

# Supporting Information

## All-Cellulose Paper with High Optical Transmittance and Haze Fabricated via Electrophoretic Deposition

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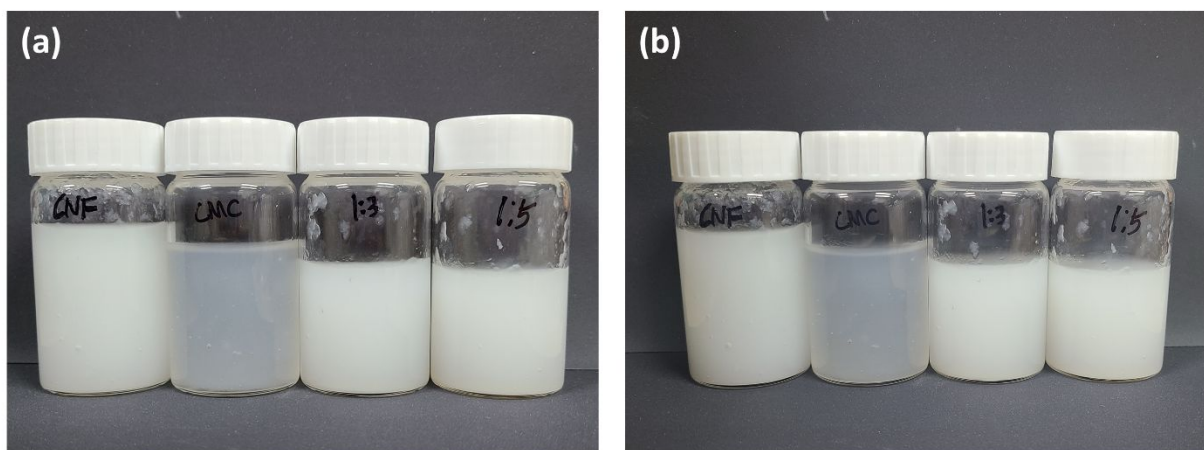
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Number of pages: 5

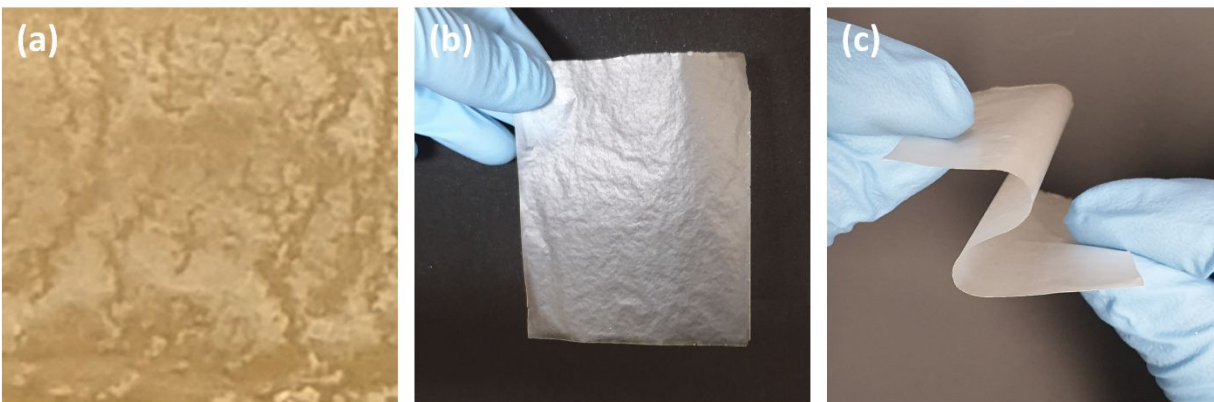
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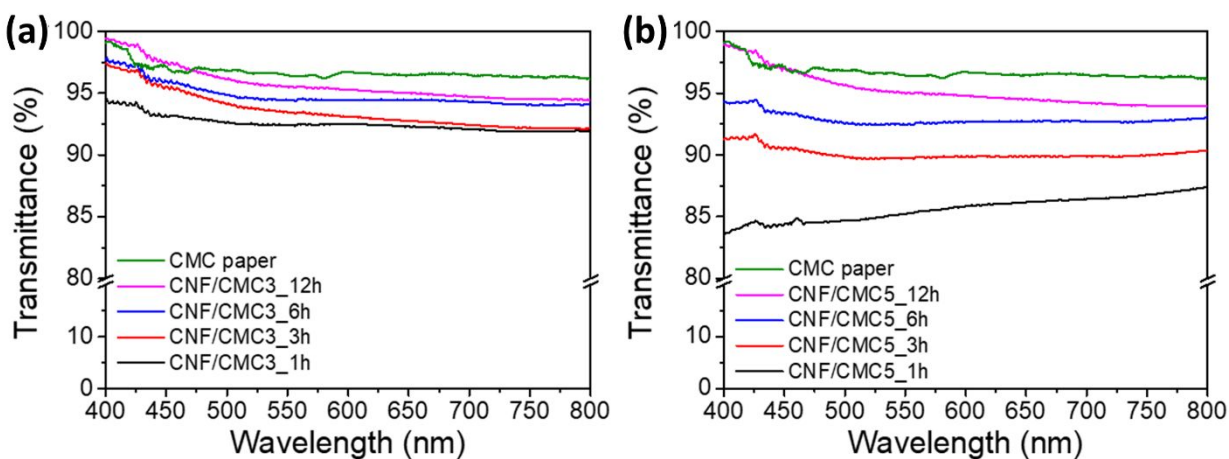
**Figure S1** (a) Digital images of CNF, CMC, CNF/CMC3, CNF/CMC5 dispersions at pH 8.0 taken right after prepared and (b) taken after 24 h, showing no difference.



