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Supporting Information for

Does Thermal Treatment Merely Make a H_2O-saturated Nafion Membrane Lose Its Absorbed Water at High Temperature?

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■ Supporting results

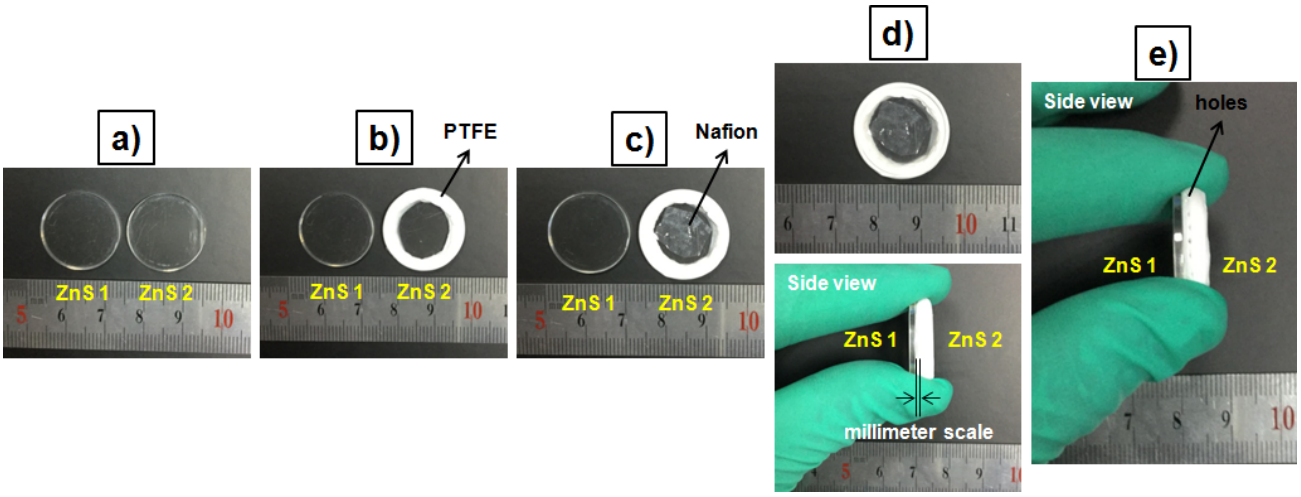

Fig. S1. Detailed information about how to sandwich Nafion membrane between ZnS crystals.

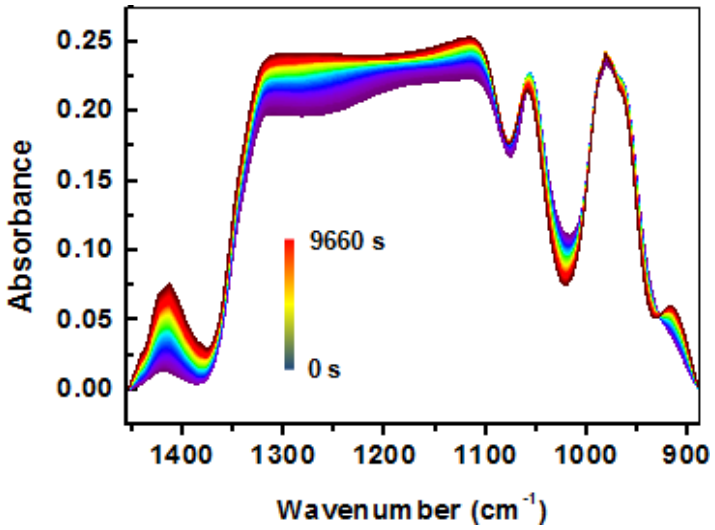

Fig. S2. Time-dependent transmission FTIR spectra of a dry Nafion membrane (thickness: 10 μm) at 195 °C in the region of 1440 ~ 890 cm^{-1}.

