

## Supplementary Information for

### Electrical Resistance Change in Thermally Reconfigured Nanoporous Ionomer-Bound Carbon Films

**Jae-Bum Pyo<sup>‡a</sup>, Ji Hun Kim<sup>‡a</sup>, Kiyoul Kim<sup>a,b</sup> and Taek-Soo Kim<sup>\*a</sup>**

a Department of Mechanical Engineering, KAIST, 291 Daehak-ro, Yuseong-gu, Daejeon 34141, Republic of Korea;

b Agency for Defense Development, P.O. Box 35, Yuseong, Daejeon 34186, Republic of Korea;

<sup>‡</sup>These authors contributed equally to this work.

\*Corresponding author. E-Mail: [tskim1@kaist.ac.kr](mailto:tskim1@kaist.ac.kr)

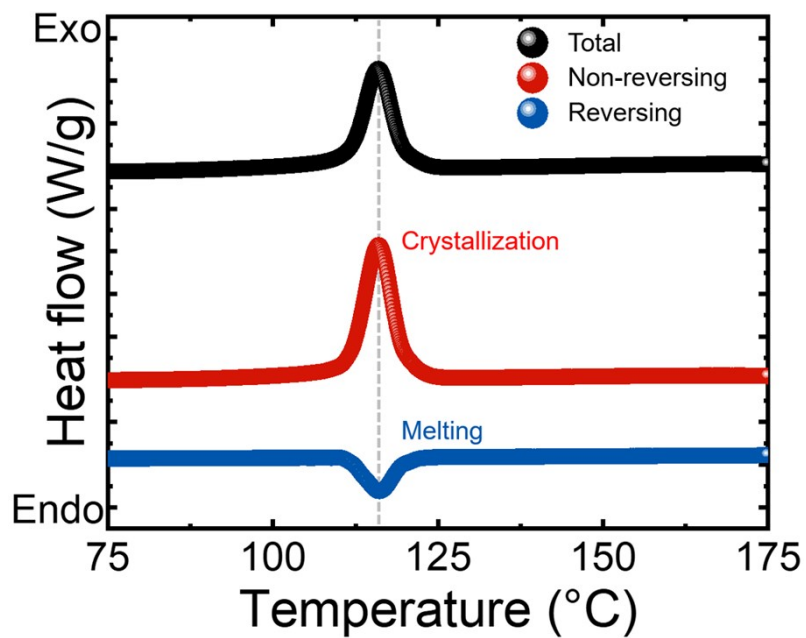
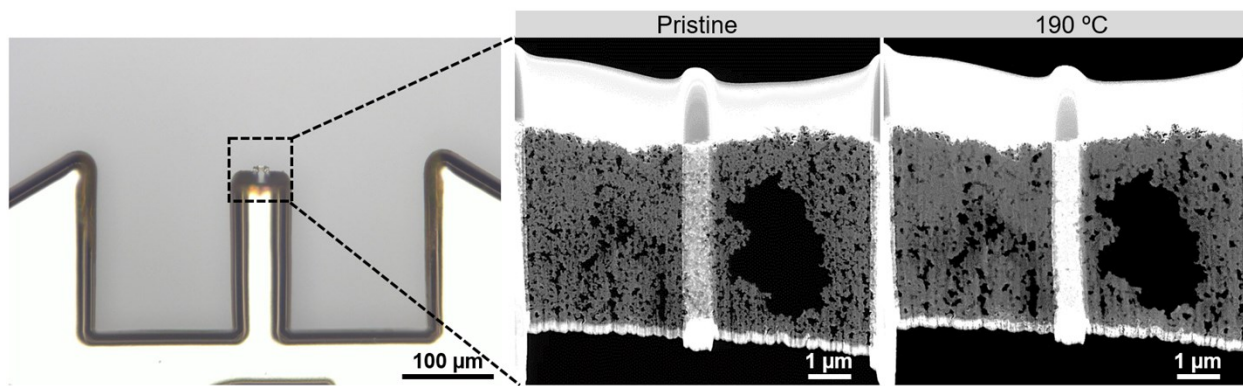
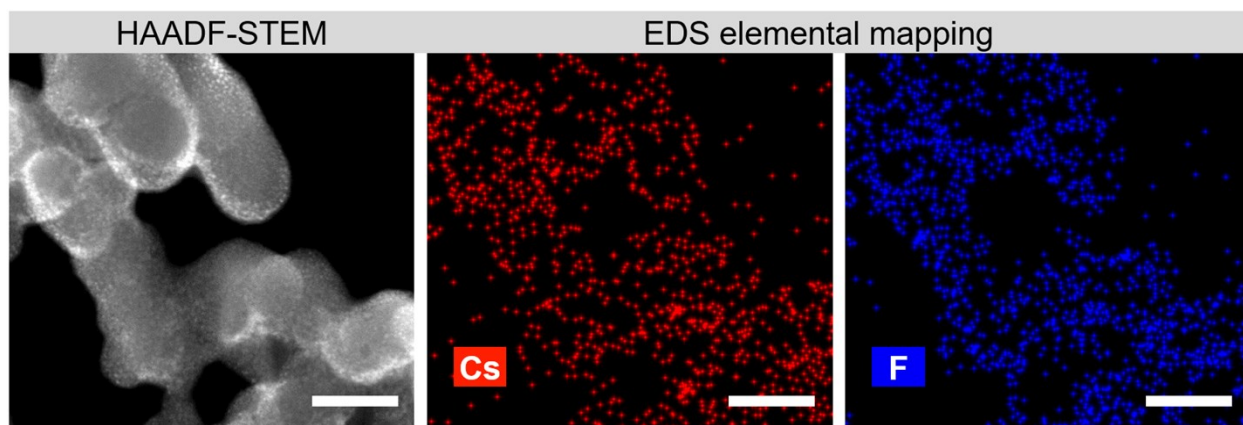


Fig. S1 Modulated DSC result of the pristine electrode.



**Fig. S2 Prepared TEM sample on a lift-out TEM grid and its HAADF-STEM images of pristine and 190 °C electrodes.**



**Fig. S3 HAADF-STEM image of pristine electrode and its corresponding EDS mapping results of Cs<sup>+</sup> Nafion (red) and fluorine (blue). Scale bar, 40 nm.**