

High-Capacity Polysulfide-Polyiodide Nonaqueous Redox Flow Battery With Ceramic Membrane

Mao Chen[†] and Hongning Chen^{†,}*

[†]Chemical Hybrid Energy Novel Laboratory, College of Chemistry and Environmental
Engineering, Shenzhen University, Shenzhen, 518055, Guangdong, PR China

*E-mail: hnchen@szu.edu.cn

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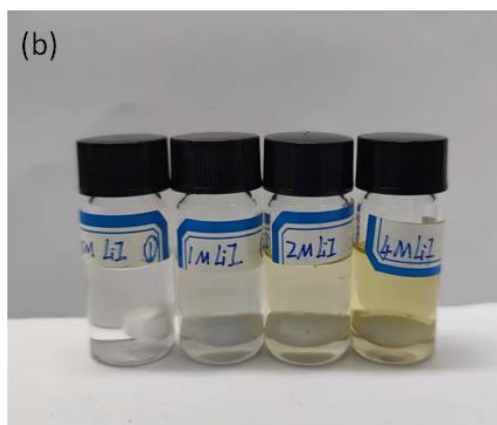
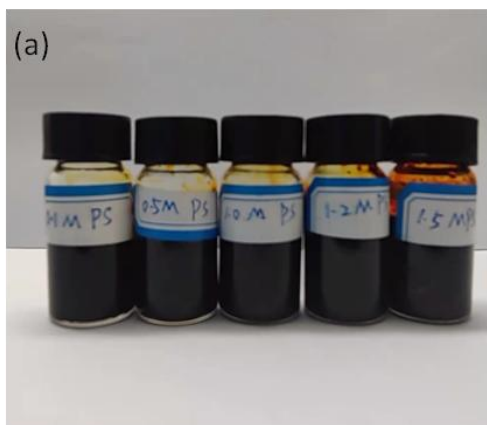


Figure S1. Photographs of various concentration of (a) polysulfide and (b) polyiodide.

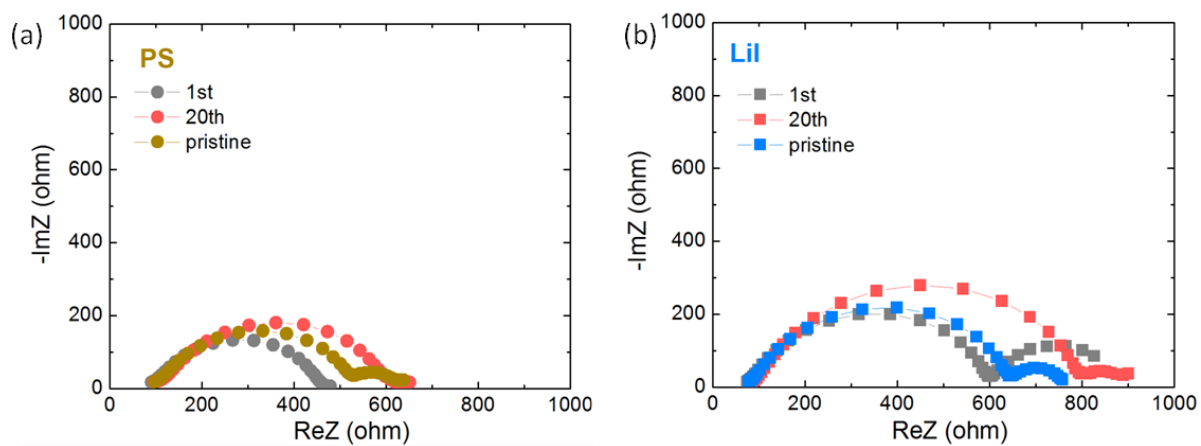


Figure S2. EIS results of (a) 0.5 M polysulfide and (b) 1 M polyiodide in Li-based half cells at pristine and after 1st and 20th cycles at 0.1 mA cm^{-2} .

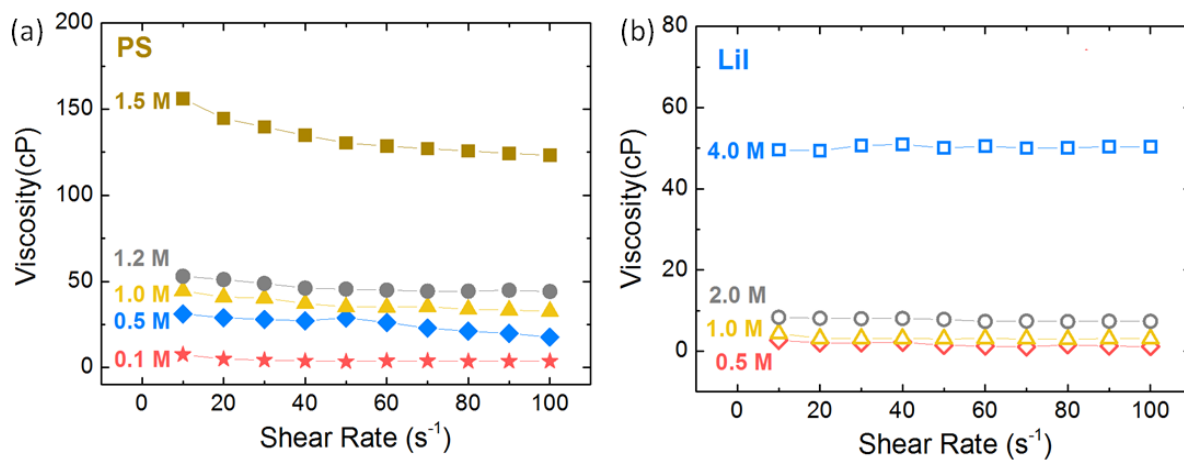


Figure S3. Viscosity measurements of various concentration of (a) polysulfide and (b) polyiodide.

