

Supplementary Figures

VS-EG₂-ene

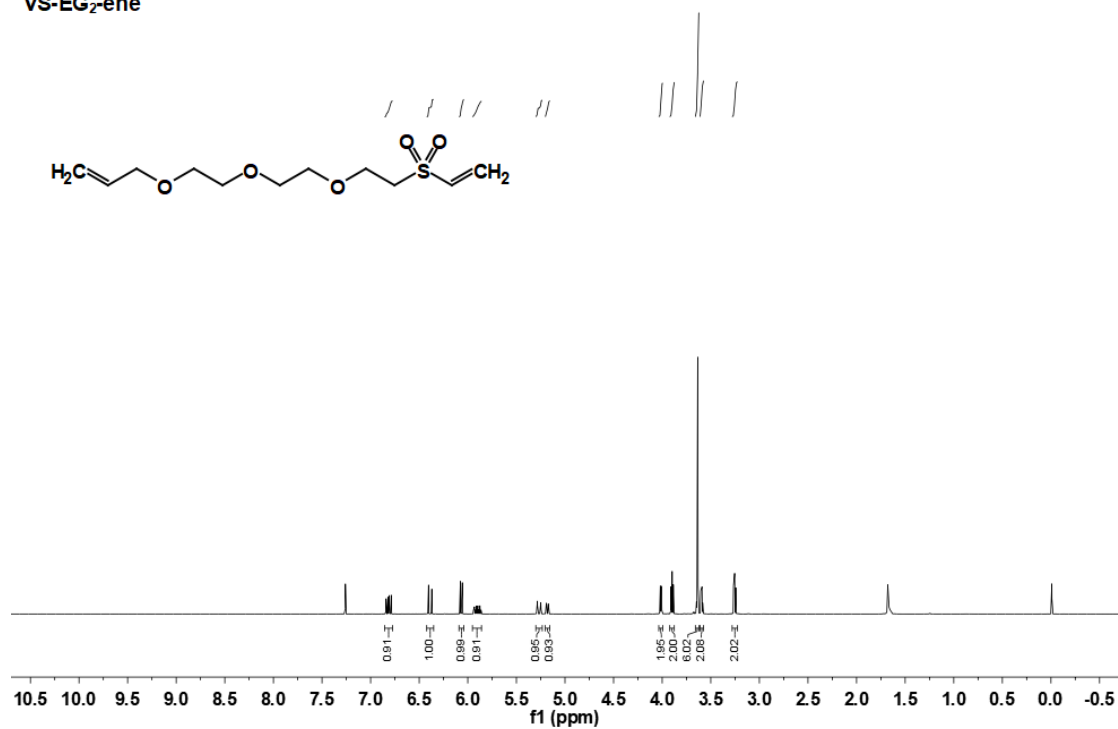


Figure S1. ¹H NMR spectra of VS-EG₂-ene

VS-EG₂-ene

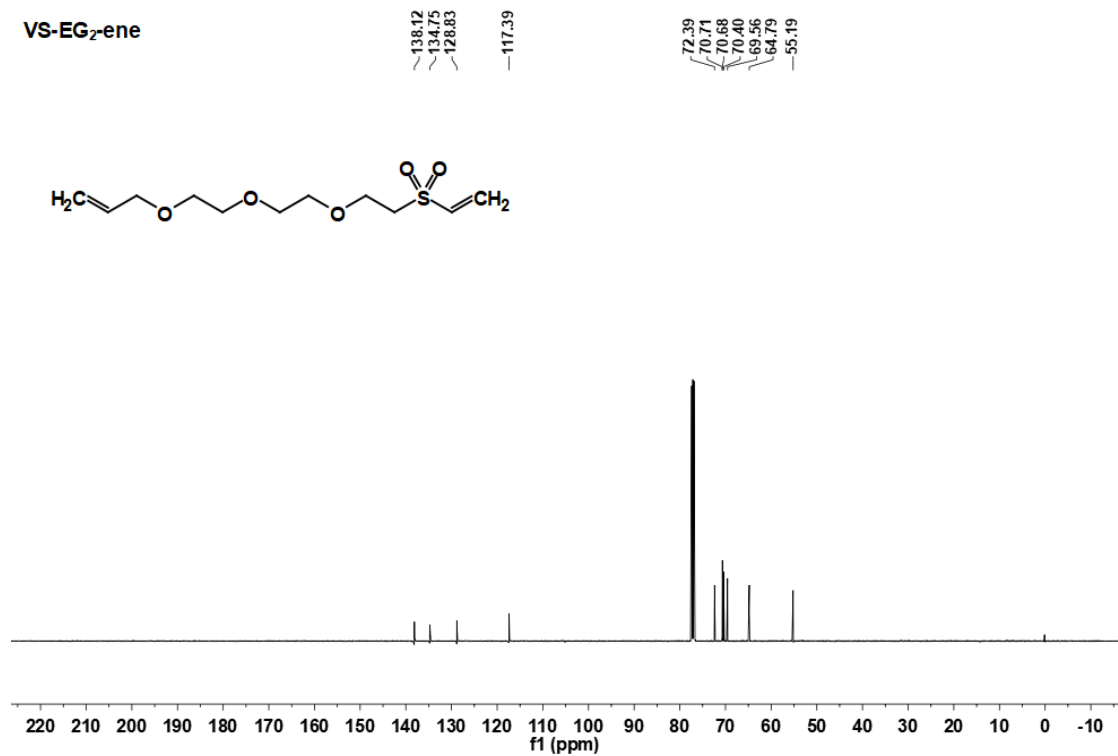


Figure S2. ¹³C NMR spectra of VS-EG₂-ene

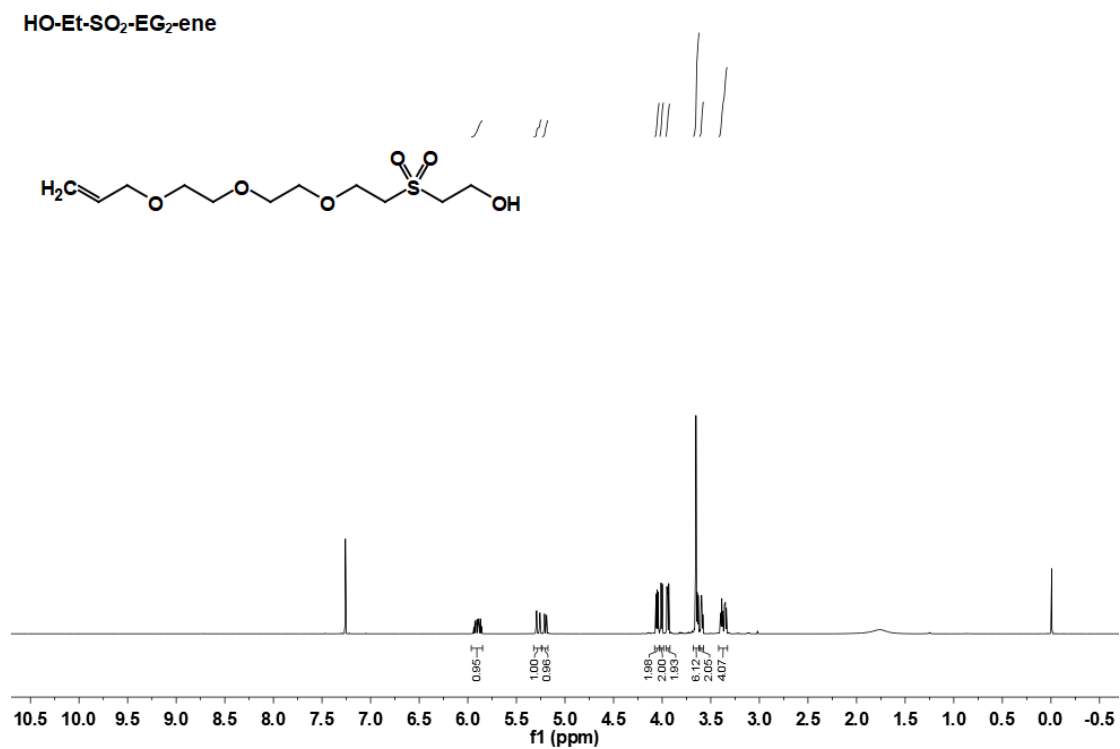


