Electronic Supplementary Material (ESI) for Materials Advances.

Supporting Information

High-performance transparent hybrid (ionic and dielectric) gel actuator system based on poly(vinyl chloride)/dibutyl adipate/ionic liquid gels operating at a low applied voltage

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Table S1. Young's moduli (MPa) of the transparent PVC/DBA/IL and PVC/DBA gels.

IL	Young's moduli (MPa)
EMI[TFSI]	**0.36**
EMI[FSI]	**0.31**
THTDP[TFSI]	**0.25**
THTDP[Cl]	**0.27**
None	**0.18**

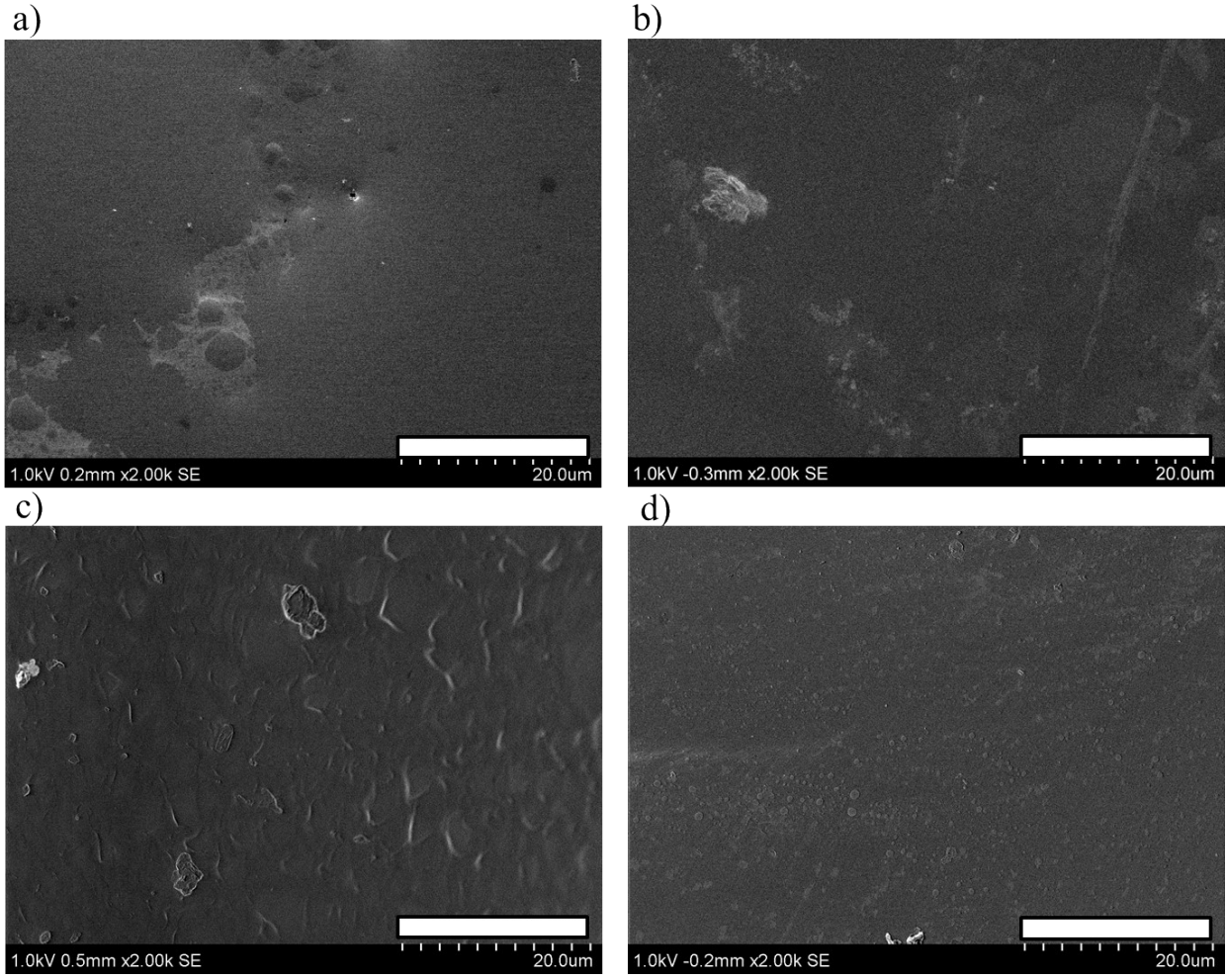

Figure S1. (a, c) Planar and (b, d) cross-sectional SEM images of (a, b) PVC/DBA/IL gel and (c, d) PVC/DBA gel. Magnification: ×2000.