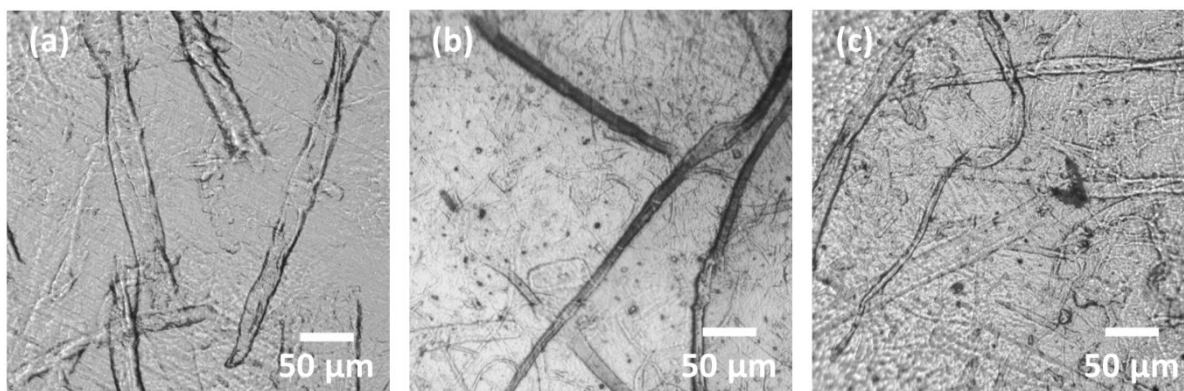
**Figure S2** (a) Enlarged image of CNF deposited electrode showing many cracks. (b) Self-standing CMC paper. (c) Flexible CNF/CMC3 paper.

**Table S1** Optical properties of CNF/CMC3 and CNF/CMC5 paper depending on sonication time.

Sonication time (h)	CNF/CMC3 paper		CNF/CMC5 paper	
	Transmittance (%)	Haze (%)	Transmittance (%)	Haze (%)
1	92.41	77.78	85.22	89.16
3	93.43	72.31	89.74	85.44
6	94.44	69.81	92.45	85.22
12	95.50	61.02	95.00	79.88



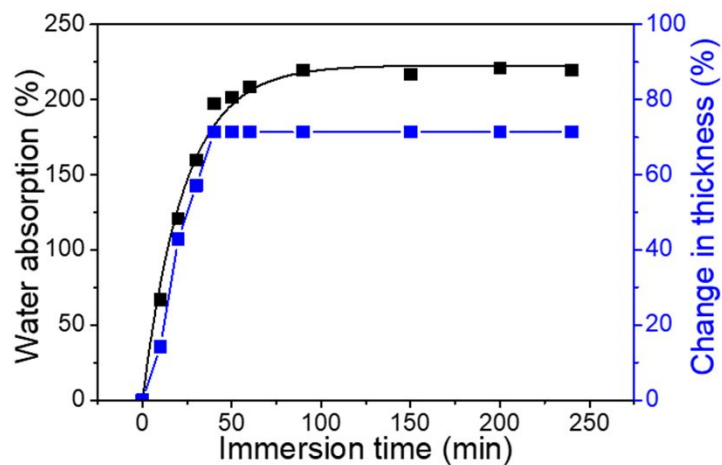
**Figure S3** (a) Light transmittance of the CMC paper and CNF/CMC3 papers, and (b) CNF/CMC5 papers in the wavelength range of 400-800 nm.



**Figure S4** (a) Optical microscope images of CMC, (b) CNF/CMC3\_1h, and (c) CNF/CMC5\_1h papers, respectively.

**Table S2**  $\Phi_T$  and  $\Phi_H$  values of CNF/CMC3 and CNF/CMC5 papers.

Sonication time (h)	CNF/CMC3 paper		CNF/CMC5 paper	
	$\Phi_T$ (%/ $\mu\text{m}$ )	$\Phi_H$ (%/ $\mu\text{m}$ )	$\Phi_T$ (%/ $\mu\text{m}$ )	$\Phi_H$ (%/ $\mu\text{m}$ )
1	9.241	7.778	8.522	8.916
3	9.343	7.231	8.974	8.544
6	9.444	6.981	9.245	8.522
12	9.550	6.102	9.500	7.988



**Figure S5** Water absorption and thickness change of CNF/CMC3 paper as a function of immersion time.

**Table S3** BoxLucas1 fitting results for the time-dependent water absorption of CNF/CMC3 and CNF/CMC5 papers.

	$a$ (%)	$b$ (min <sup>-1</sup> )	$R^2$
CNF/CMC3 paper	222.7356	0.04286	0.9905
CNF/CMC5 paper	77.3789	0.0506	0.9801