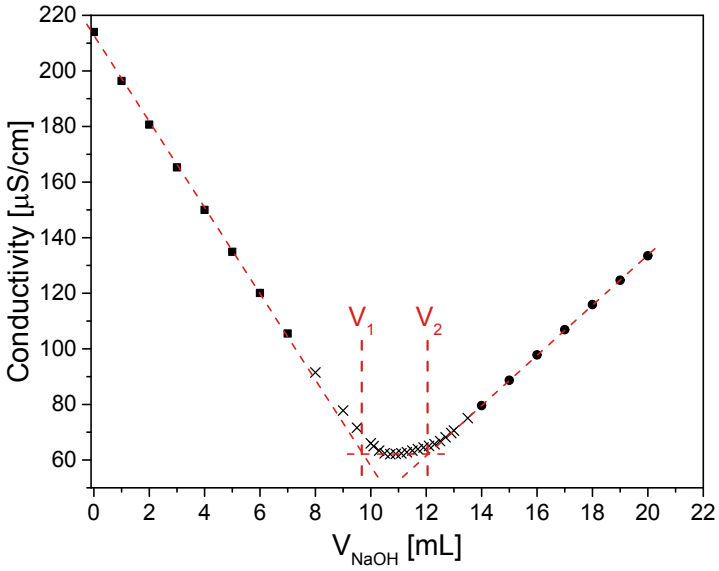

Figure S1. An electric conductivity titration curve for determining the carboxyl content in ox-CNC II.

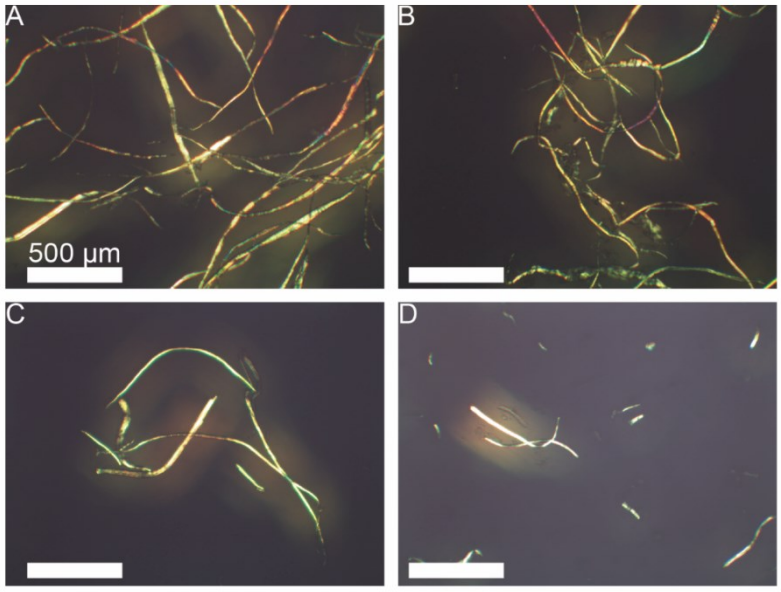

Figure S2. POM images of the original BKP (A), swollen BKP in LBTH (B), CHR from the MALBTH treatment of BKP (C, 10 min and D, 20 min). Scale bar: 500 µm

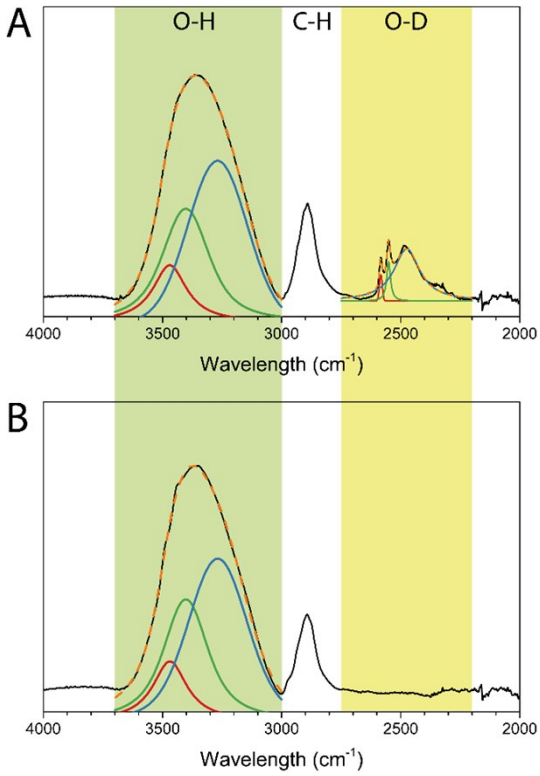

Figure S3. FTIR spectra of the CHR prepared in mildly acidic lithium bromide trideuterate (A) and mildly acidic lithium bromide trihydrate (B). Note: The FTIR spectra were baseline-corrected and deconvoluted based on the Voigt peak function using Origin 2016 software.

