Electronic Supplementary Material (ESI) for Journal of Materials Chemistry A.

Porous three-dimensional carbon foams with interconnected microchannels for high-efficient solar-to-vapor conversion and desalination

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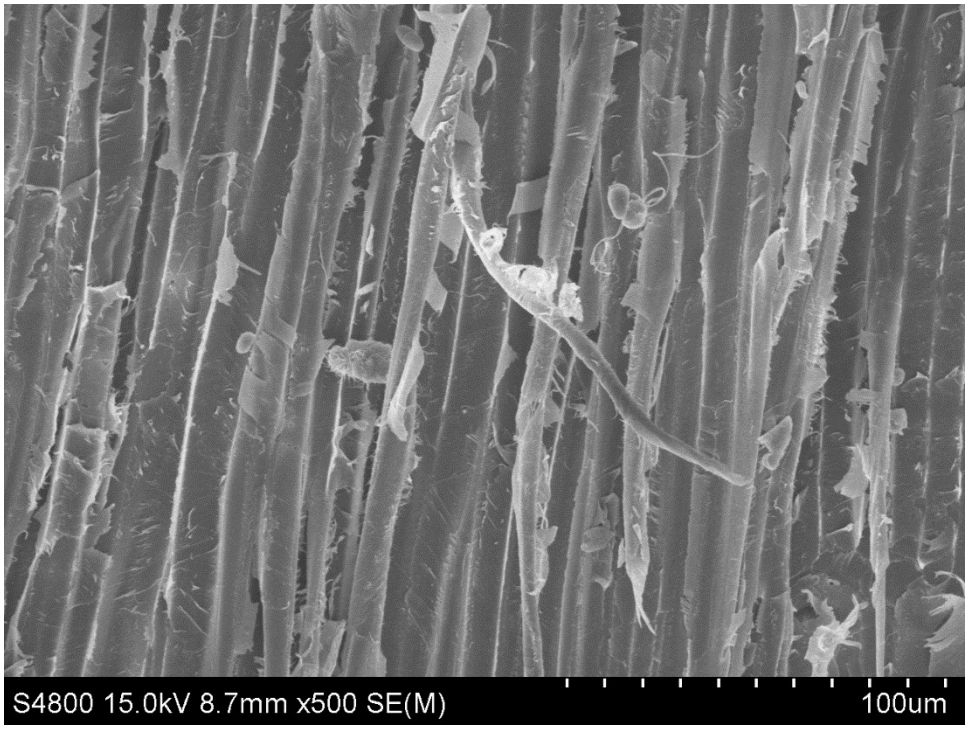

Figure S1 The SEM images of wood block.

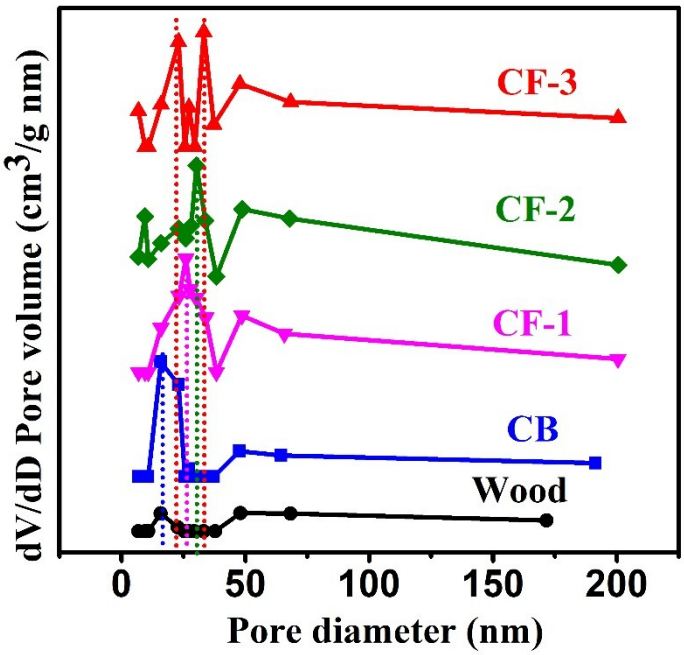

Figure S2 Pore size distribution of devices.