Figure S3. ¹H NMR spectra of HO-Et-SO₂-EG₂-ene

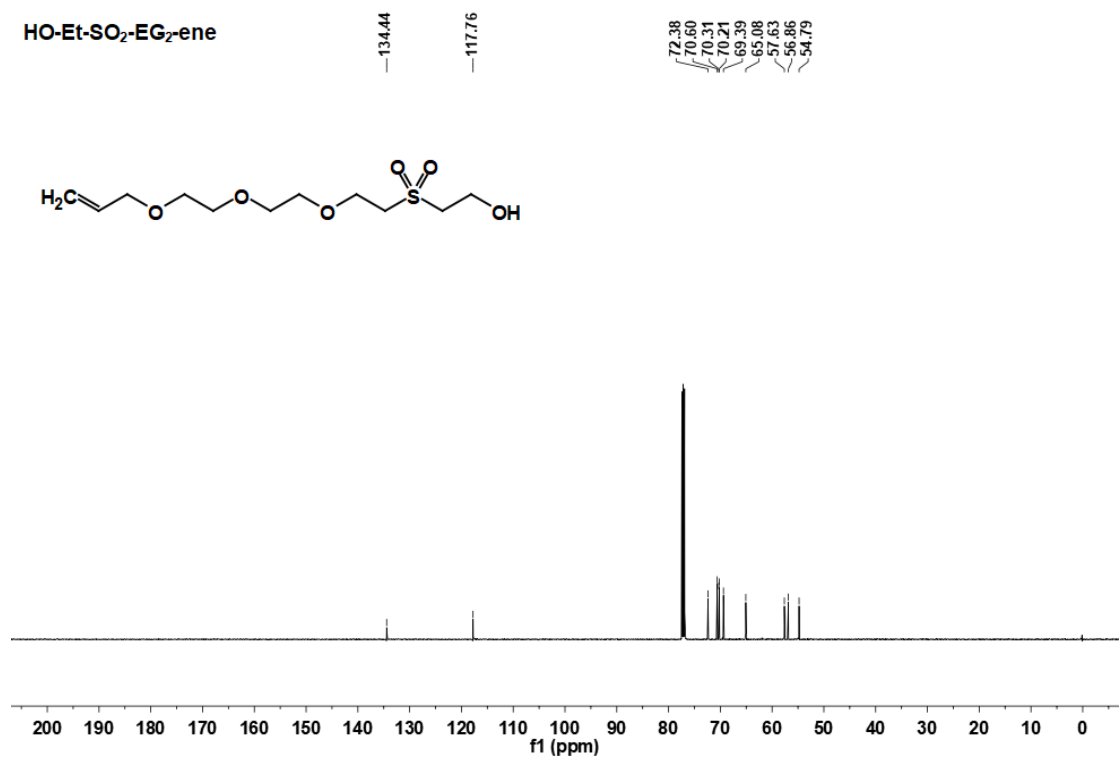


Figure S4. ¹³C NMR spectra of HO-Et-SO₂-EG₂-ene

Cl-Et-SO₂-EG₂-ene

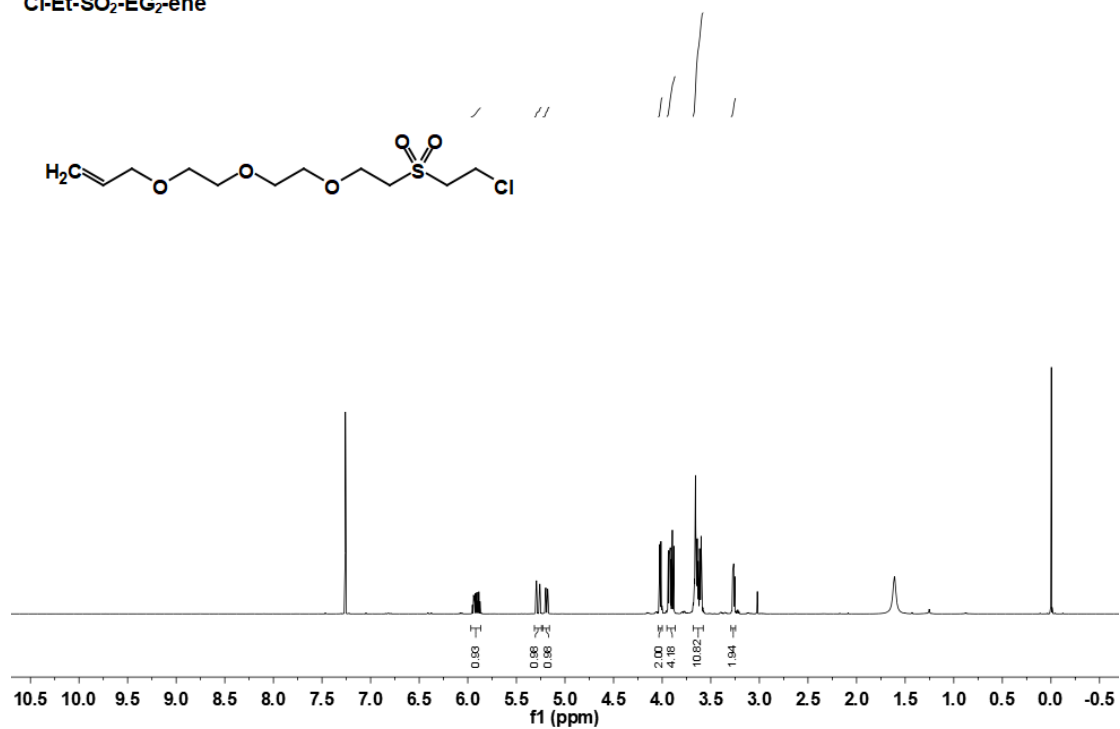


Figure S5. ¹H NMR spectra of CES-EG₂-ene (Cl-Et-SO₂-EG₂-ene)