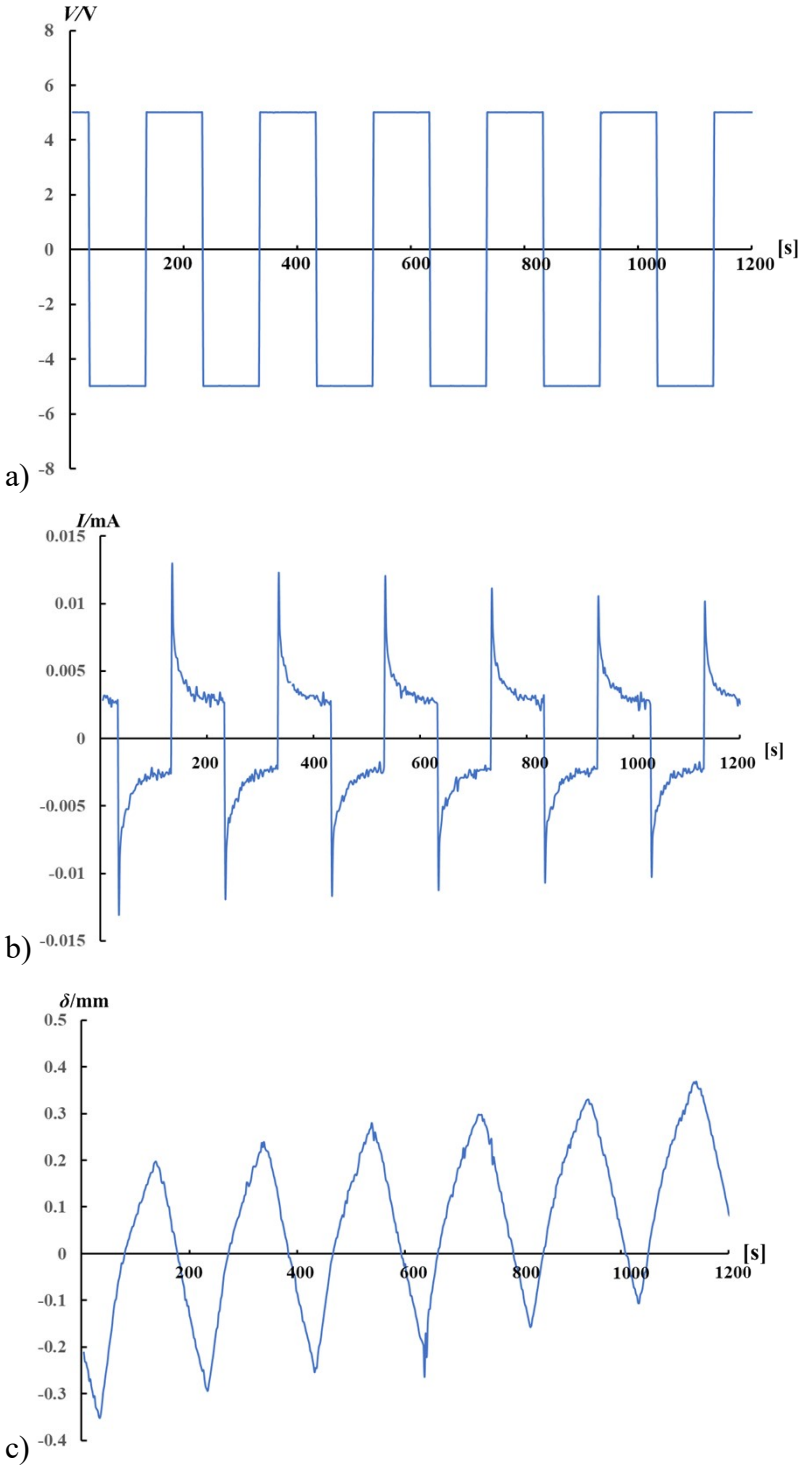

Figure S2. Time-dependent (a) voltage V (V), (b) current I (mA), and (c) displacement δ (mm) for the transparent PVC/DBA/TFSI gel actuator under an applied square-wave voltage (±5 V, 0.005 Hz).

