Supporting Information for

Green Synthesis of Polyvinyl Alcohol (PVA)–Cellulose Nanofibril

(CNF) Hybrid Aerogels and Their Use as Superabsorbents

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Movie S1
Movie S2
Movie S3
Movie S4

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Calculation of aerogel porosity:

The density of the solid materials (ρ_s) was calculated according to Equation S1 based on the solid density of each component and their weight ratios used in the formulation :

$$\rho_s = \frac{1}{\dfrac{W_{silane}}{\rho_{silane}} + \dfrac{W_{CNF}}{\rho_{CNF}} + \dfrac{W_{PVA}}{\rho_{PVA}}} \qquad \text{(S1)}$$

where W was the weight percentage of the different components, and ρ_{silane}, ρ_{CNF}, and ρ_{PVA} were the solid densities of silane, CNF and PVA, respectively. The densities of the silane, CNFs and PVA used for this study were 1273, 1460 and 1269 kg m^{-3}, respectively, according to the manufacturer's data sheet.

The porosity of aerogels was calculated according to Equation S2:

$$\text{Porosity} = \left(1 - \frac{\rho}{\rho_s}\right) \times 100\% \qquad \text{(S2)}$$

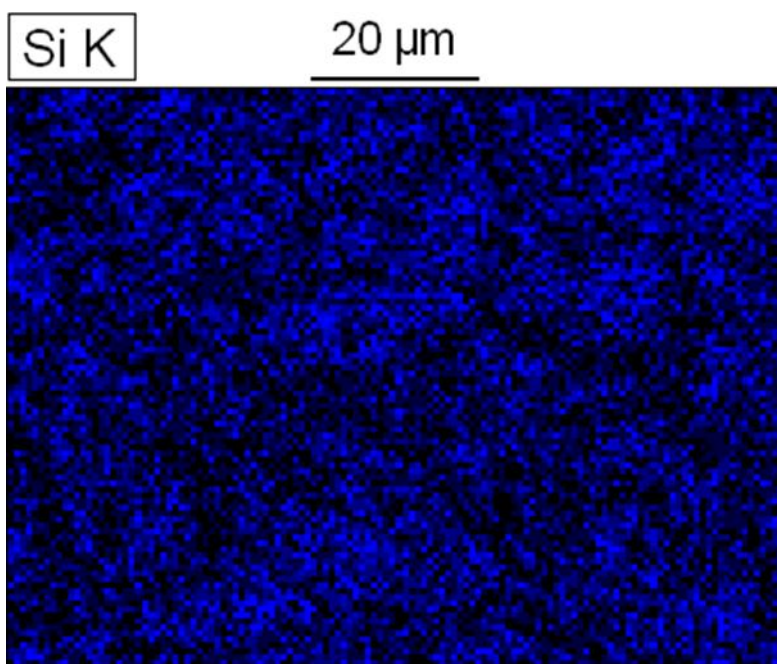Where ρ was the density of aerogel, and ρ_s was the density of solid materials.

Fig. S1 Silicon mapping image of the silane-coated PVA/CNF aerogel.
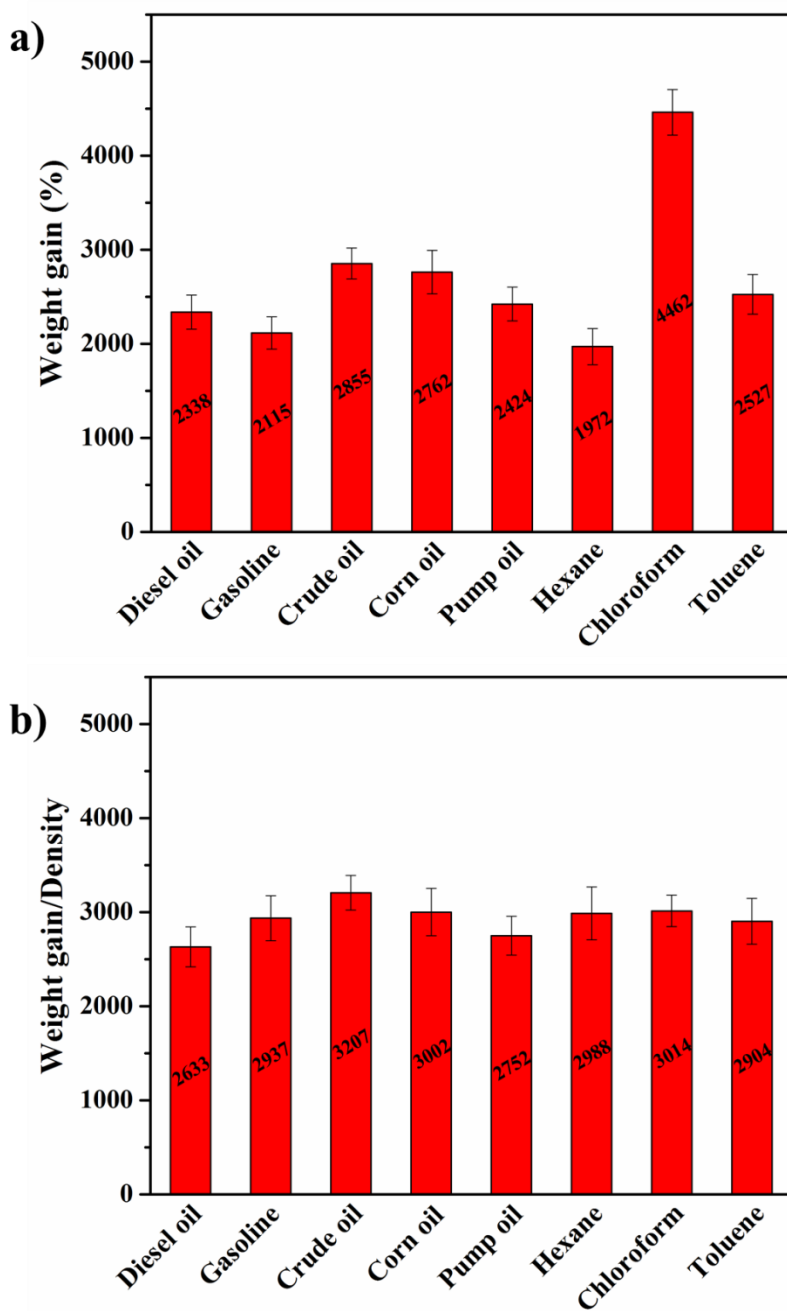
Fig. S2 (a) Absorption capacities of the PVA aerogels for various organic solvents and oils as indicated by weight gain. (b) Absorption capacities normalized by the density of the respective oil or organic solvent.