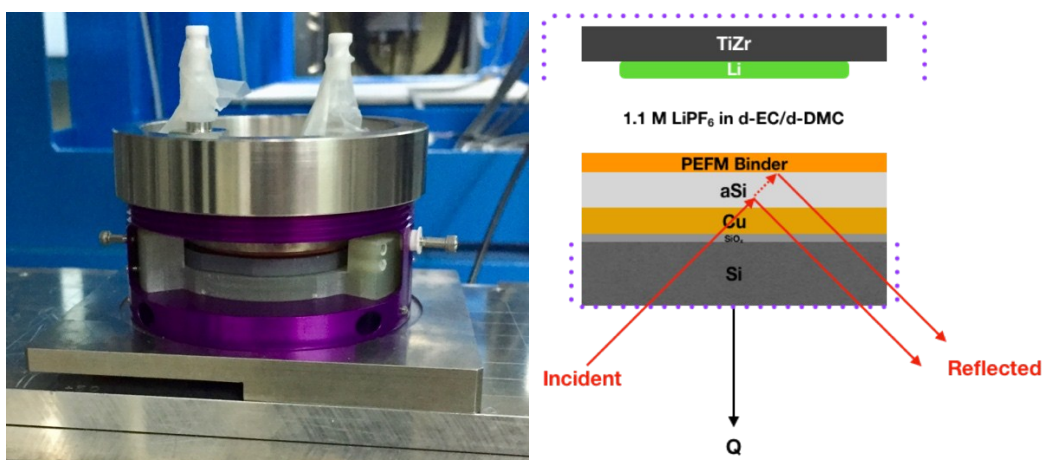
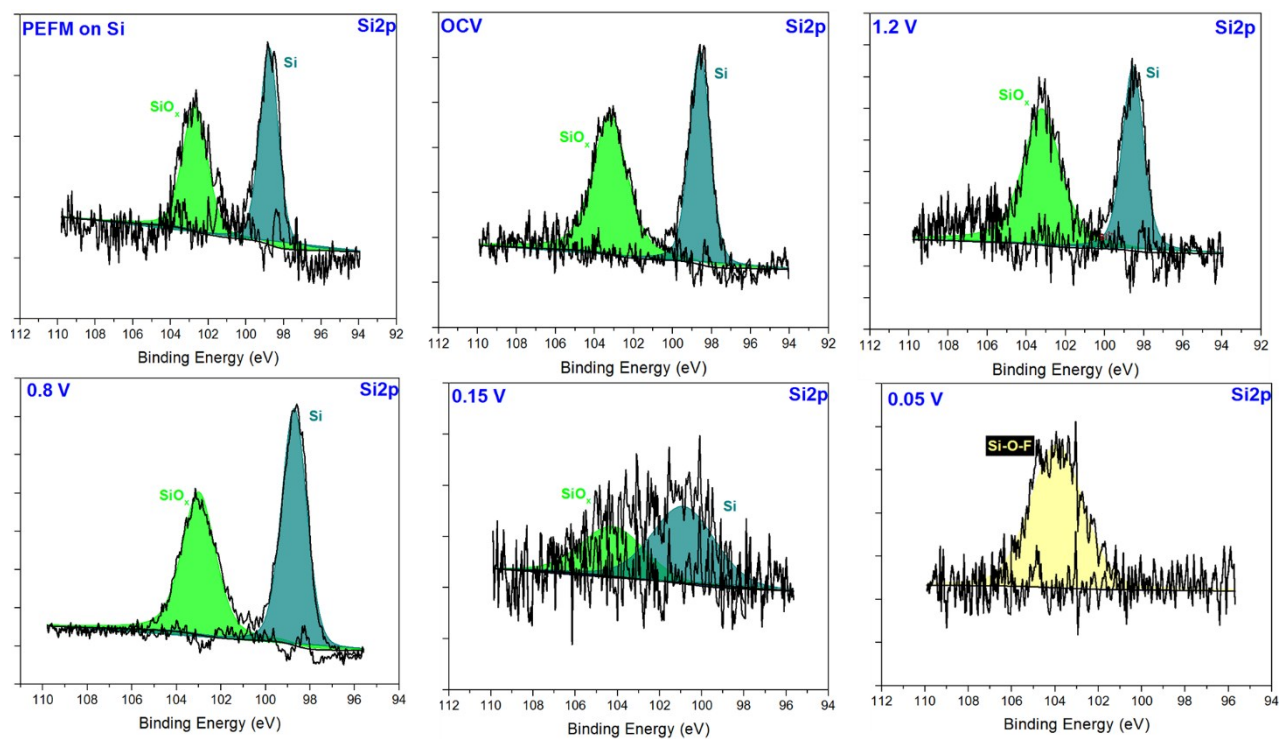