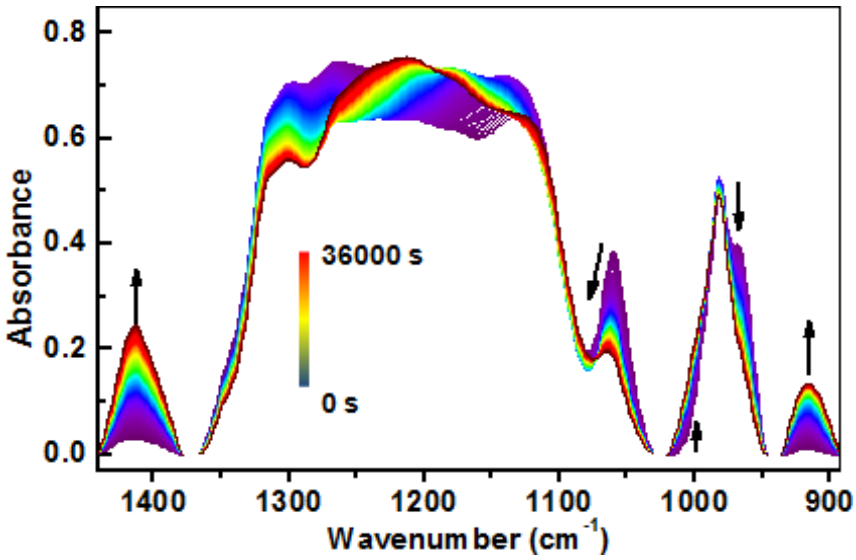

Fig. S3. Time-dependent transmission FTIR spectra of a H_2O-saturated Nafion membrane (thickness: 10 μm) at 125 °C in the region of 1440 ~ 890 cm^{-1}, and the arrow indicates the change of the corresponding IR peak.

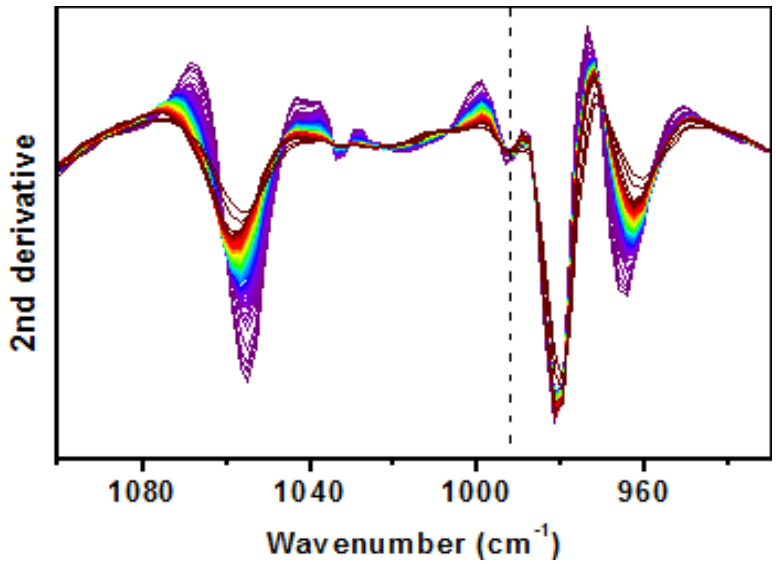

Fig. S4. 2nd derivatives of the time-dependent transmission FTIR spectra of a H_2O-saturated Nafion membrane (thickness: 10 μm) at 195 °C.

