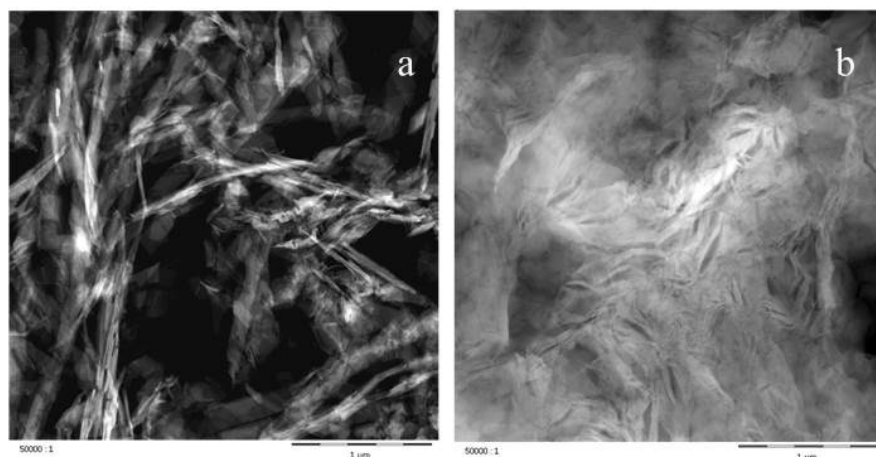
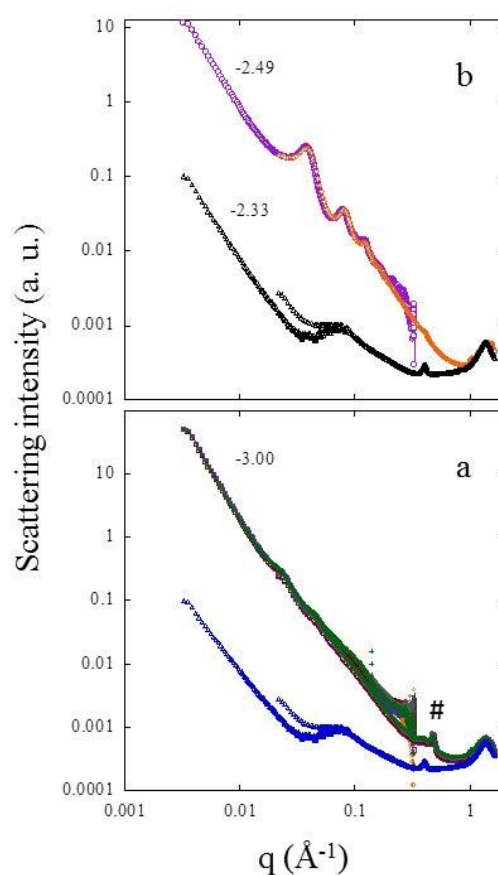