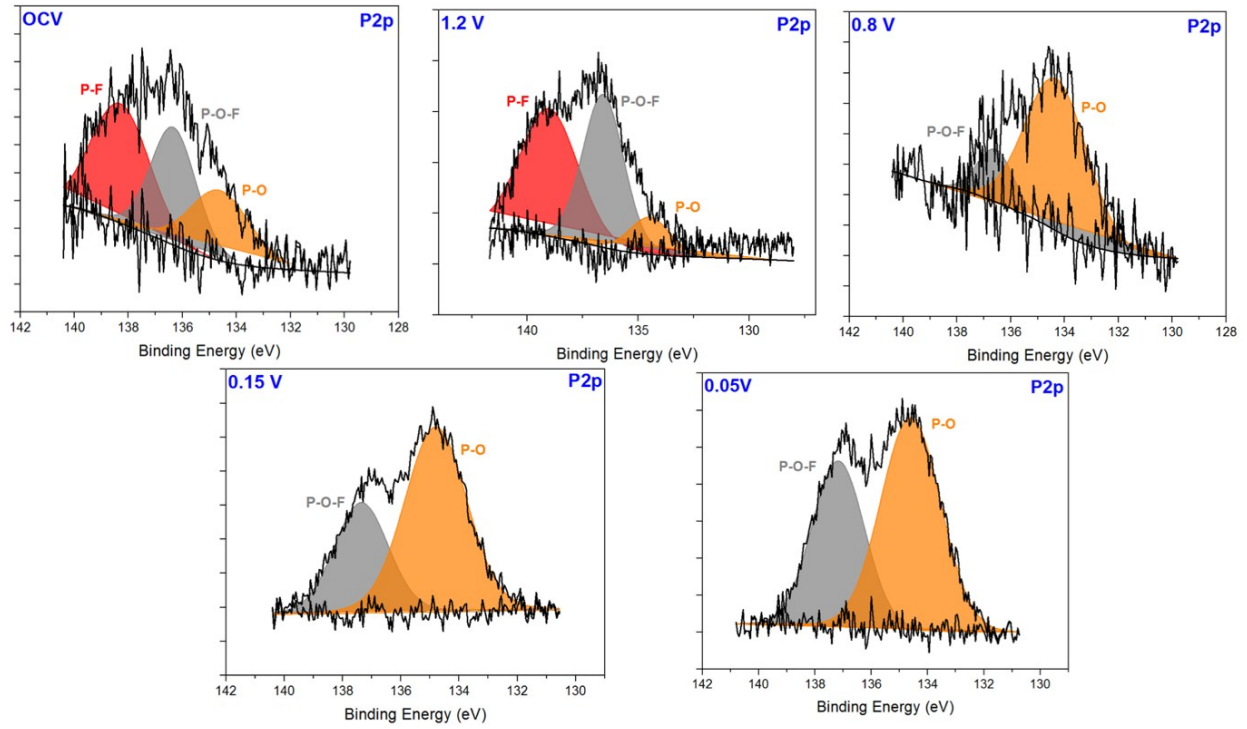
## Supplemental



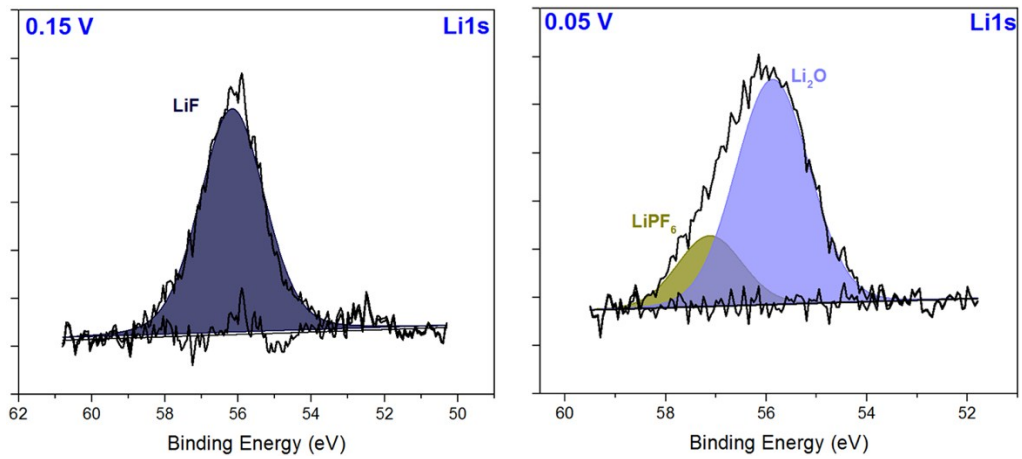
**Figure S1.** The electrochemical cell used for the *in situ* NR experiment and scattering geometry through the cell.