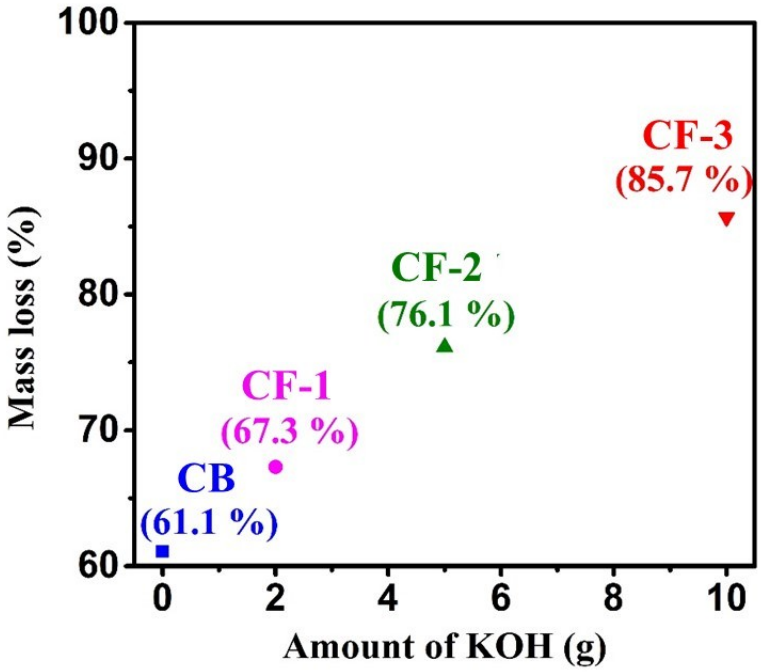

Figure S3 The mass loss of wood with different amount of KOH after carbonization.

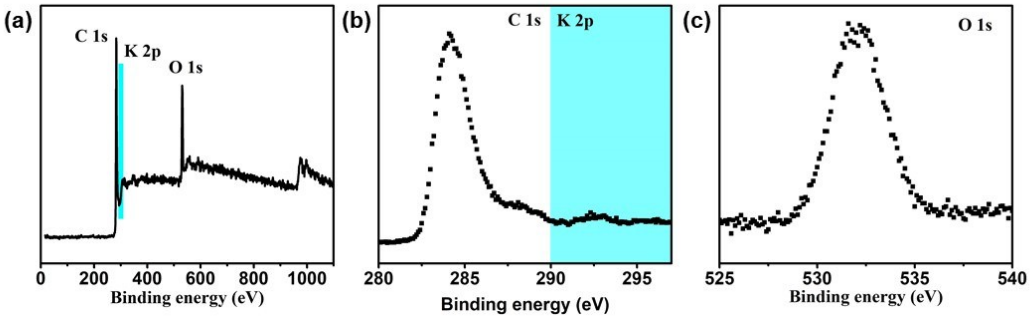

Figure S4 The XPS (a) survey, (b) C1s and K2p, (c) O1s spectra of CF-3.

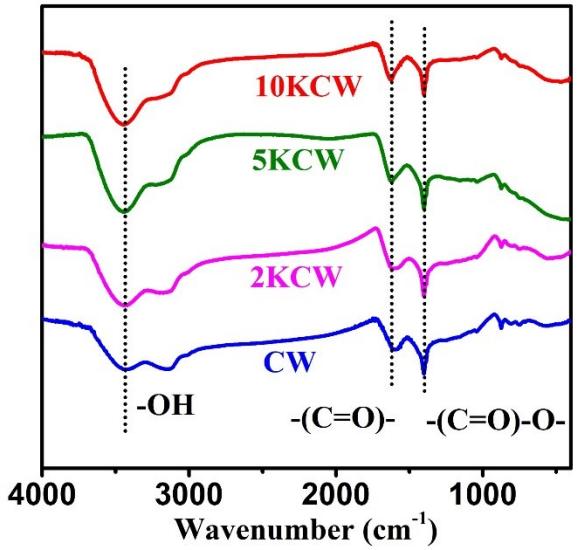

Figure S5 The FTIR spectra of CB and CFs.