Cl-Et-SO₂-EG₂-ene

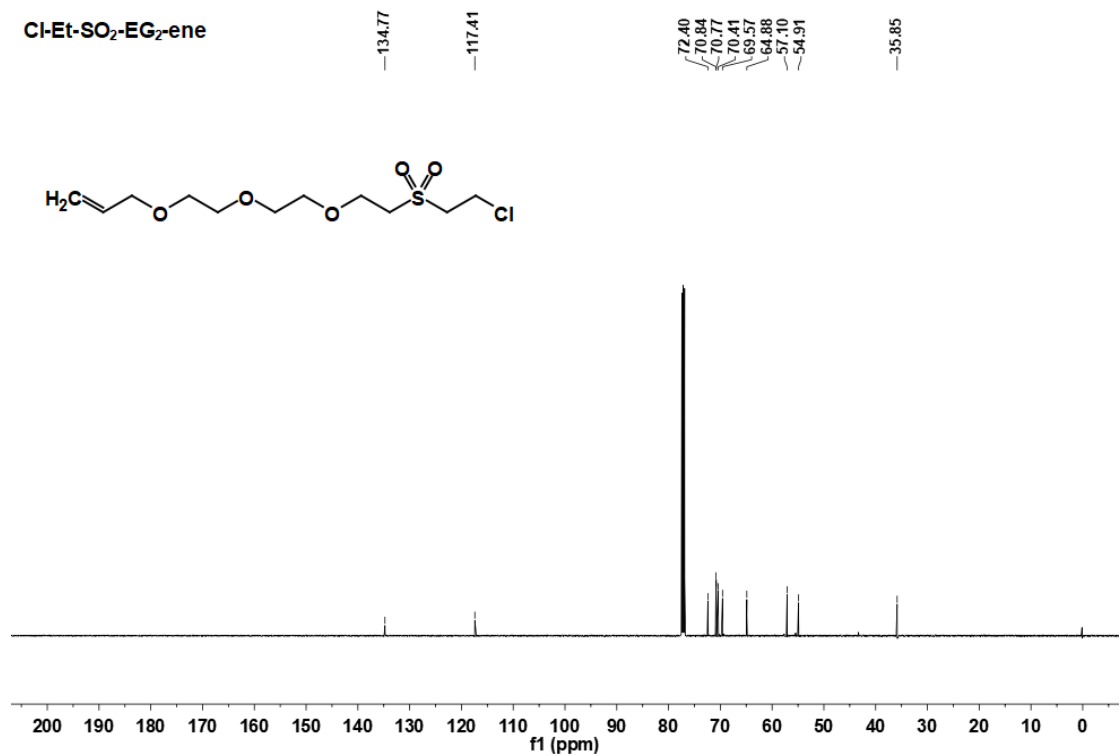


Figure S6. ¹³C NMR spectra of CES-EG₂-ene (Cl-Et-SO₂-EG₂-ene)

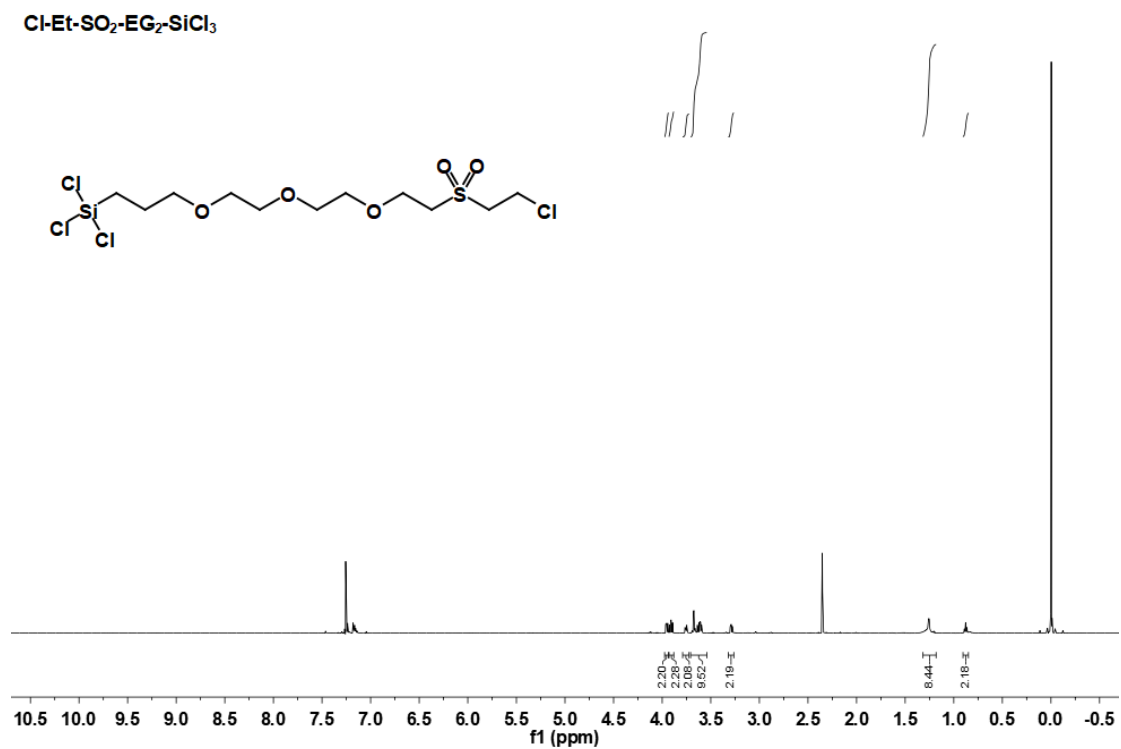


Figure S7. ¹H NMR spectra of CES-EG₂-SiCl₃ (Cl-Et-SO₂-EG₂-SiCl₃)

