Supporting Information

Temperature–dependent Insertion and Adsorption of Lithium on Spinel Li$_4$Ti$_5$O$_{12}$(111) Thin Films as Model Electrode – An Angle-resolved XPS Study

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Fig. S1 XP spectra of the O 1s spectral range after successive Li vapor deposition up to 7.8 MLE on a Li$_4$Ti$_5$O$_{12}$(111) thin film substrate at 80 K, recorded at grazing emission ($\theta = 80^\circ$). All O 1s spectra are plotted at the same intensity scale.
**Fig. S2** XP spectra of the Ti 2p spectral range before (black dots) and after (red dots) 1.2 MLE of Li vapor deposition on a Li$_4$Ti$_5$O$_{12}$(111) thin film substrate at 300 K, recorded at grazing emission ($\theta = 80^\circ$).
Fig. S3  XP spectra of the Ti 2p spectral range after successive Li vapor deposition up to 7.8 MLE on a Li$_4$Ti$_5$O$_{12}$(111) thin film substrate at 80 K, recorded at normal emission (θ = 0°). All Ti 2p spectra are plotted at the same intensity scale.
**Fig. S4.** (a) XP spectra of the Ti 2p spectral range (emission 80°) obtained for pristine Li$_4$Ti$_5$O$_{12}$(111) without vapor-deposited Li during slow heating (~ 100 K h$^{-1}$) from 80 to 260 K, recorded at grazing emission (θ = 80°). (b) Temperature dependence of the FWHM of Ti 2p peak. Red solid dot and gray square symbols correspond to Ti 2p$_{3/2}$ and Ti 2p$_{1/2}$, respectively.