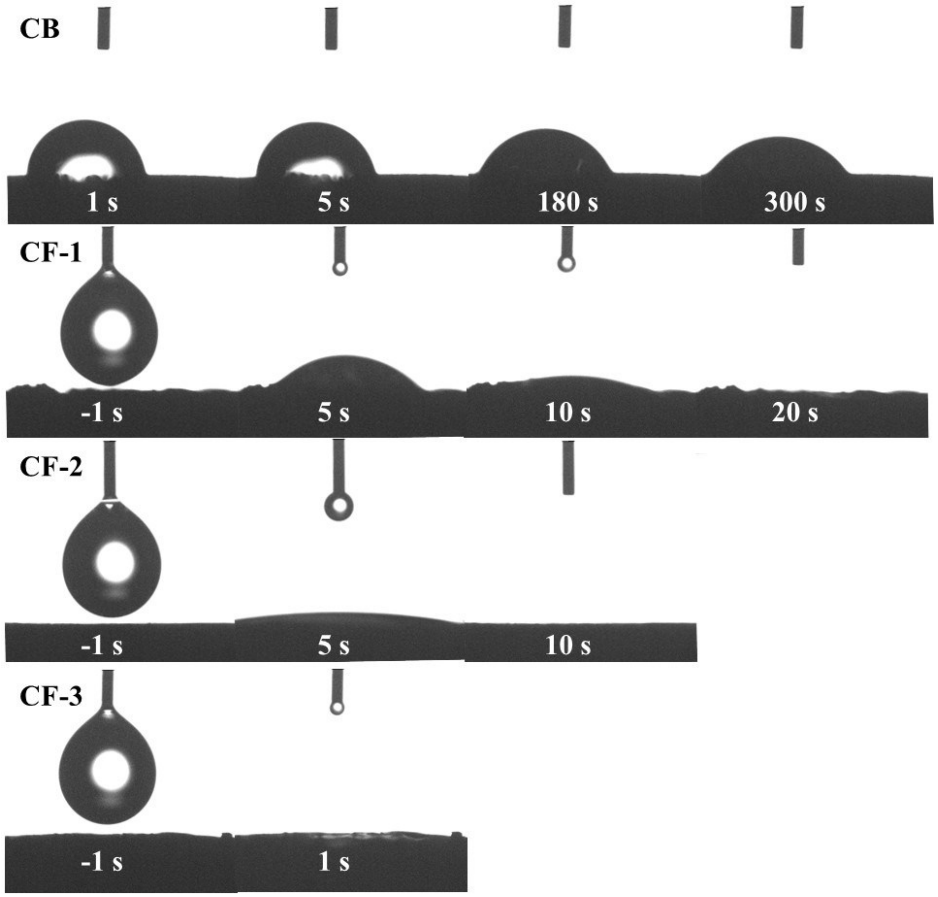

Figure S6 The contact angle images of CB and CFs.

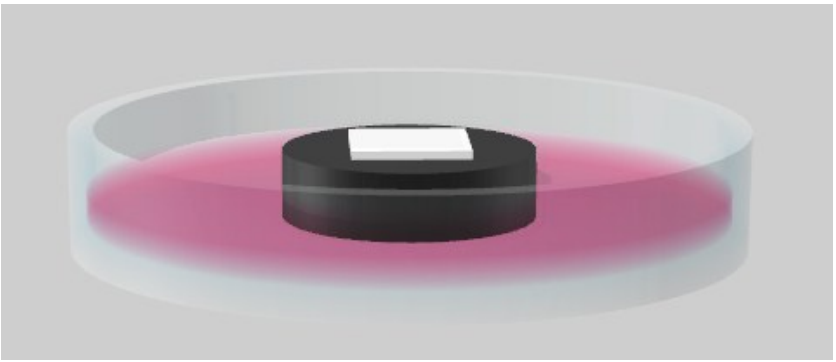

Figure S7 The schematic diagram of the experiment for water transportation comparison.

