Supplementary Information

Capacitive CO_2 sensor made of aminated cellulose nanofibrils: Development and optimization

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Supplementary Figures

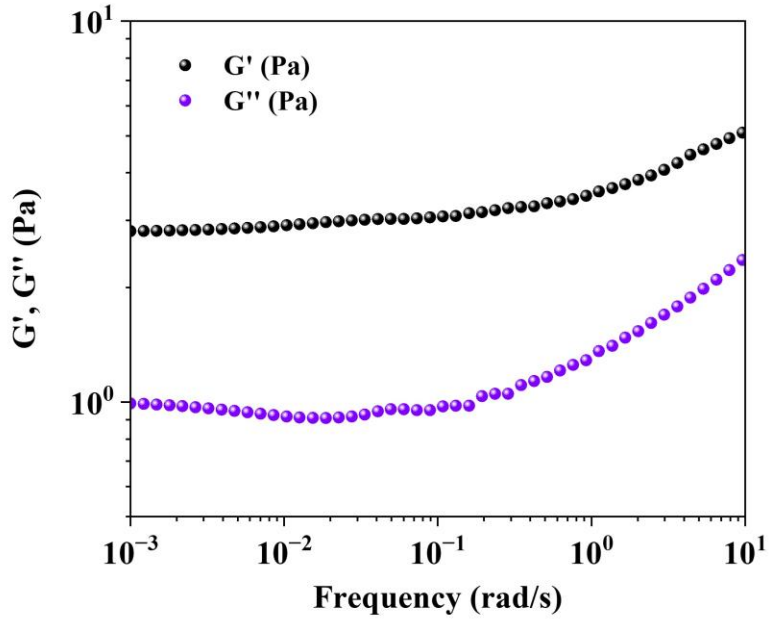

Figure S1. Rheological behavior of the APDEMS-CNFs spinning dope as a function of frequency.

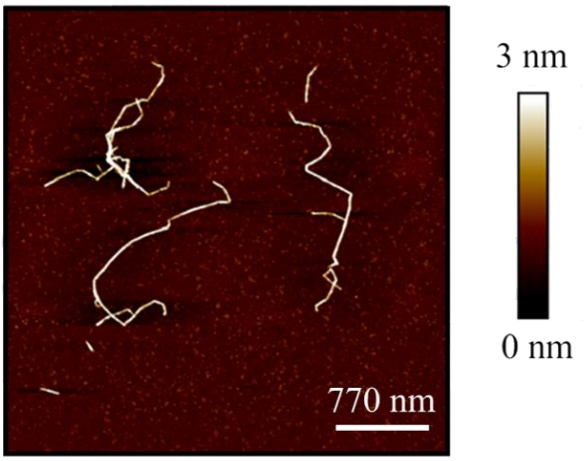

Figure S2. Atomic force microscopy (AFM) height image depicting the nanoscale structure and prominent aspect ratio of CNFs.

Figure S3. Temporal variation of capacitance for A-CNFs@DE exposed to 400 ppm CO_2.

Figure S4. Temporal variation of capacitance for A-CNFs-DBU@DE exposed to 400 ppm CO_2.

Supplementary Tables

Table S1. Comparative analysis of the maximum CO_2 uptake capacities for various amine-based adsorbents found in the literature and FD-APDEMS-CNFs sample presented in this study.

Amine-based adsorbent	Maximum CO_2 adsorption (mmol/g)	Ref.
TRI-PE-MCM-41	0.90	[S1]
HAS6	1.72	[S2]
PEI/silica	2.36	[S2]
T-PEI/silica	2.19	[S2]
AEAPDMS-CNF	1.39	[S3]
PEI-CNF	2.22	[S4]
CH-CNF-DAMO	0.89	[S5]
OH-CNF-DAMO	1.27	[S5]
KP-CNF-DAMO	2.11	[S5]
FD-APDEMS-CNFs	3.2	This work

References

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