

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

**Boosting solar-thermal-electric conversion of  
thermoelectrochemical cells by construction of  
carboxymethylcellulose-interpenetrated polyacrylamide  
network<sup>‡</sup>**

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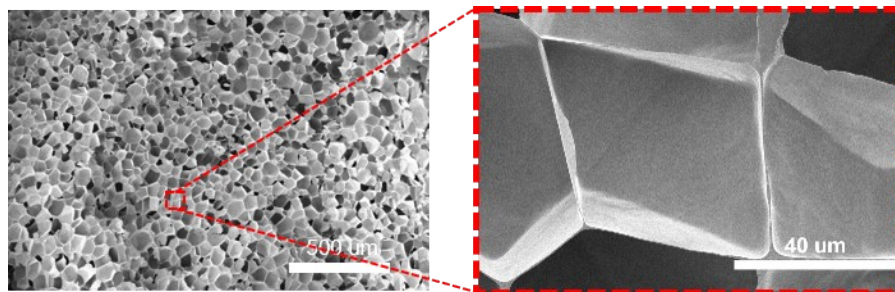
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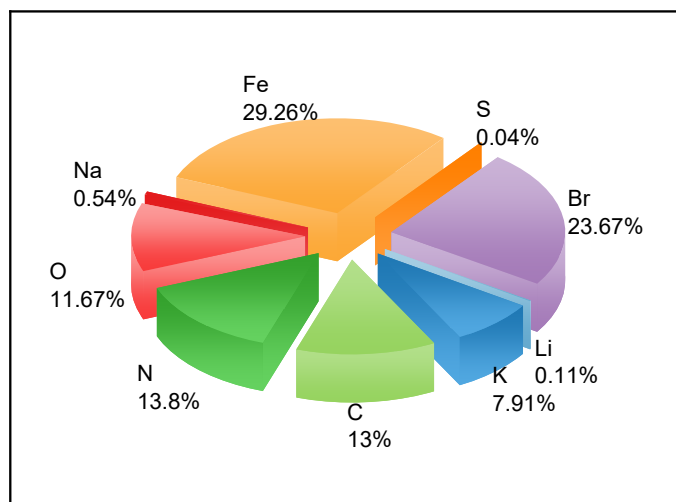
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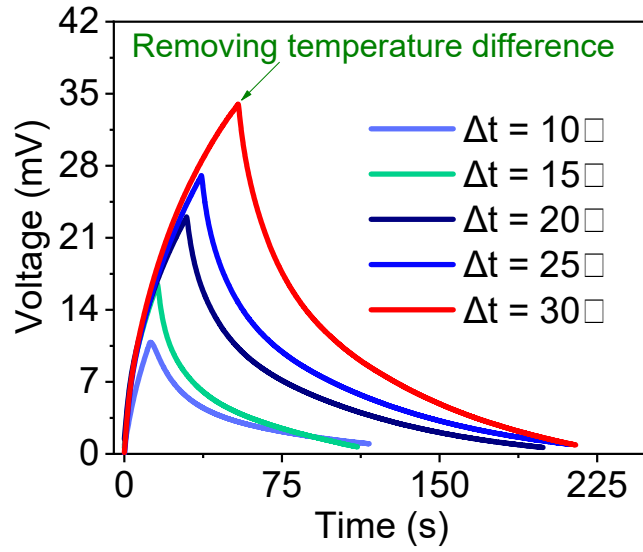
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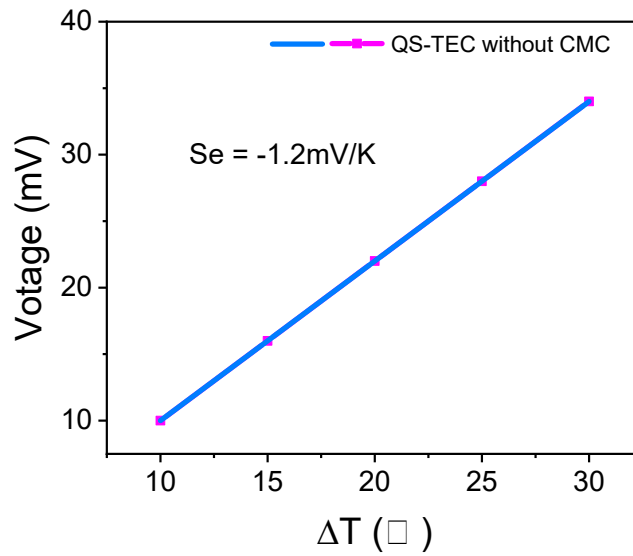
**Fig. S1** SEM images of polyacrylamide network, scale bars = 500 and 40 μm.