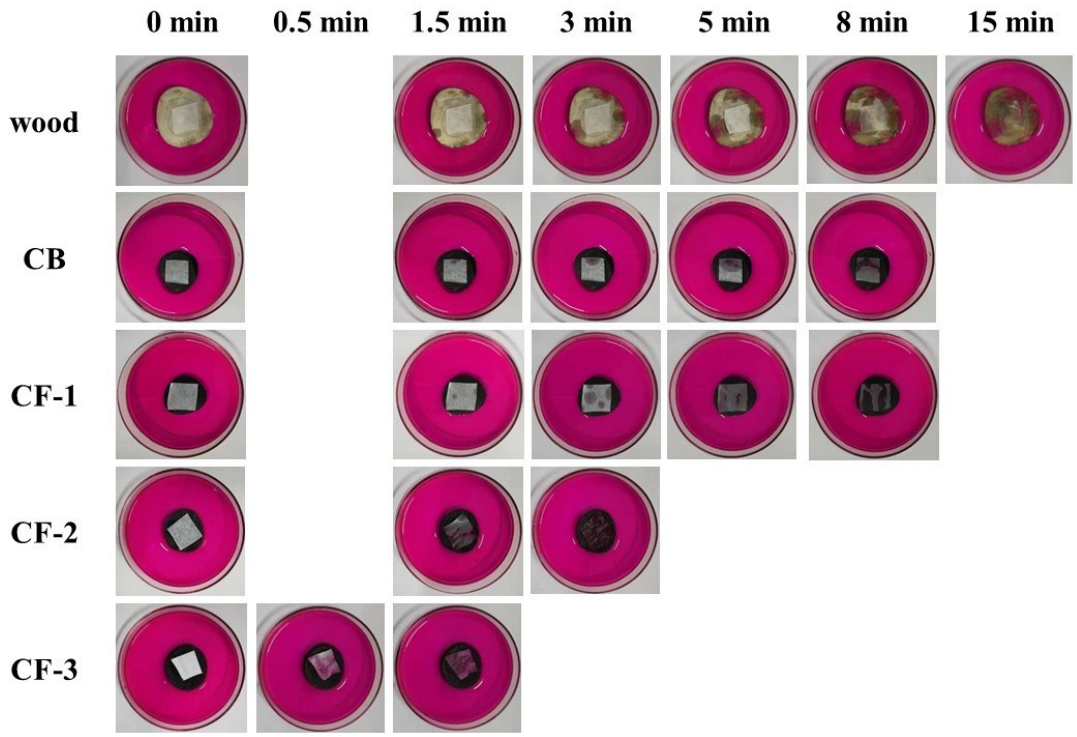

Figure S8 Images taken at different time intervals in the water transportation comparison experiment.

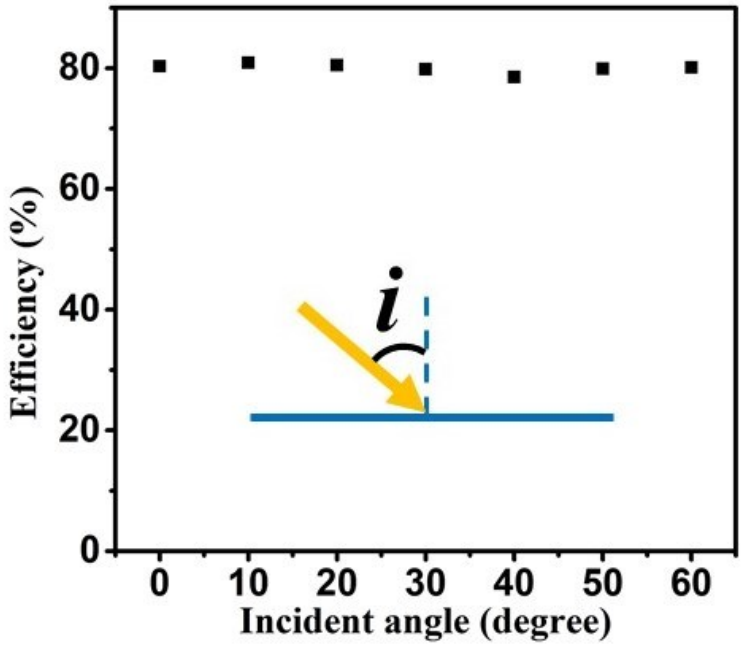

Figure S9 The steam generation efficiencies of CF-3 with different incident angles.