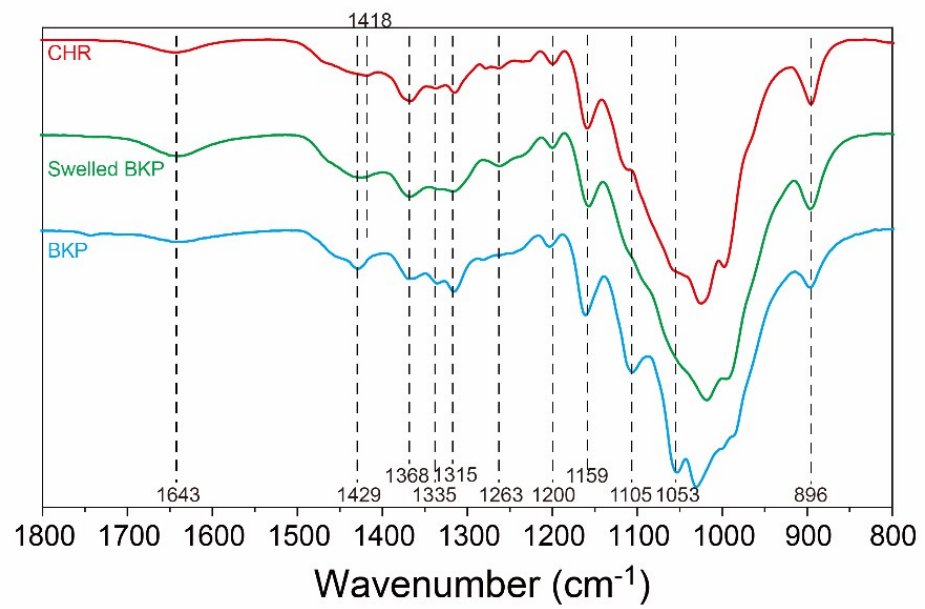

Figure S4. The FTIR spectra of BKP, BKP swelled in LBTH, and CHR prepared from BKP in the MALBTH.

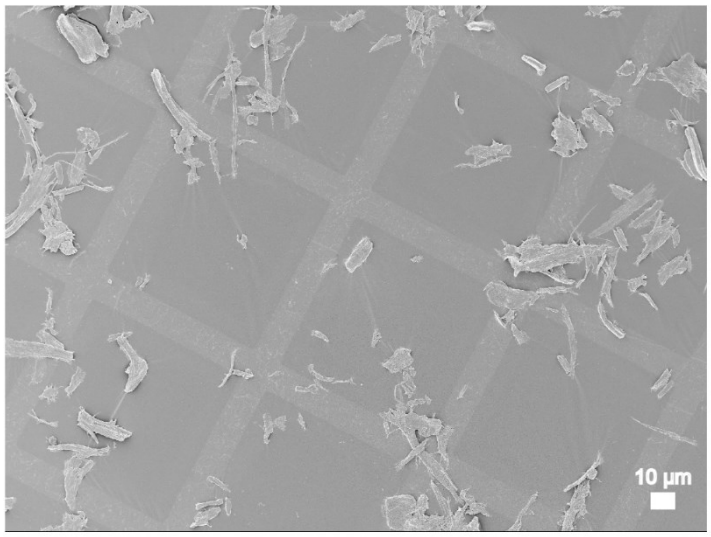

Figure S5. The SEM image of precipitated residues collected from the ox-CNC II suspension by centrifugation at 4000 rpm for 20 min.

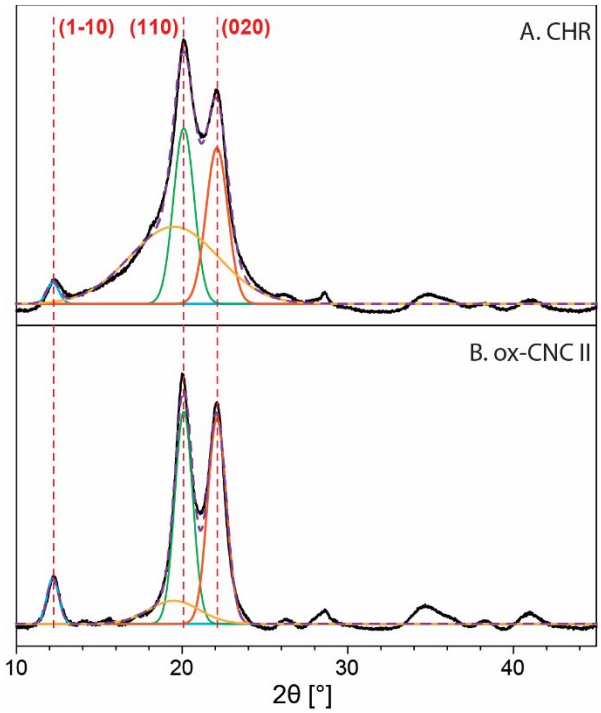

Figure S6. No polymorph transformation was detected during the APS oxidation verified by XRD analysis.

