

Supplementary Materials

Suppl. 1. Yield, crystallinity and crystallite size obtained through hydrolysis using HCl.

Sample name	Process	Reaction time (hour)	Yield	X-RD	
				CrI (%)	D_{hkl} (nm)
Cellulose	extraction	-	-	61.37	29.35
CNCs-C0	hydrolysis using 3 mol/L HCl	0	0	0	0
CNCs-C1		1	74.82	78.59	7.83
CNCs-C2		2	66.00	77.07	1.81
CNCs-C3		3	46.62	76.85	3.91
CNCs-C4		4	36.41	76.62	1.81
CNCs-C5		5	28.33	73.27	4.70

Suppl. 2. Values C_S , C_R and C_A obtained from the calculation.

Time (h)	C_{A0}	C_S	C_R	C_R+C_S	$C_{A0}X = (C_R+C_S)'$	$C_A = C_{A0} - C_{A0}X$	$-\ln C_A/C_{A0}$
0	0.0000247	0.0000000	0.0000000	0.0000000	0.0000000	0.0000247	0.0000000
1	0.0000247	0.0000012	0.0000049	0.0000061	0.0000017	0.0000230	0.0724715
2	0.0000247	0.0000024	0.0000040	0.0000064	0.0000018	0.0000229	0.0770538
3	0.0000247	0.0000044	0.0000028	0.0000072	0.0000021	0.0000226	0.0870748
4	0.0000247	0.0000073	0.0000022	0.0000095	0.0000027	0.0000220	0.1159935
5	0.0000247	0.0000105	0.0000015	0.0000119	0.0000034	0.0000213	0.1480321