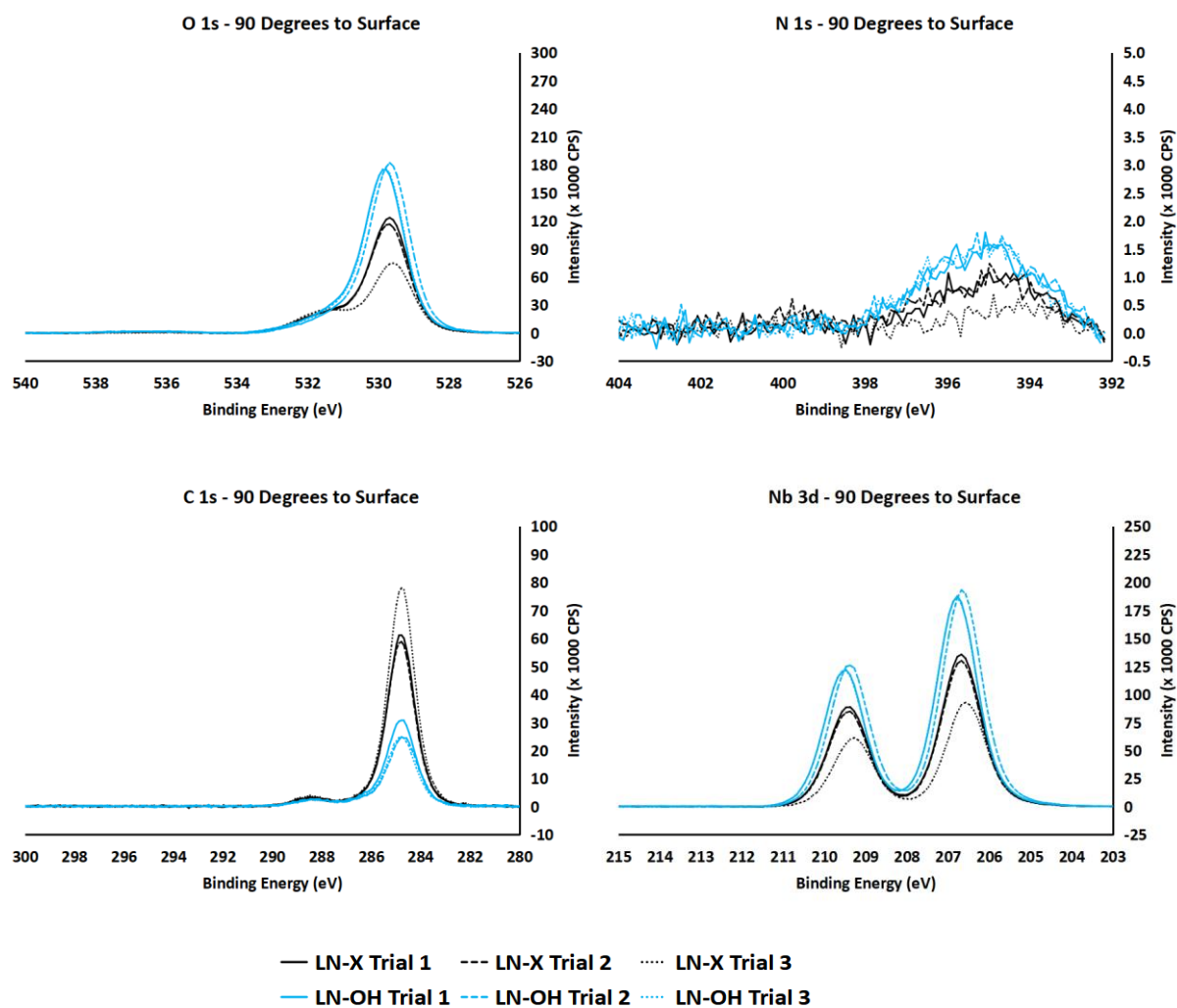


Figure S8. XPS narrow scans describing the functionalization of bare LN with OH (LN-X to LN-OH) - O 1s, N 1s, C 1s, and Nb 3d Profiles

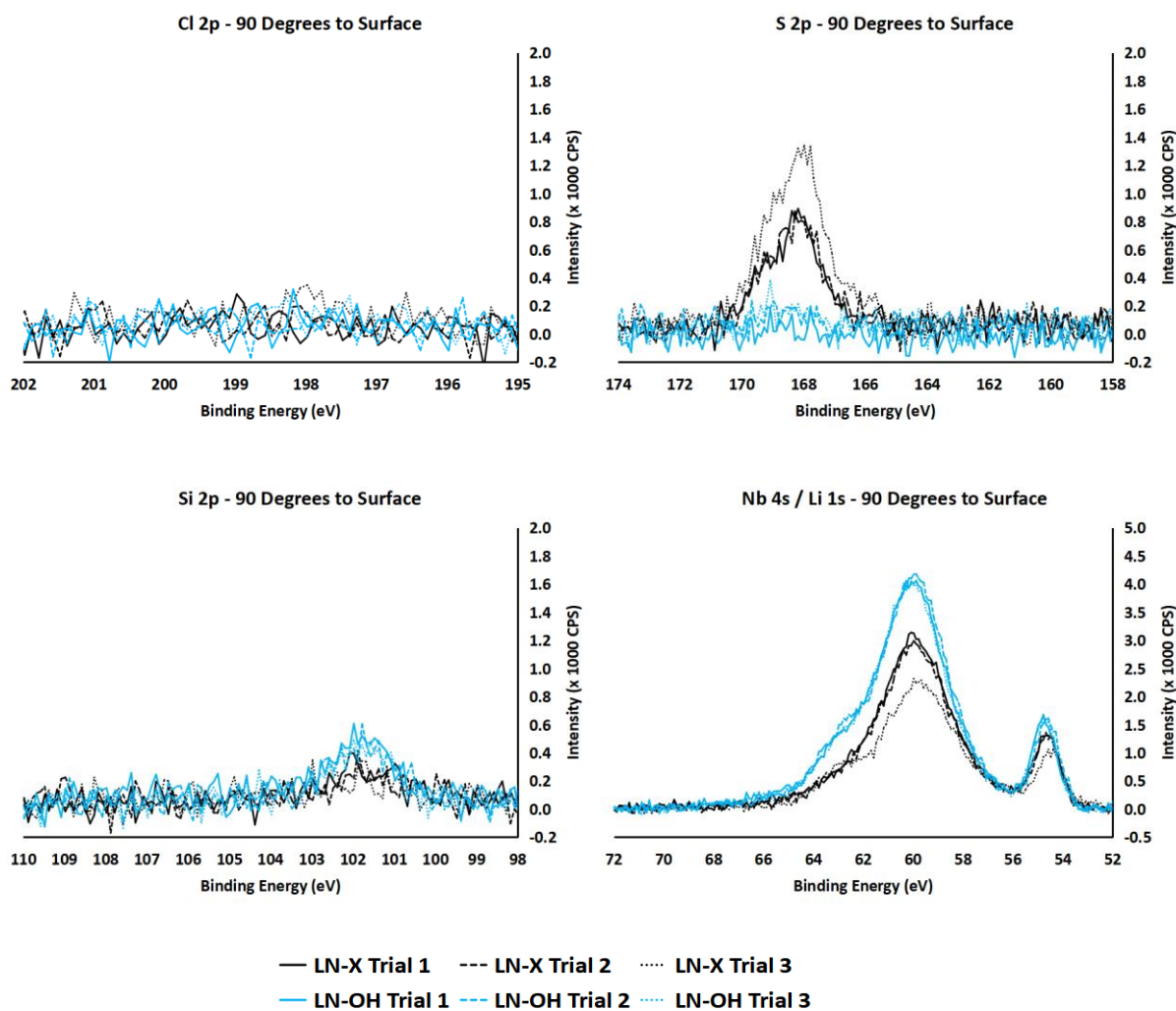


Figure S9. XPS narrow scans describing the functionalization of bare LN with OH (LN-X to LN-OH) - Cl 2p, S 2p, Si 2p, and Nb 4s / Li 1s Profiles

