Electronic Supplementary Information

For

Synthesis of Carbon Dioxide Responsive Cellulose Nanocrystals by Surface-Initiated Cu(0)-Mediated Polymerisation

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S1. Degree of transesterification MMA vs. time of DMAEMA and DEAEMA [aminoethyl methacrylate]:[MeOH] = 1:1 v/v at 60 C.
S2. $^1$H NMR spectra of DEAEMA (a) and DMAEMA (b) after 250 min of transesterification in methanol.
S3. $^1$H NMR spectra of DEAEMA (a) and DMAEMA (b) polymerisation after 60 min via Cu(0)-ATRP at 60°C.
S4. Solid-state CP-MAS $^{13}$C NMR spectra of native CNC and surface-modified CNC with BIBA, PDMAEMA and PDEAEMA.
S5. XPS C1s high resolution spectrum of CNC-Br.

S6. XPS Br3d high resolution spectrum of CNC-Br.
S7. SI-Cu(0)-ATRP of DEAEMA from CNC-Br.