Supplementary Information (SI)

High throughput tailoring of nanocellulose films: from complex bio-based materials to defined multifunctional architectures

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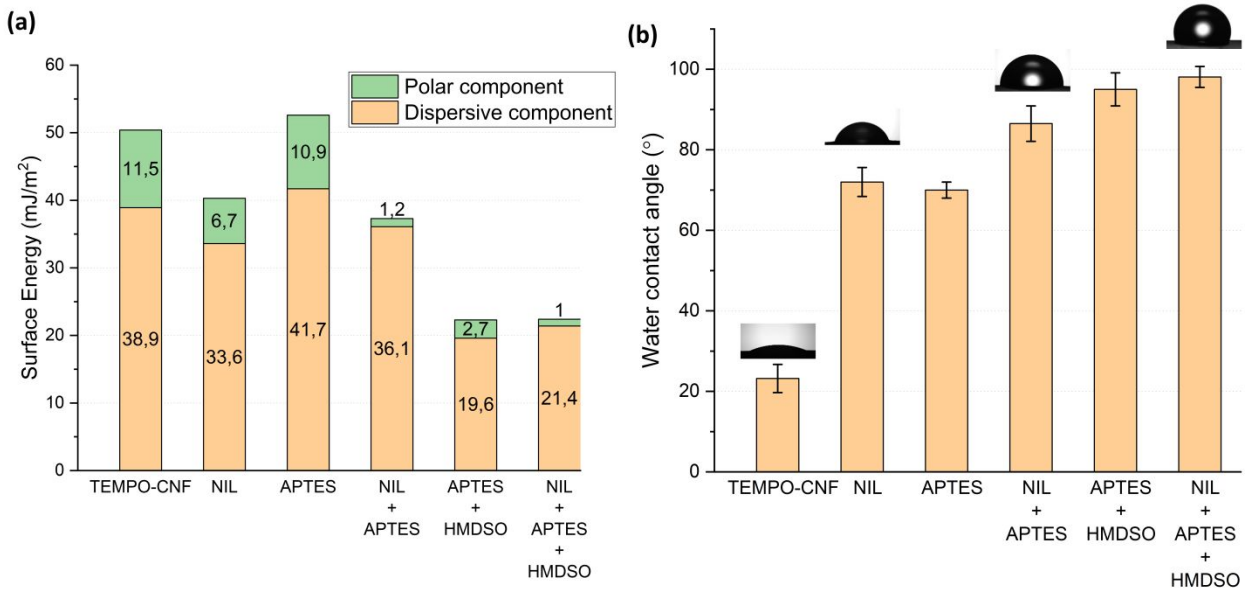

Figure S1. Surface energies (a) and water contact angles (b) of NIL surface patterned and APTES and hybrid APTES+HMDSO plasma deposited TEMPO-CNF films.

Table S1. Surface free energy parameters for the liquid probes and calculated surface energy components and affinity to water ΔG_{sws}^{IFE} for plasma deposited TEMPO-CNF films with and without NIL surface patterning.

	γ^+	γ^-	γ^p	γ^d	γ_S	γ^-/γ^+	ΔG_{sws}^{IFE}
Liquid probes							
Water	25.5	25.5	51	21.8	72.8	-	-
Formamide	2.28	39.6	19	39	58	-	-
Diiodomethane	0	0	0	50.8	50.8	-	-
Ethylene glycol	1.92	47	18.99	29	47.99	-	-
Plasma-deposited TEMPO-CNF film							
Reference	0.6	53.3	11.5	38.9	50.4	85.9	33.4
HMDSO	1.0	0.3	1.0	27.7	28.7	0.3	-74.6
APTES	1.7	17.5	10.9	41.8	52.7	10.3	-19.4
APTES+HMDSO	2.2	0.8	2.7	19.6	22.3	0.4	-59.5
NIL patterned TEMPO-CNF films after plasma deposition							
Reference	1.3	8.5	6.7	33.6	40.3	6.5	-35.9
HMDSO	0.0	0.4	0.2	21.4	21.6	-	-86.6
APTES	0.0	18.1	1.2	36.1	37.3	-	-19.2
APTES+HMDSO	0.1	2.5	1.0	21.5	22.4	27.3	-66.1

ΔG_{sws}^{IFE} is given in mJ/m^2. The standard deviation in the data is less than 5%.