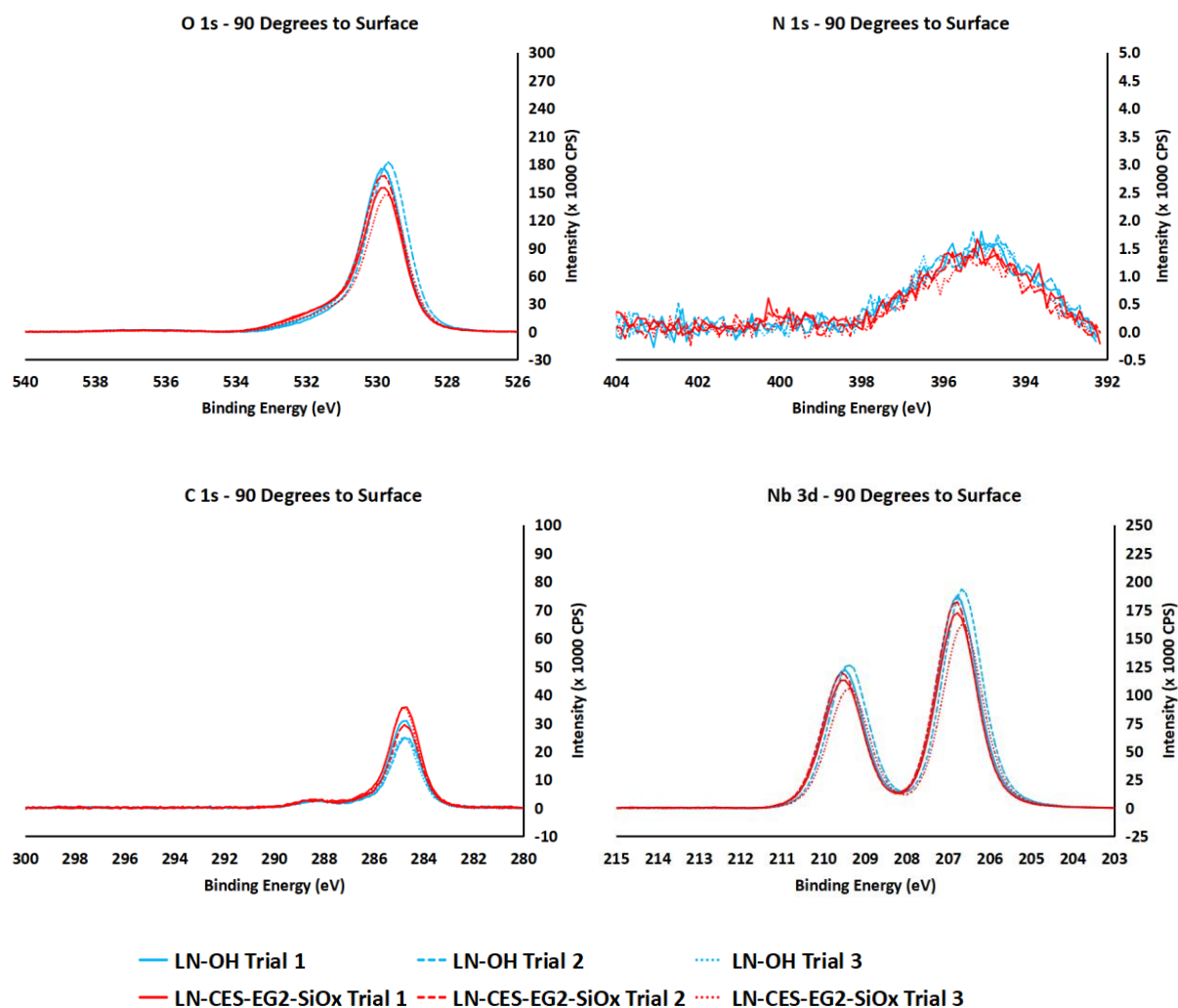


Figure S10. XPS narrow scans describing the surface modification of LN with CES-EG₂-SiCl₃ (LN-OH to LN-CES-EG₂-SiO_x) - O 1s, N 1s, C 1s, and Nb 3d Profiles