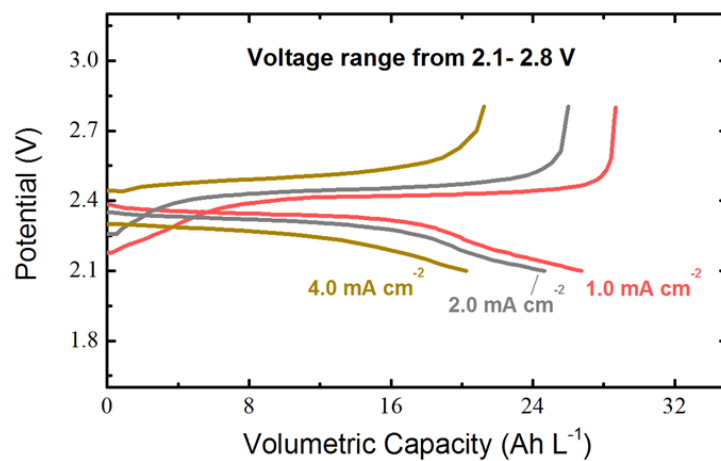


Figure S4. First galvanostatic discharge-charge profiles of 0.5 M polysulfide anolyte at various current densities in a Li-based half cell without ceramic membrane.

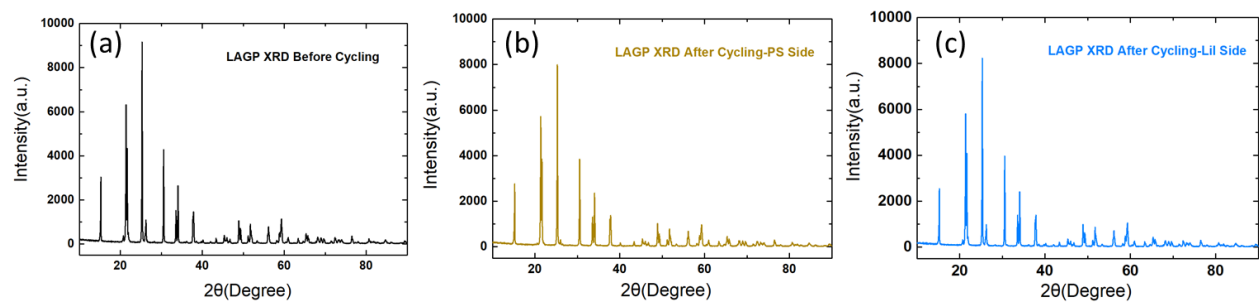


Figure S5. XRD results of ceramic membrane (a) before cycling and (b)-(c) after cycling including polysulfide side and polyiodide side.

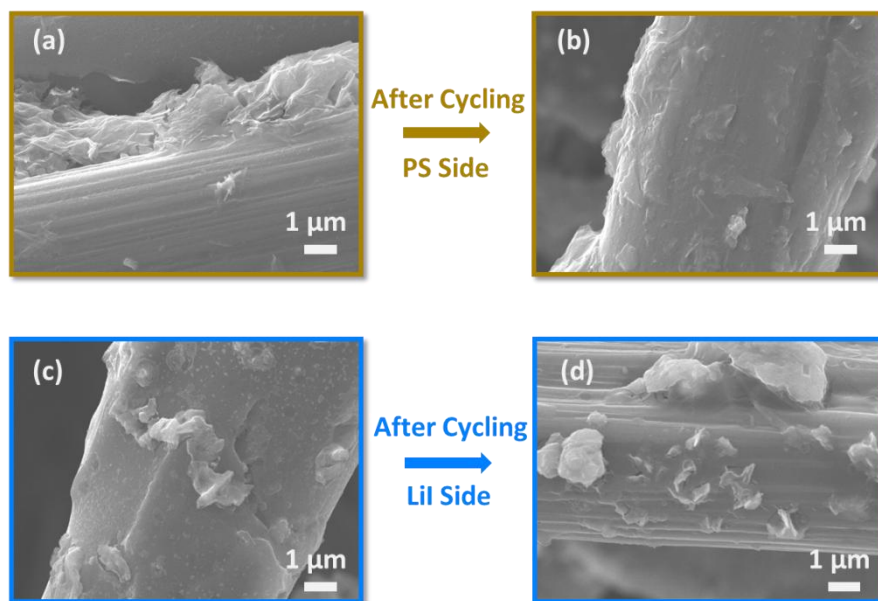


Figure S6. SEM images of current collector (a) (c) before cycling and (b) (d) after cycling in both anolyte and catholyte sides.

