

Lithium Salt-Nonionic Surfactant Lyotropic Liquid Crystalline Gel-Electrolytes with Redox Couple for Dye Sensitized Solar Cells

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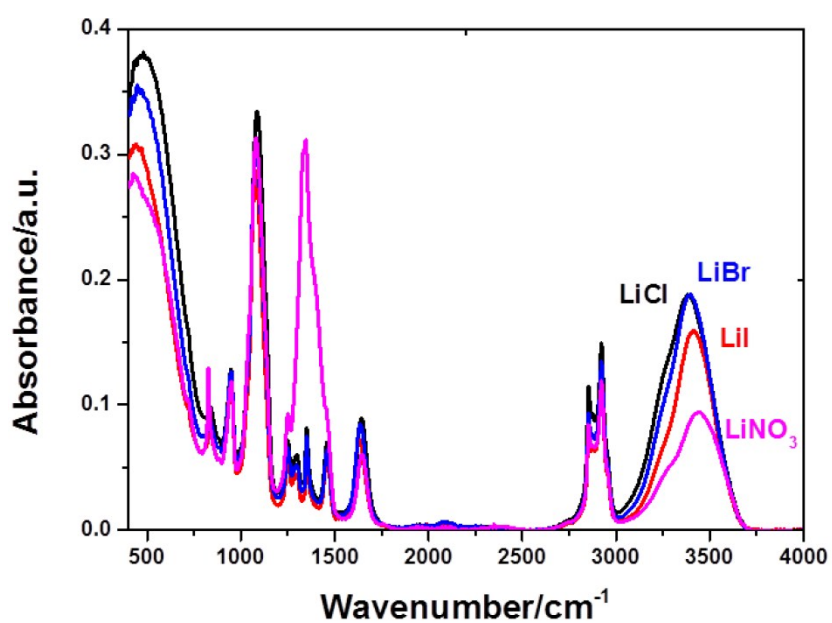


Figure S1. ATR-FTIR spectra of G2-LiX-3 (X is Cl⁻, Br⁻, I⁻, and NO₃⁻) upon aging for 2 days under ambient conditions.

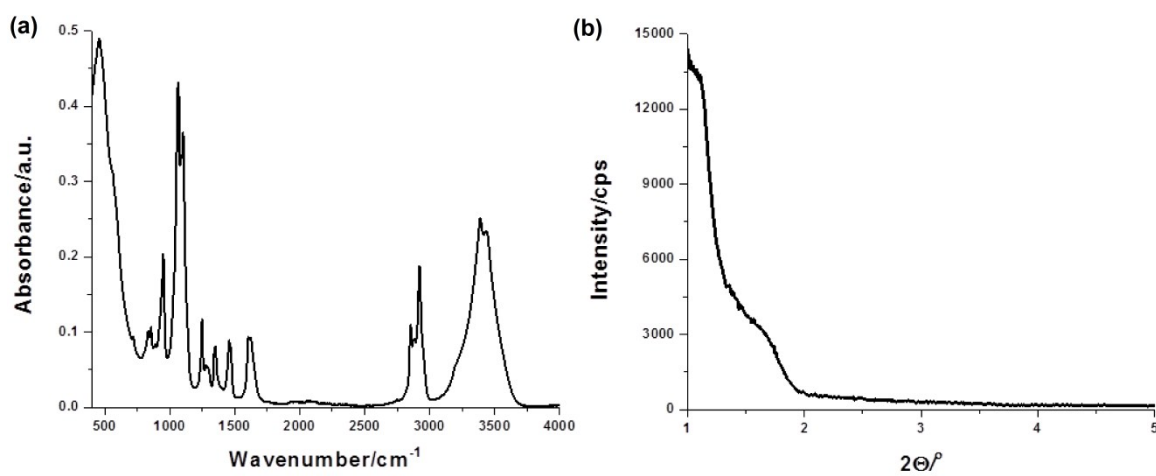


Figure S2. (a) ATR-FTIR (# is 4) spectrum and (b) PXRD pattern (# is 5) of G2-LiI-I₂-# (with a LiI/I₂ mole ratio of 1)

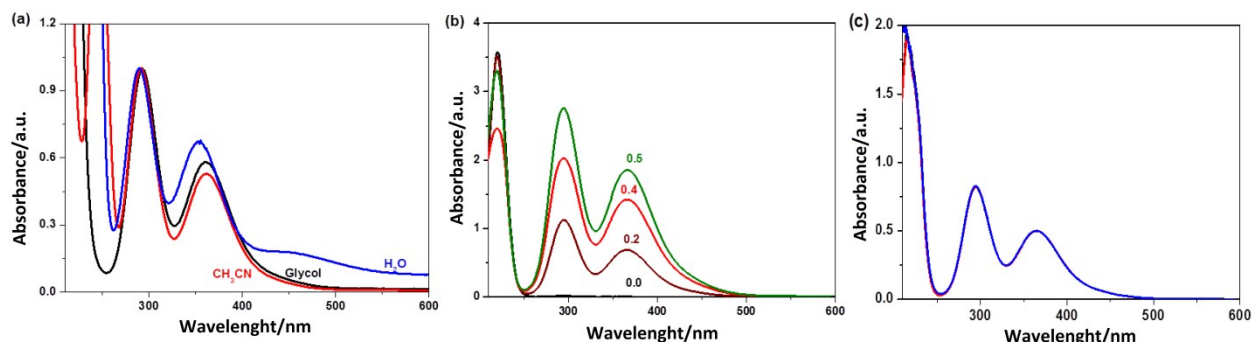


Figure S3. UV-Vis absorption spectra of LiI/I_2 in various media, (a) as solution of glycol, acetonitrile, and water, (b) as G2-LiI-I_2 with various $\text{I}_2/\text{C}_{12}\text{E}_{10}$ mole ratios marked, and (c) as $\text{G2-LiI-I}_2\text{-LiX}$ (X is Cl^- , Br^- , and NO_3^- , all 3 spectra are identical).