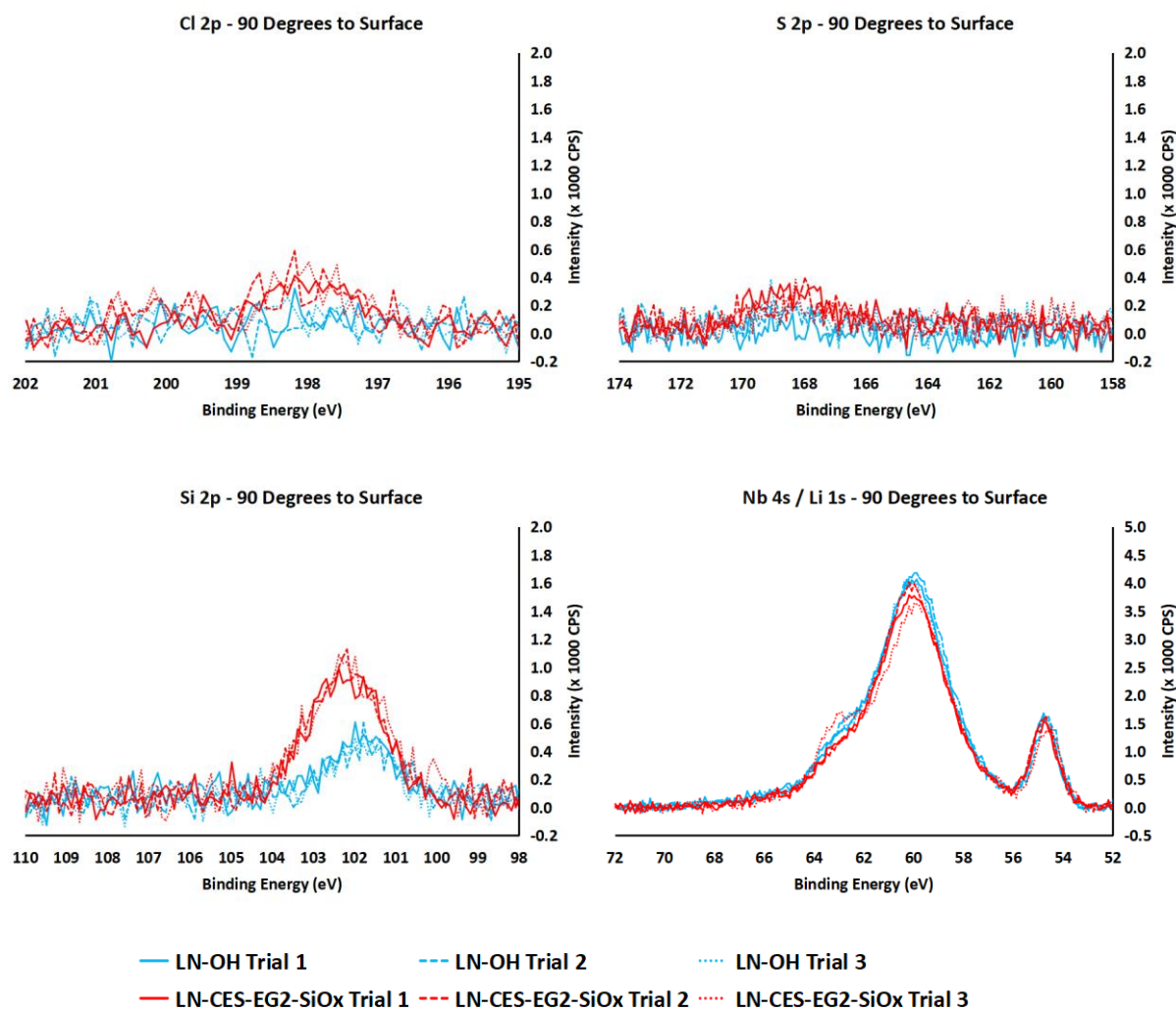


Figure S11. XPS narrow scans describing the surface modification of LN with CES-EG₂-SiCl₃ (LN-OH to LN-CES-EG₂-SiO_x) - Cl 2p, S 2p, Si 2p, and Nb 4s / Li 1s Profiles

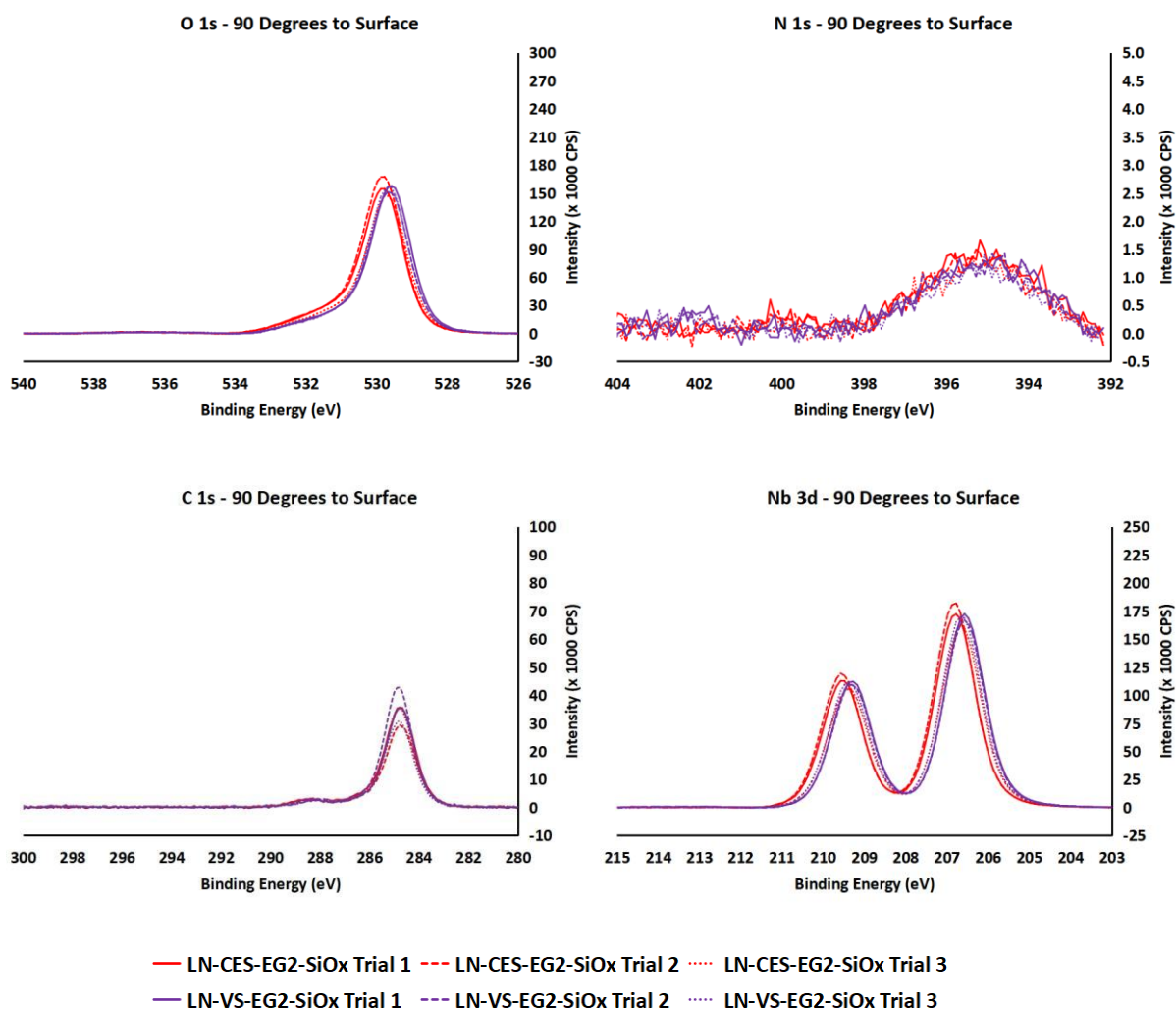


Figure S12. XPS narrow scans describing the conversion of on-surface CES groups to VS groups (LN-CES-EG2-SiOx to LN-VS-EG2-SiOx) - O 1s, N 1s, C 1s, and Nb 3d Profiles