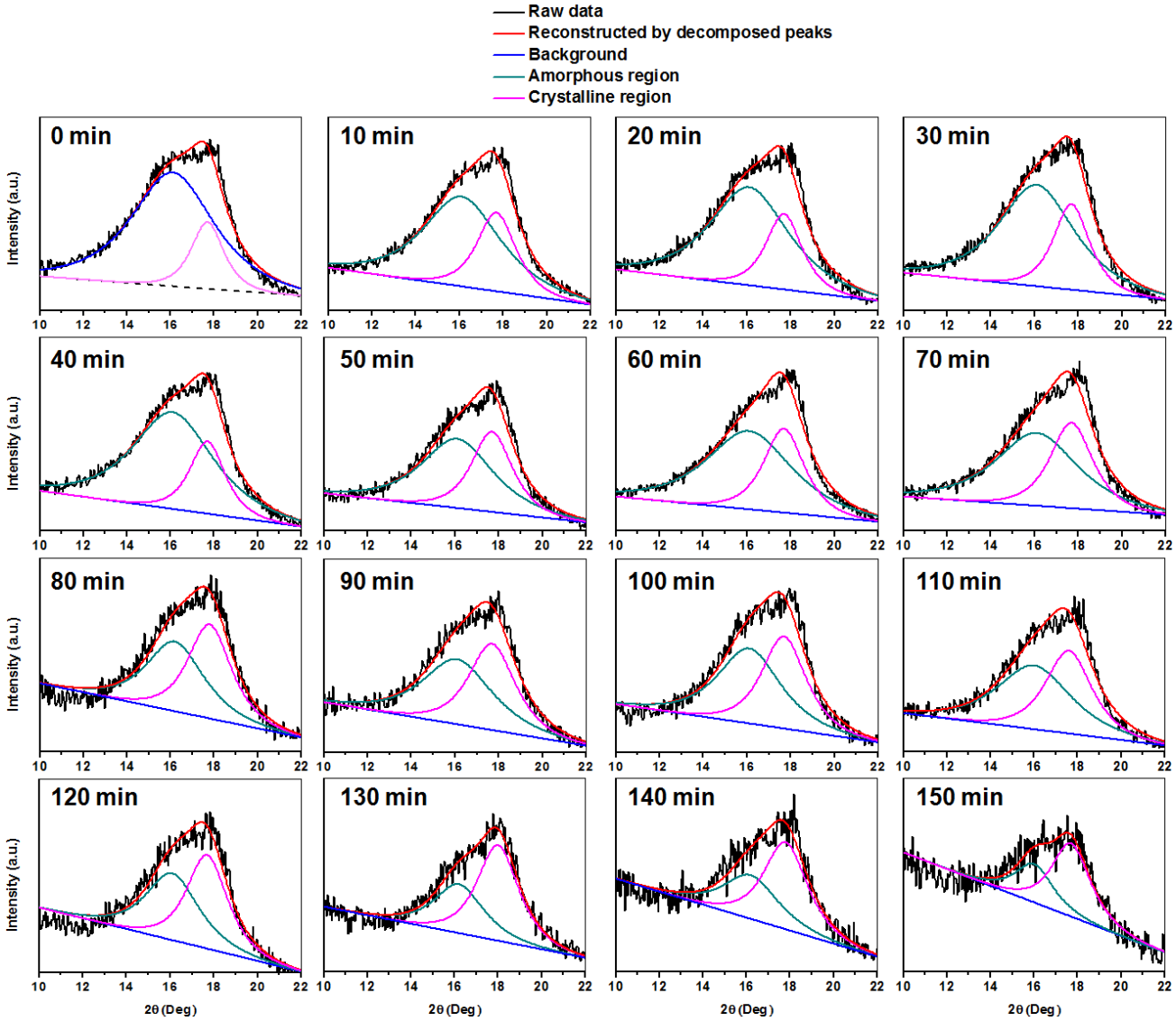

Fig. S5. Peak-splitting results of the time-dependent XRD patterns of the H_2O-saturated Nafion membranes (thickness: 10 μm) which have been pretreated at 195 °C for different minutes (Fig. 10).

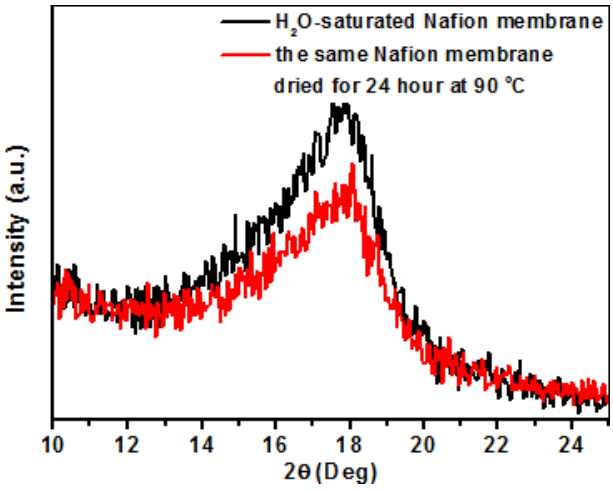

Fig. S6. XRD spectra of a H_2O-saturated Nafion membrane (thickness: 10 μm; 1 cm × 1 cm) and the same Nafion membrane dried for 24 hour at 90°C.