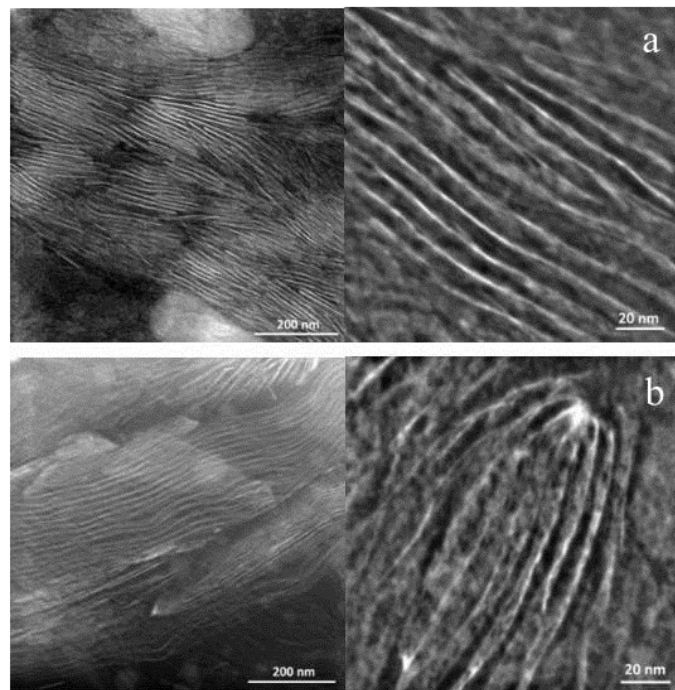
## Supporting Information



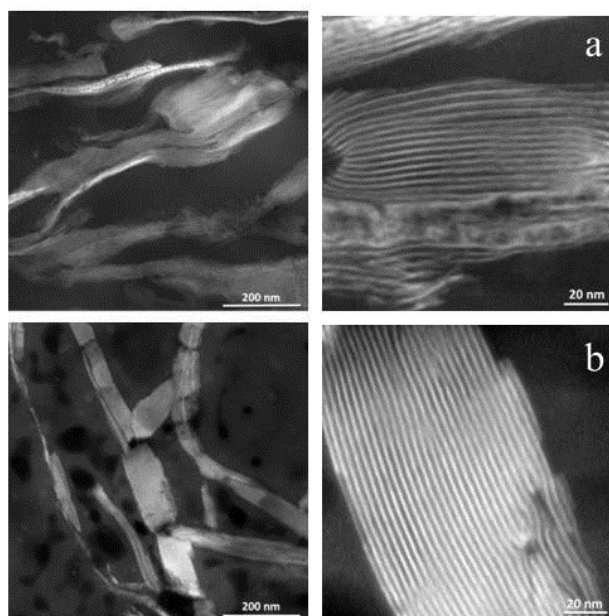
**SEI 1.** TEM pictures of a) LSH and b) LDH phase. Scale bar is of 1  $\mu\text{m}$ .



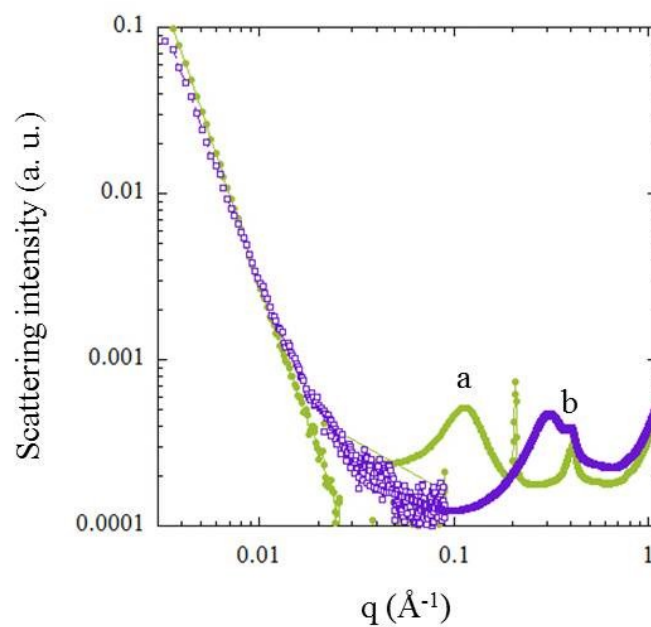
**SEI 2.** SAXS spectra for LSH / PESH mixture prepared a) ex-situ and b) in-situ. The slope in the domain [40 to 140 nm] is indicated. Symbol # represents the acetate LSH harmonic diffraction peaks.



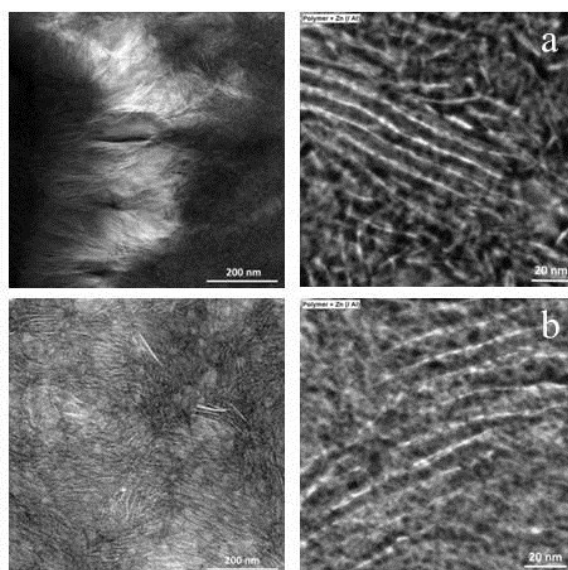
**SEI 3.** TEM pictures of the LSH-Zn-PES synthesized by a) in-situ and b) ex-situ. Scale bar represent 200 and 20 nm.



**SEI 4.** TEM pictures of LSH platelets dispersed ex-situ in a) bola-PES and b) bola-HBA.



**SEI 5.** SAXS spectrum of the bola itself dispersed in water is displayed in a) for bola-PES and b) bola-HBA



**SEI 6.** TEM pictures of the LDH PES synthesized by a) in-situ and b) ex-situ. Scale bar represent 200 and 20 nm.