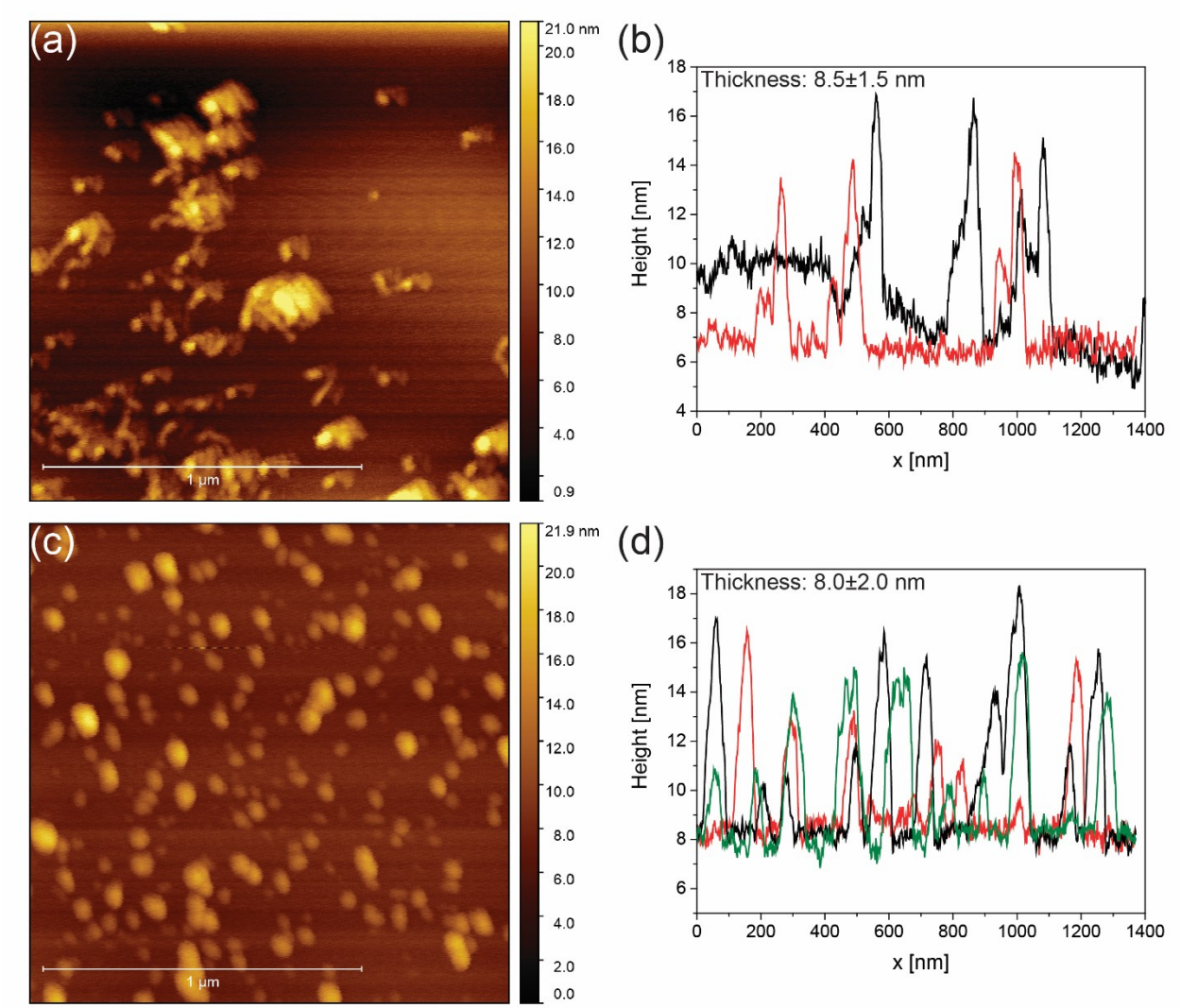

Figure S7. AFM height images of ox-CNC II from CHR (15 min MALBTH treatment) and thickness distribution at 0.1 M APS (a and b) and 0.6 M APS (c and d).

Figure S8. Pictures of ox-CNC II suspensions showing the Tyndall effect with laser light passing through (A) and the colloidal stability after 6 months (B).