

## Supporting information

### A sinteractive Ni-BaZr<sub>0.8</sub>Y<sub>0.2</sub>O<sub>3-δ</sub> composite membrane for hydrogen separation

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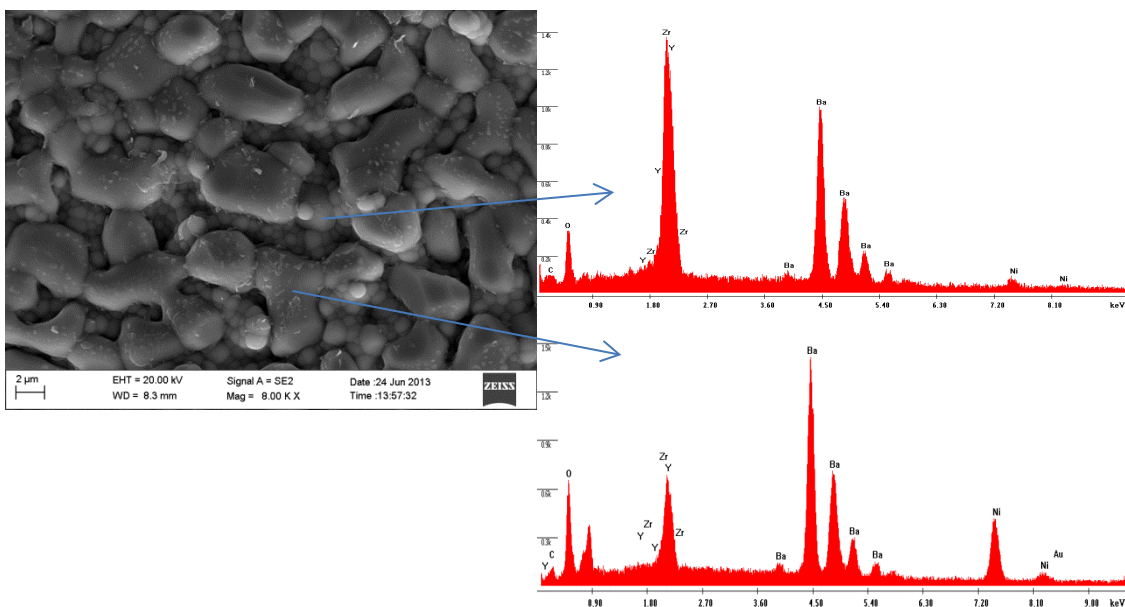


Fig .S1 Surface SEM image and EDX spectra of BZYNiO<sub>2</sub> pellet calcined at 1400°C for 10h.

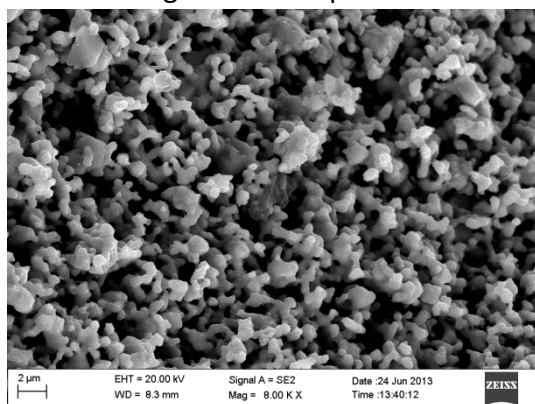


Fig. S2 Cross-section SEM image of BZYNiO<sub>2</sub> pellet calcined at 1300°C for 10h.

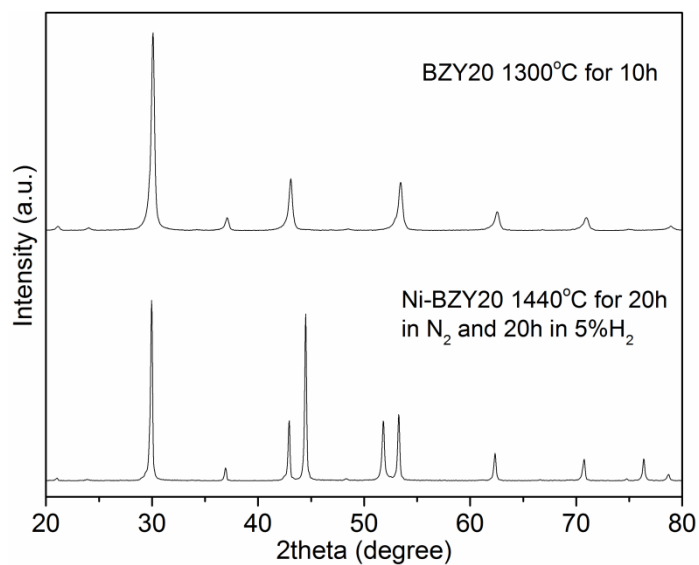


Fig. S3 XRD patterns of BZY20 prepared by solid state reaction method and Ni-BZY20 after treatment at 1300°C for 10h and 1440°C for 20h in N<sub>2</sub> and 20h in 5%H<sub>2</sub>, respectively. BaCO<sub>3</sub> can be seen at ~24°.