**Figure S2.** XPS results for Si2p spectra



**Figure S3.** XPS results for P2p spectra



**Figure S4.** XPS results for Li1s spectra

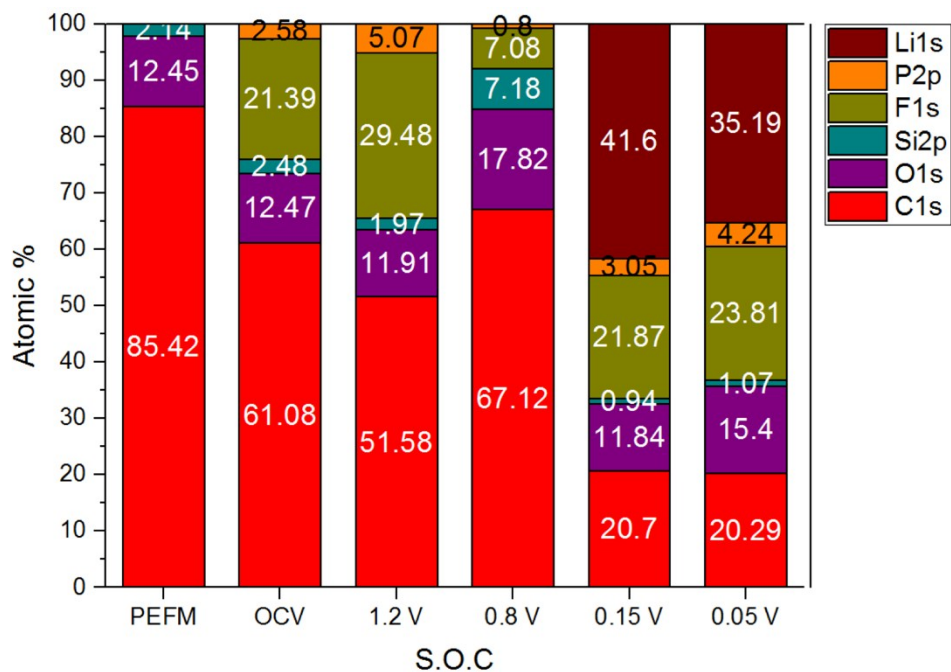


Figure S5. Atomic percent of XPS witness samples