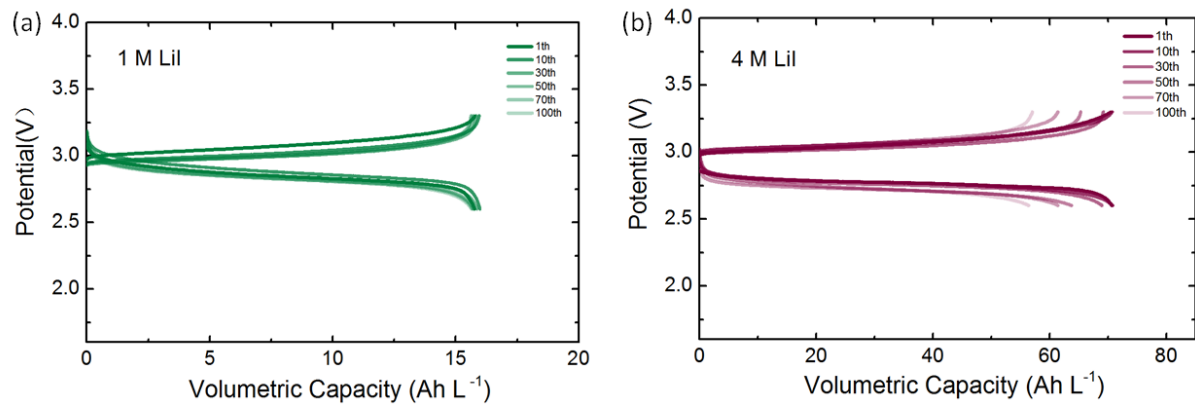


Figure S7. Galvanostatic charge-discharge profiles (100 cycles) of (a) 1 M LiI catholyte and (b) 4 M LiI catholyte at 0.1 mA cm^{-2} in a Li-based half cell.

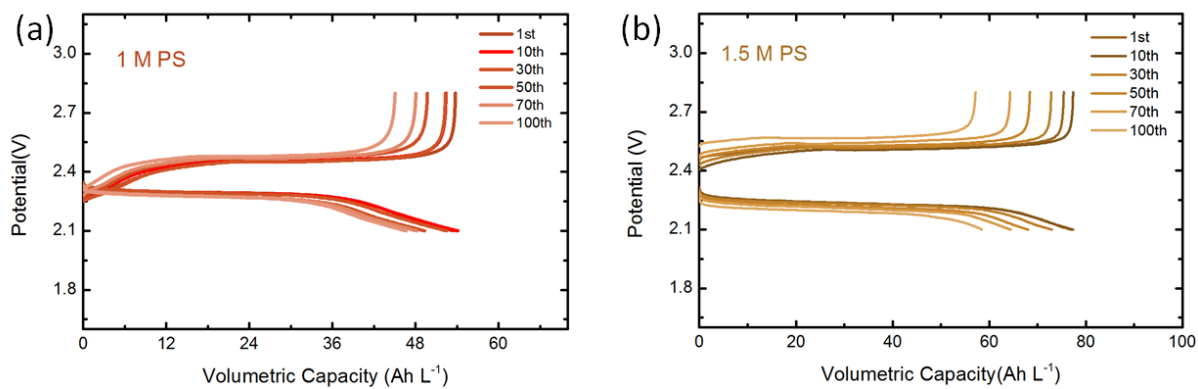


Figure S8. Galvanostatic discharge-charge profiles (100 cycles) of (a) 1 M polysulfide anolyte and (b) 1.5 M polysulfide anolyte at 0.1 mA cm^{-2} in a Li-based half cell.

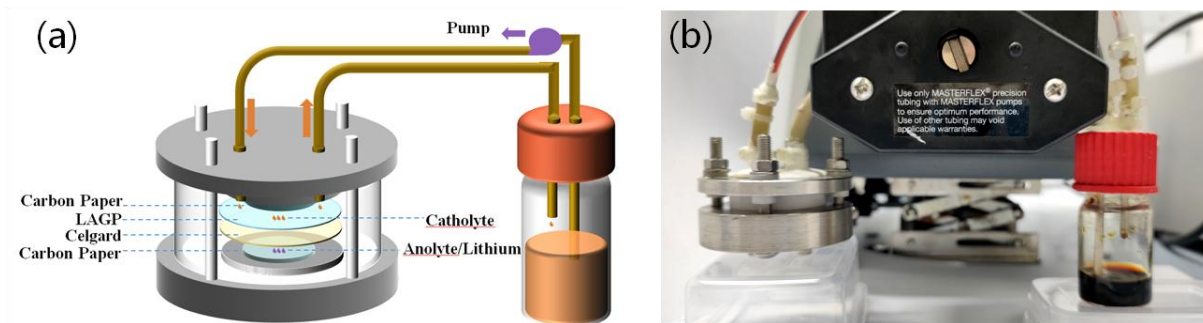


Figure S9. (a) Schematic illustration and (b) Photograph of flow cell configuration.