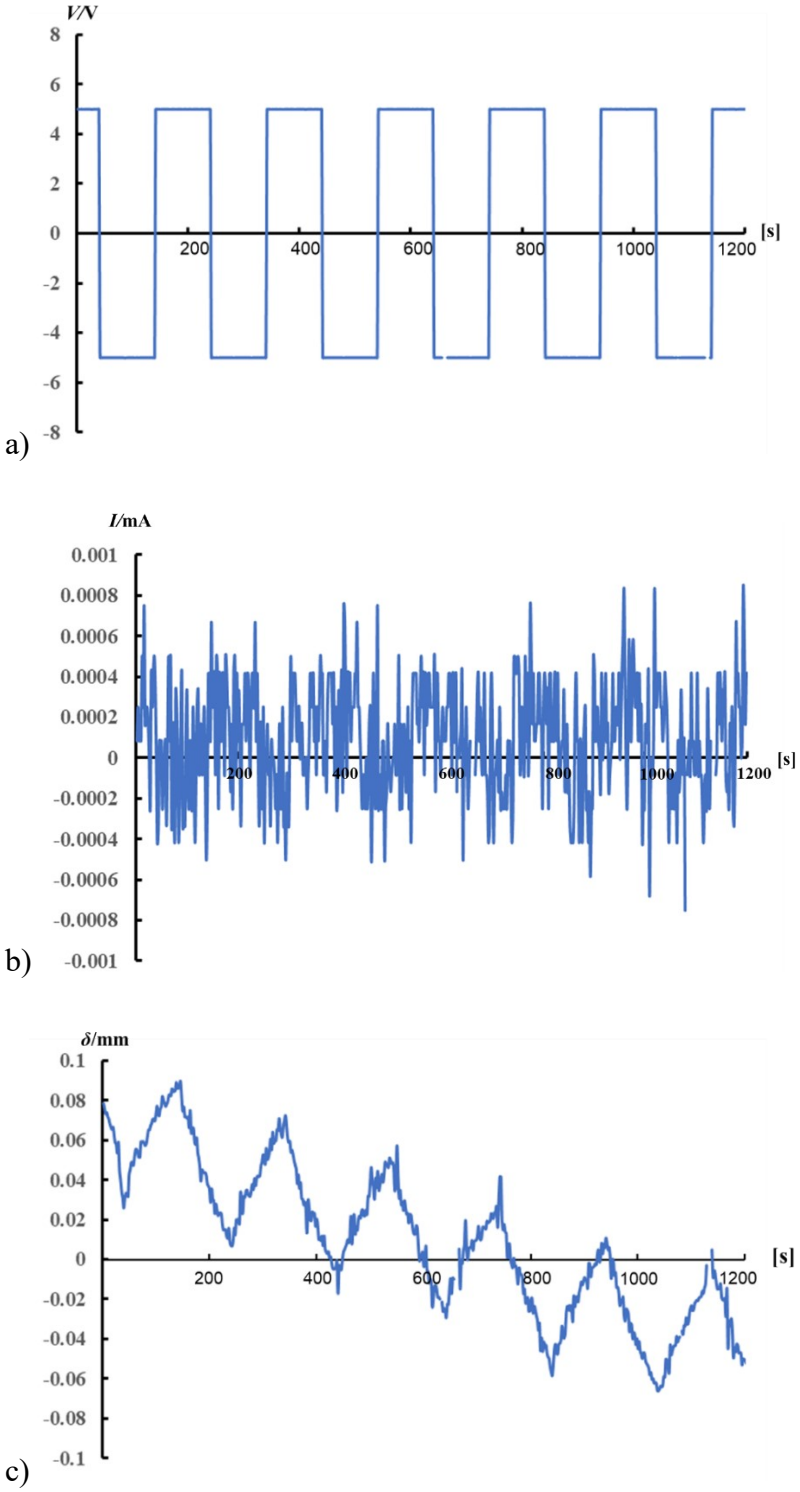

Figure S3. Time-dependent (a) voltage V (V), (b) current I (mA), and (c) displacement δ (mm) for the transparent PVC/DBA gel actuator under an applied square-wave voltage (±5 V, 0.005 Hz).