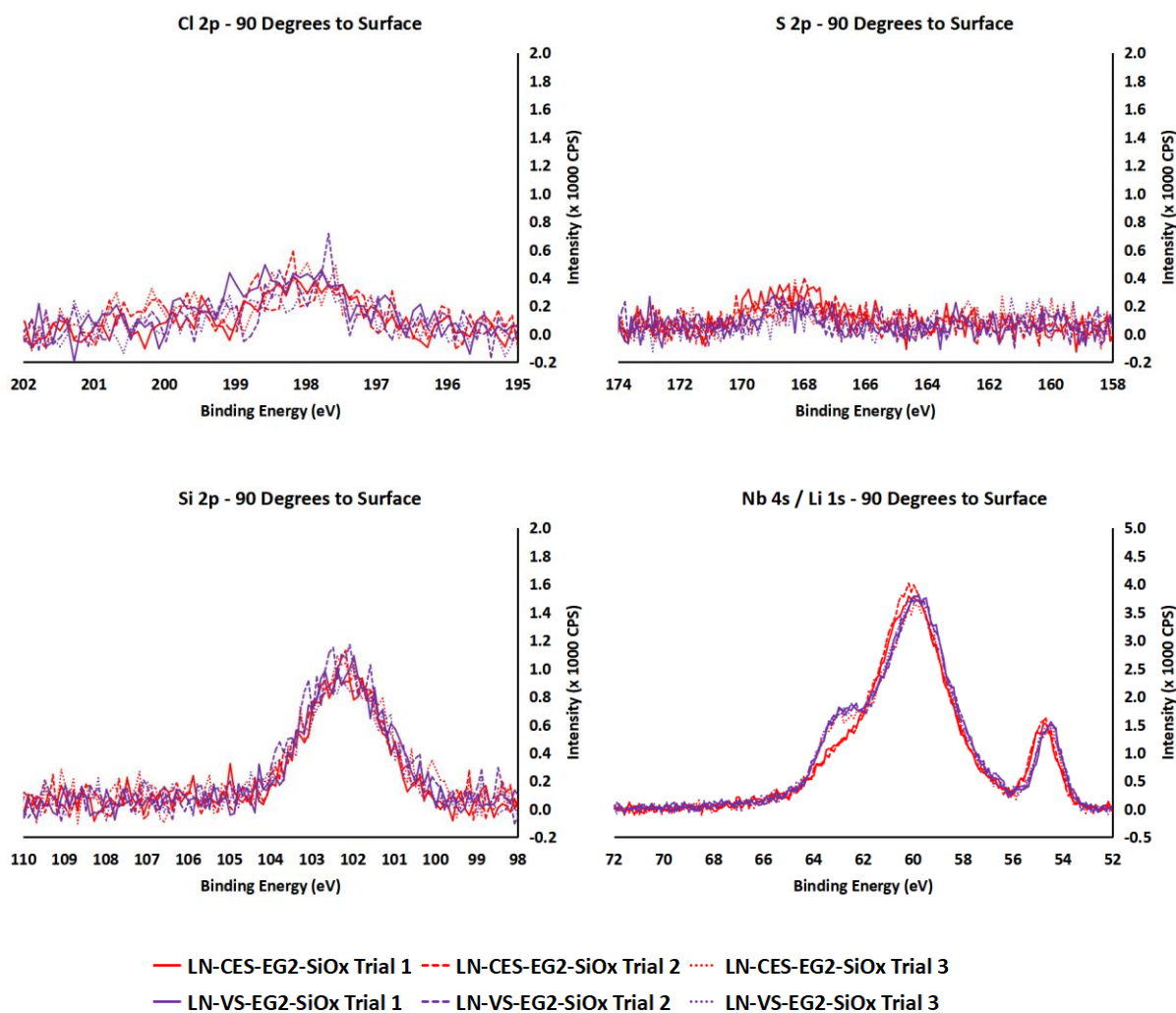


Figure S13. XPS narrow scans describing the conversion of on-surface CES groups to VS groups (LN-CES-EG2-SiOx to LN-VS-EG2-SiOx) - Cl 2p, S 2p, Si 2p, and Nb 4s / Li 1s Profiles

