

Supporting Information

A hydrogel foam with gradient pore structure for highly efficient solar-driven seawater desalination

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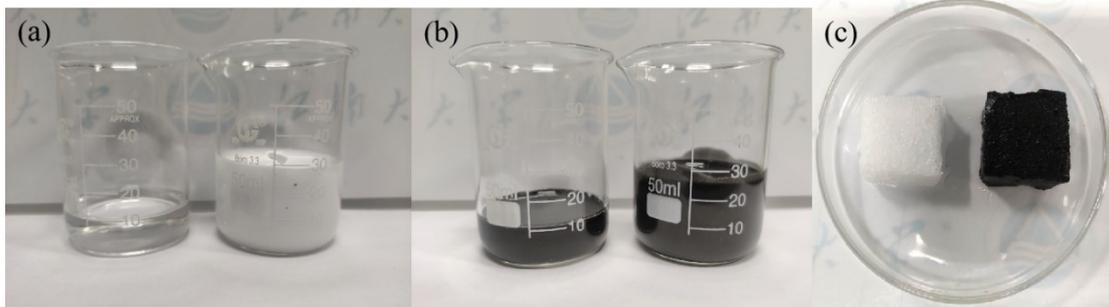


Fig. S1. (a) Optical photographs of the PVA solution before and after foaming. (b) Optical photographs of the PVA/AB solution before and after foaming. (c) Optical photographs of PPHF and PAPHF.

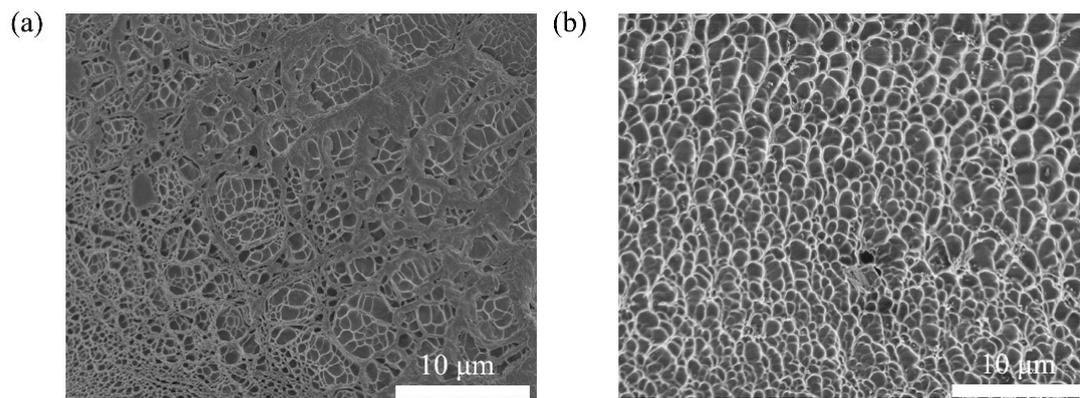


Fig. S2. SEM images of microscopic structural characteristics of PPHF (a) and PAPHF (b).

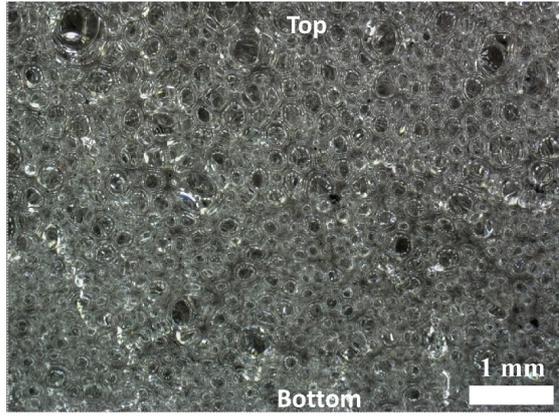


Fig. S3. Optical microscope images of cross-section of the PAPHF hydrogel foam.

