

### Supplementary information

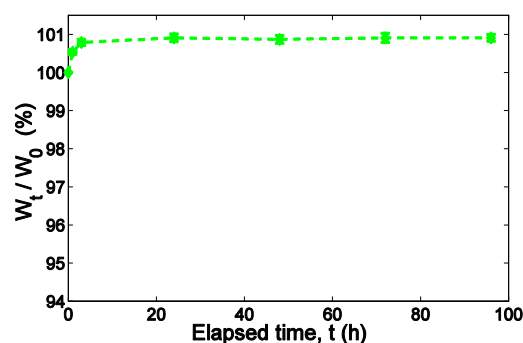


Fig. S1. Mass change of a 0.5 mm thick sheet of ionogel exposed to a relative humidity of 71% at 21°C.

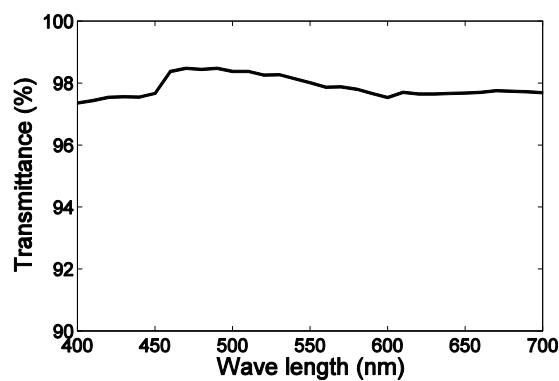


Fig. S2. Transmittance of ionogel.

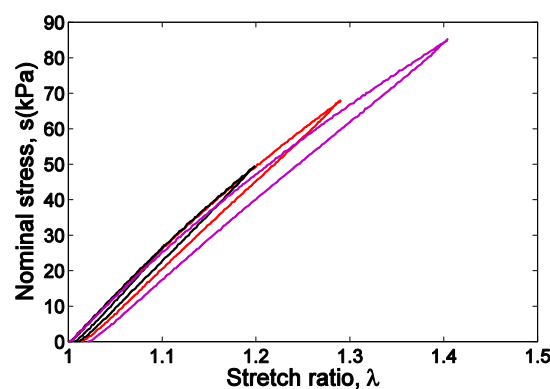


Fig.S3. Loading-unloading curve of ionogel with 0.2% MBAA at different stretch ratios.