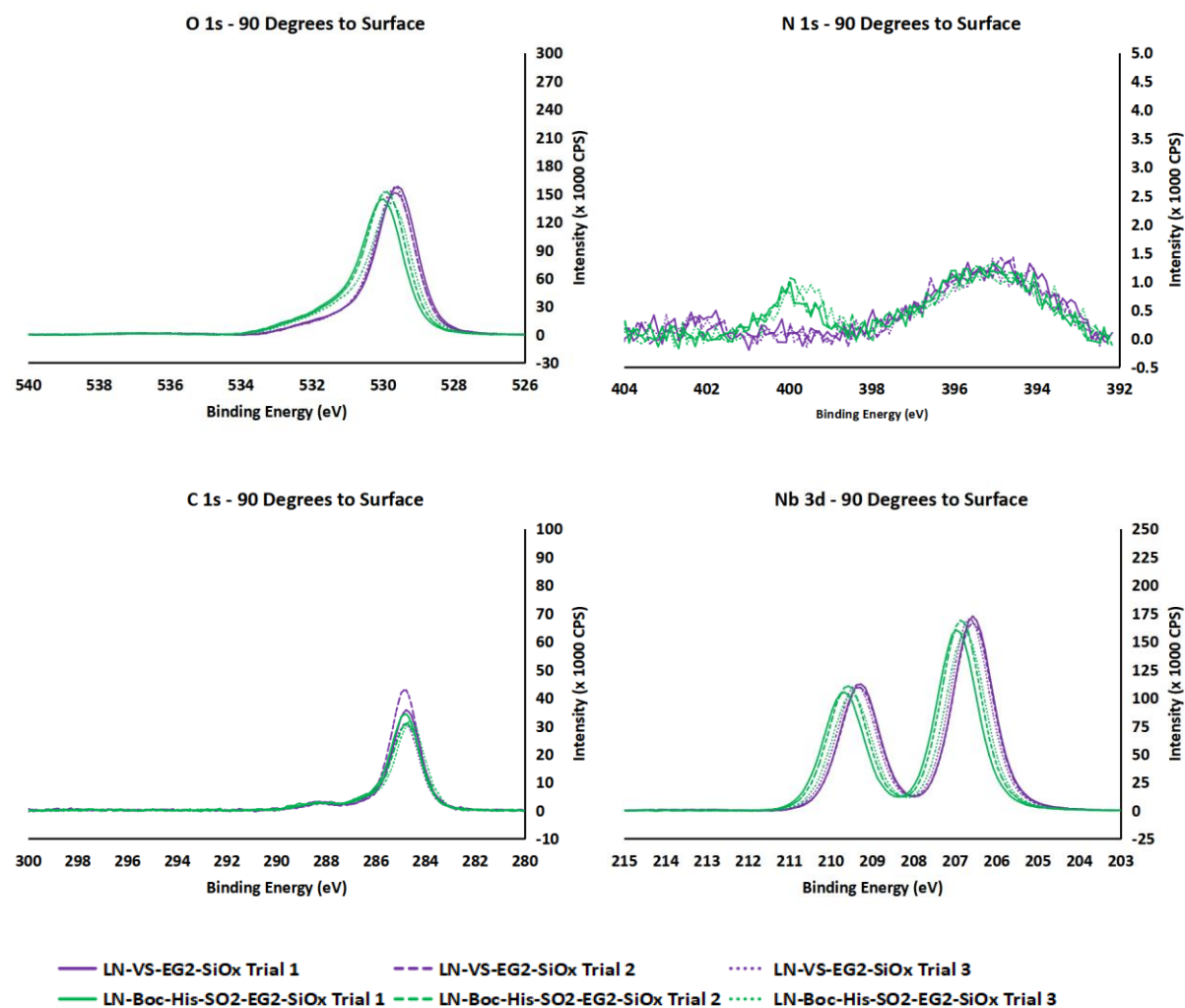


Figure S14. XPS narrow scans describing treatment of VS-bearing LN with Boc-His-OH (LN-VS-EG2-SiOx to LN-Boc-His-Et-SO2-EG2-SiOx) - O 1s, N 1s, C 1s, and Nb 3d Profiles

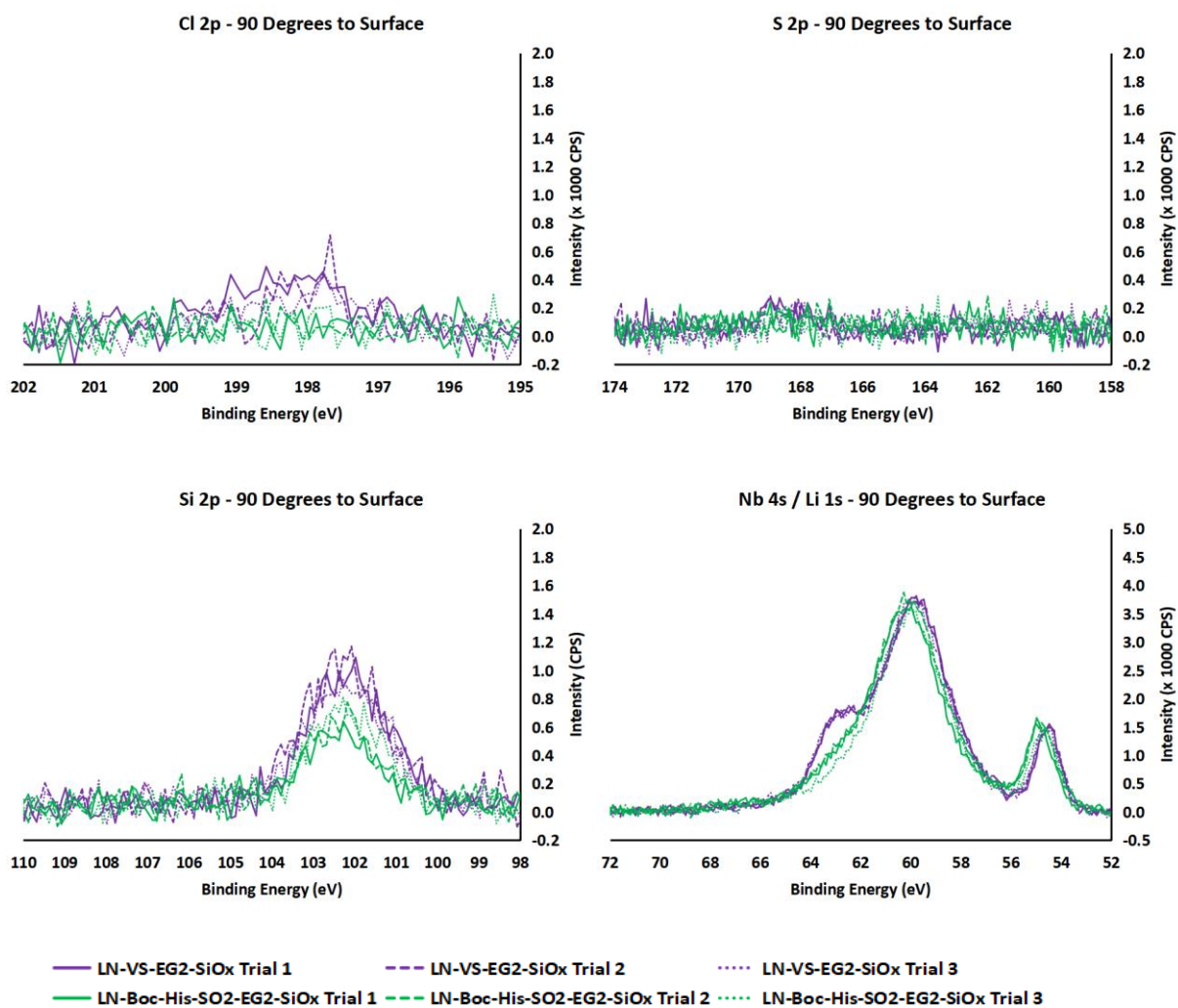


Figure S15. XPS narrow scans describing the treatment of VS-bearing LN with Boc-His-OH (LN-VS-EG2-SiOx to LN-Boc-His-Et-SO2-EG2-SiOx) - Cl 2p, S 2p, Si 2p, and Nb 4s / Li 1s Profiles

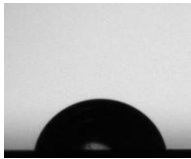
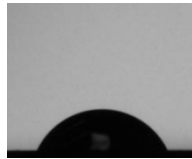
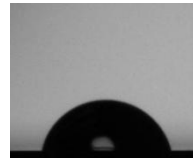









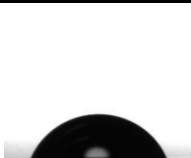
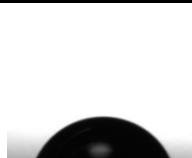
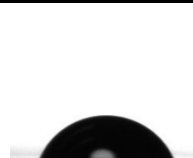
Lithium Niobate Samples	Trial 1	Trial 2	Trial 3
LN-X (Bare, Untreated)	 76.7°	 65.6°	 76.5°
LN-OH (Hydroxylated)	 63.2°	 48.0°	 58.2°
LN-CES-EG2-SiO_x (CES-EG₂-SiCl₃ modified)	 71.2°	 66.8°	 67.7°
LN-VS-EG2-SiO_x (VS-Bearing)	 69.2°	 67.0°	 58.2°
LN-Boc-His-Et-SO₂-EG₂-SiO_x (Boc-His-OH treated)	 71.0°	 69.3°	 70.7°

Figure S16. Water contact angles LN with the various surface modifications