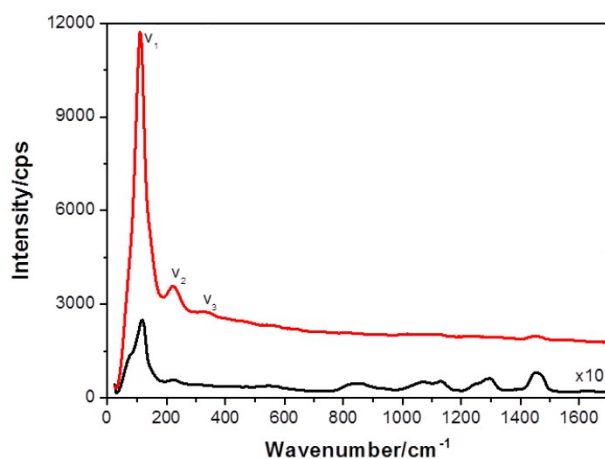


Figure S4. Raman spectra of G2-LiI-2 (bottom) and $\text{G2-LiI-I}_2\text{-2}$ (top).

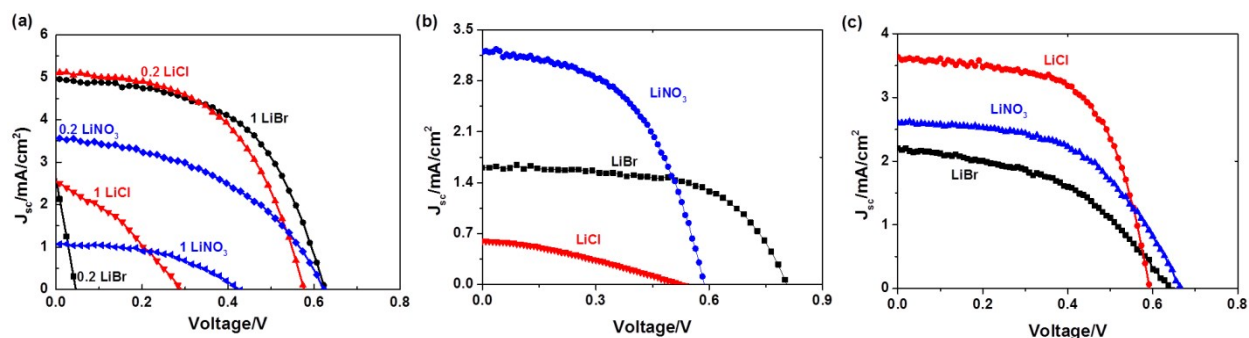


Figure S5. I-V curve of DSSC constructed from (a) $\text{G2-LiI-I}_2\text{-LiX}$ (type and amount of LiX is indicated in the graphs) and the $\text{G2-LiCl-2-LiI-0.7-I}_2$, $\text{G2-LiBr-2-LiI-0.7-I}_2$, and $\text{G2-LiNO}_3\text{-2-LiI-0.7-I}_2$ gel electrolytes (b) without 4TBP and (c) with 4TBP.

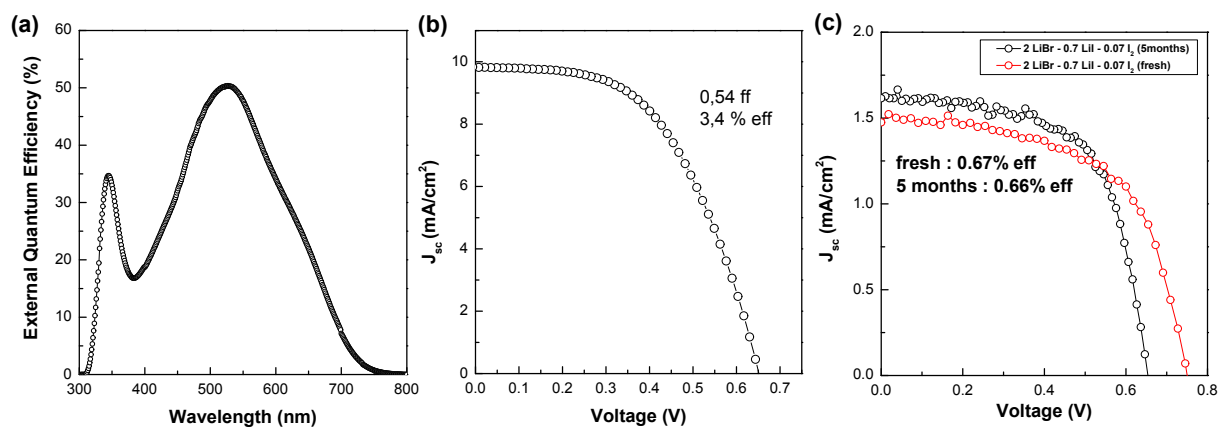


Figure S6. (a) IPCE and (b) IV curves of the cell constructed using G2-LiI-I₂-2 electrolyte and (c) IV curve of a cell constructed using of G2-LiBr-2-LiI-I₂-0.7 (i) fresh and (ii) 5 months old cell.