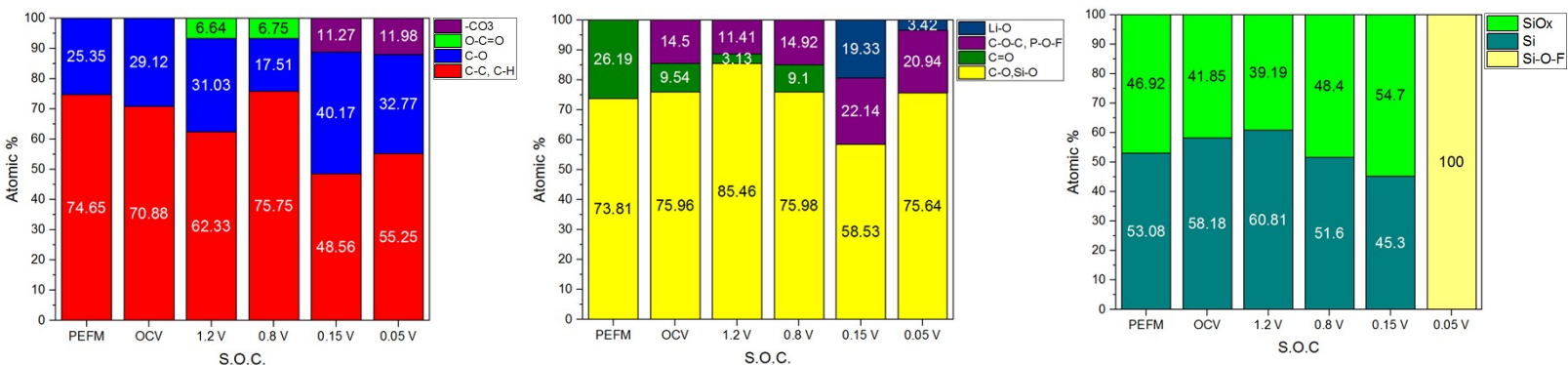
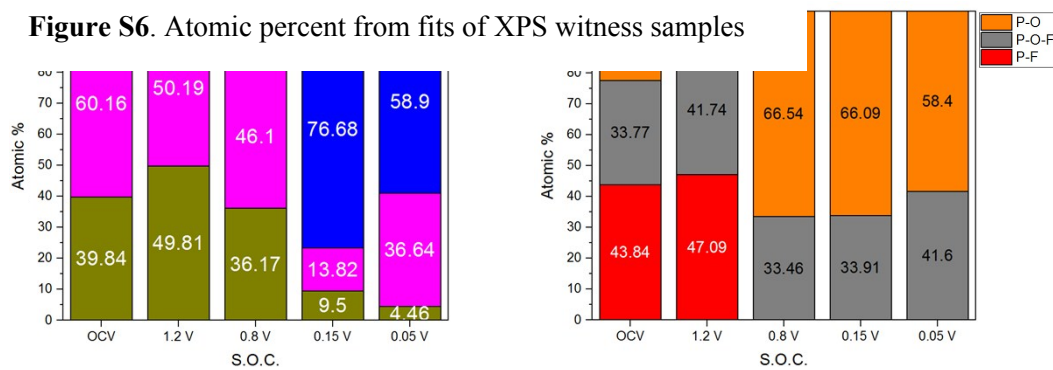
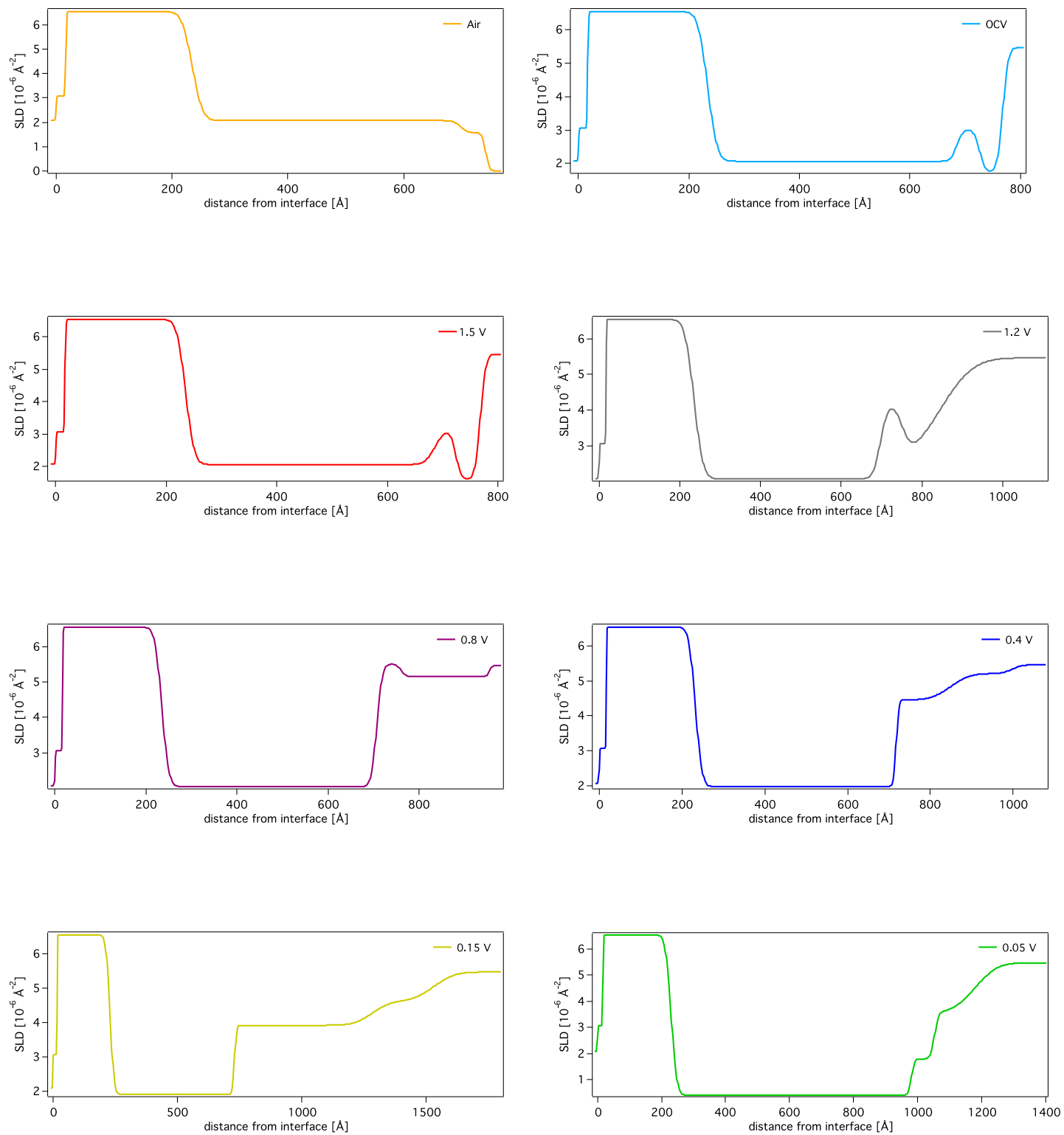


Figure S6. Atomic percent from fits of XPS witness samples





**Figure S7.** Individual SLD depth profiles for each state of charge.