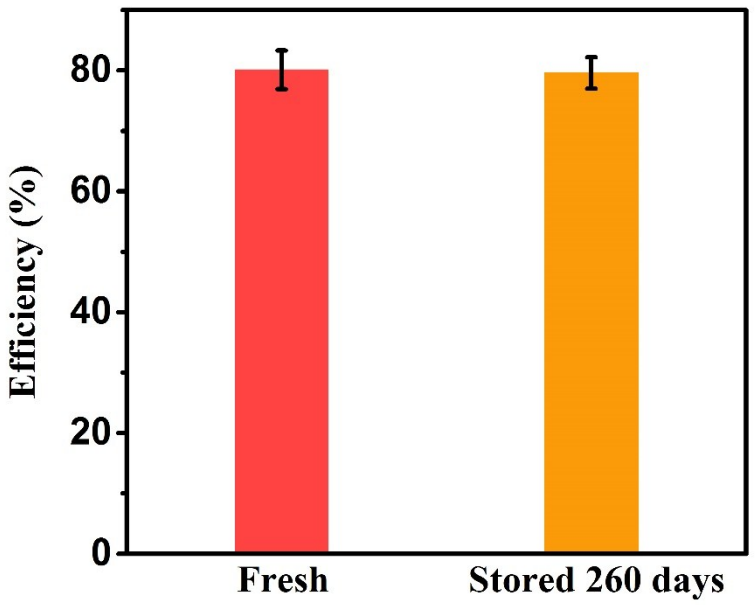

Figure S10 The steam generation efficiency of CF-3 which was stored for different time.

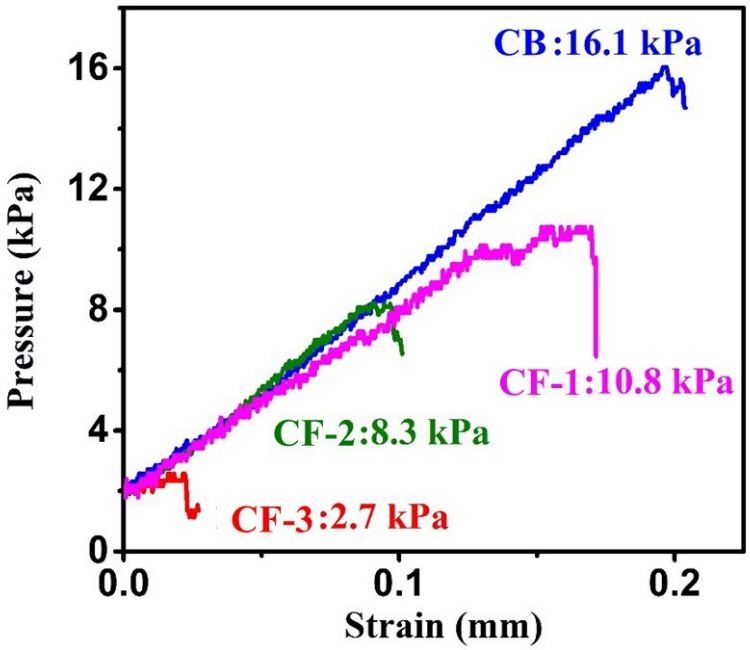

Figure S11 The mechanical strength of devices.

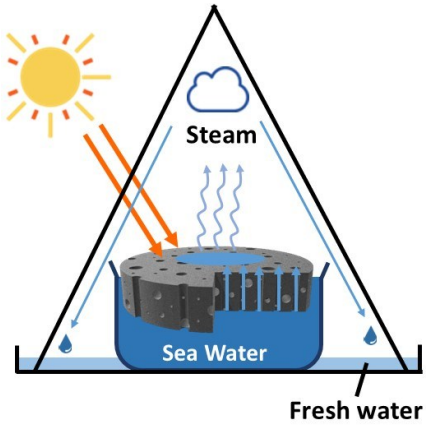

Figure S12 The schematic illustration of the seawater desalination on CFs.

Table S1

Device	Solar steam generation efficiency	Price	Ref.
rGO/MWCNT	80.4 % under 1 sun	medium	[1]
Wood-GO	~83% under 12 sun	low	[2]
Flame-treated wood	72% under 1 sun	low	[3]
CNT–modified flexible wood	81% under 10 sun	medium	[4]
bilayer wood	80.4% under 10 sun	low	[5]
surface carbonized longitudinal wood	74% under 1 sun 89% under 10 sun	low	[6]
Au/NPT	Over 90% under 4 sun	high	[7]
rGO/PVA hydrogel	~95% under 1 sun	low	[8]
GO leaf	78% under 0.82 sun	low	[9]
3D carbon foam	80.1% under 1 sun 89.6% under 10 sun	low	This work

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