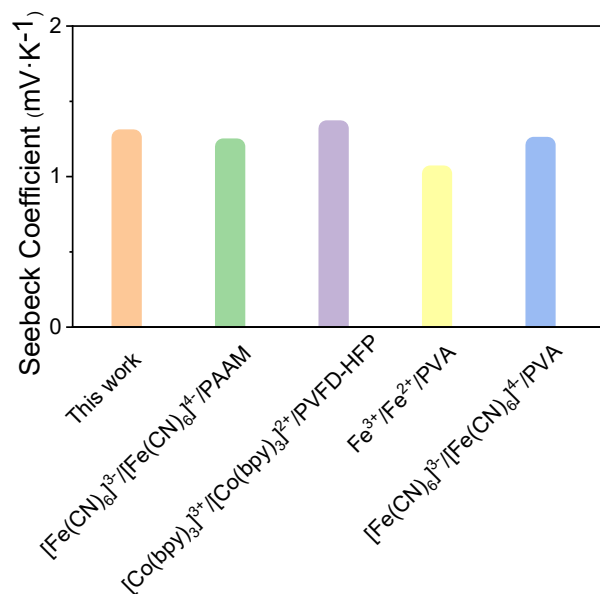
**Fig. S2** SEM-EDS quantitative analyses with Li, K, C, N, O, Na, Fe, S, Br of QS-TEC.



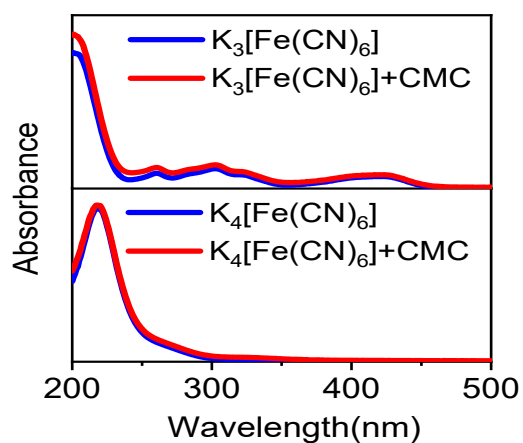
**Fig. S3** Voltages generated by QS-TEC without CMC subjected to various temperature differences and after removal of these temperature differences.



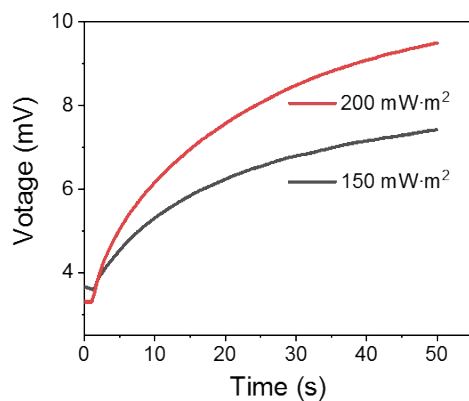
**Fig. S4** Seebeck coefficient of QS-TEC without CMC.



**Fig. S5** Comparison of the QS-TEC with previously-reported thermocells Seebeck coefficient.<sup>1 2 3</sup>



**Fig. S6** UV-Vis spectra of  $\text{Fe}(\text{CN})_6^{4-}/\text{Fe}(\text{CN})_6^{3-}$  in the presence/absence of CMC



**Fig. S7** Voltage output of solar-driven QS-TEC upon solar irradiation ( $150 \text{ mW cm}^{-2}$  and  $200 \text{ mW cm}^{-2}$ ).



**Fig. S8** Image of large QS-TEC, scale bar = 2 cm.

## References

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