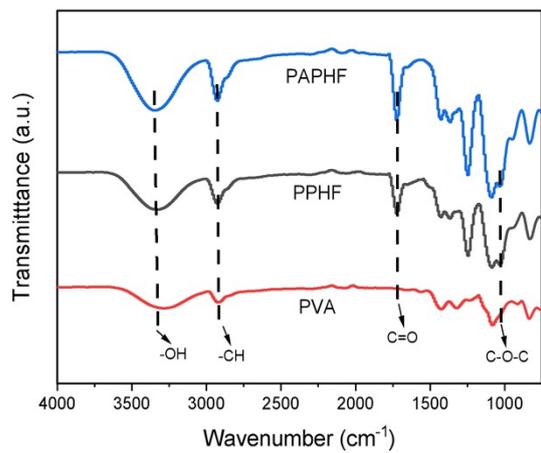


Fig. S4. Fourier transform infrared spectra of PAPHF, PPHF and PVA.

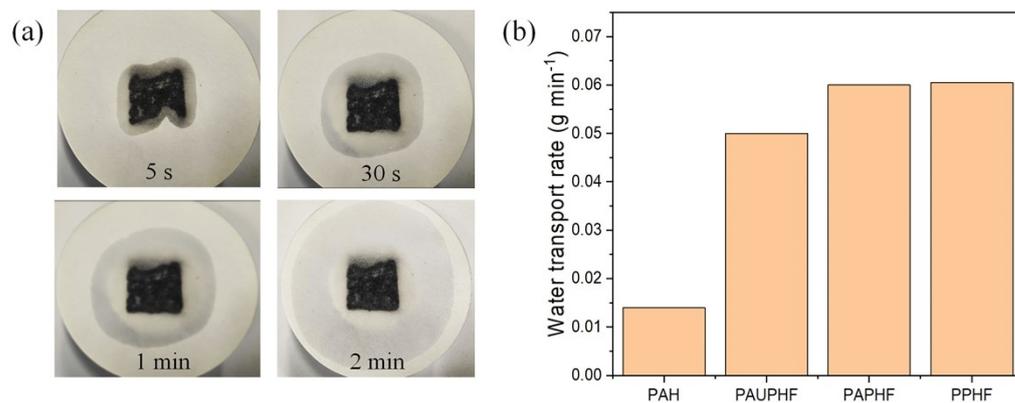


Fig. S5. (a) Water transport performance of PAPHF. (b) Water transport rates of PAH, PAUPHF, PAPHF, PPHF.

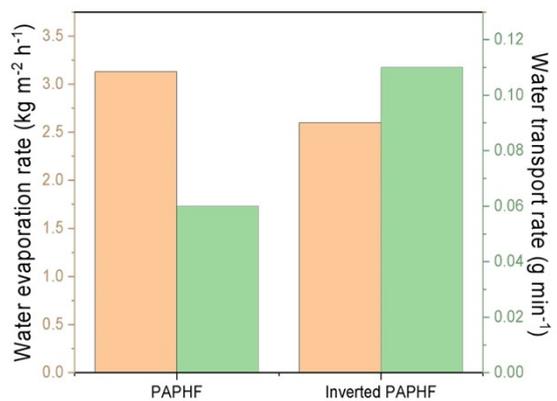


Fig. S6. Water transport rates and water evaporation rates of PAPHF and inverted PAPHF.

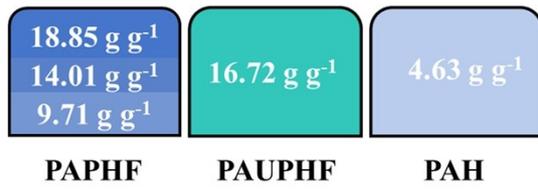


Fig. S7. Saturation water content of PAPHF, PAH, and PAUPHF.

Table S1 Comparison of evaporation rates and efficiencies of evaporators.

Study description	Evaporation rate ($\text{kg}\cdot\text{m}^{-2}\cdot\text{h}^{-1}$)	Efficiency (%)	References
MC composite hydrogels	1.80	82.8	S1
CuS-MoS ₂ /PVA photothermal sponge	1.92	91.5	S2
CB/PVA/CMC hydrogel foam	2.23	85	S3
CuO/activated carbon/filter paper	1.46	91.1	S4
Tree root/graphene oxide	1.60	96.5	S5
Sodium alginate-polydopamine hydrogel	1.40	-	S6
CNF/PVA/MWCNTs hydrogel	1.61	-	S7
Polyvinyl alcohol/biochar hydrogel	1.89	85.2	S8
SA/PVA/graphite/MWCNT hydrogel	3.1	89	S9
PVA/AB porous hydrogel foam	3.13	88.9	This work

References

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