**Electronic Supplementary Information** 

## Enhanced water transport in AEMs based on poly (styrene-ethylene-

## butylene-styrene) triblock copolymer for high fuel cells performance

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## **Captions of ESI**

Figure S1 The  $^{1}$ H NMR and  $^{13}$ C NMR spectra of polymers. a SEBS; b CMSEBS; c QASEBS

Figure S2 The FT-IR spectrum of polymers. a. SEBS; b. CMSEBS; c. QASEBS Figure S3 The TGA curves of SEBS、 CMSEBS and QASEBS

Figure S4 Tyndall effect of AEI solution.

**Figure S5** Polarization curves for AEMFCs with AEM-20 membrane for a study on various anode dew point: 50 °C (red circles), 65 °C (black square). Test conditions, cell temperature 60 °C, the cathode dew point 50 °C, back pressure 0.1 MPa.

Figure S6 the change of the elements content in AEM before (A) and after (B) durability test.



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