Supporting Information

Hierarchically organized Li-Al-LDH nano-flakes: a low-temperature approach to seal porous anodic oxide on aluminum alloys

Figure S1 – (a) XRD spectra of the LDH layers and respective (b) fitting curves for layers grown at pH 9 and pH 11, respectively (■ LDH, ★ TSA, ● Al(OH)₃, ● Li₂CO₃).
Figure S2 – Cross-sectional TEM images of the (a) LDH-OH/CO$_3$ and (b) LDH-VO$_x$ sealing layers (with respective inset images of the diffraction patterns) and related (c and d) EDX spectra.
Figure S3 – XRD spectra of thick sealing layers (growth time of 5 hours) of LDH-OH/CO$_3$ and LDH-VO$_x$ (LDH, TSA).
**Figure S4** – Photographs and SEM images of (a,b) hot-water sealed TSA (reference sample), and (c,d) LDH-OH/CO$_3$ and (e,f) LDH-VO$_x$ sealed TSA.
**Figure S5** – SVET maps evolution over immersion time of LDH-VO$_x$ layers with artificial defects.
Figure S6 – Optical images and Raman analyses of samples with artificial scribe before and after 48 h immersion in 0.05 M NaCl: (a,b) LDH-OH/CO$_3$ and (c-d) LDH-VO$_x$ sealed TSA.
Figure S7 – SEM images and EDX analyses of samples with artificial scribe before and after 48 h immersion in 0.05 M NaCl: (a,b) LDH-OH/CO$_3$ and (c-d) LDH-VO$_x$ sealed TSA.
Figure S8 – XRD spectra of thick sealing layers (growth time of 5 hours) of LDH-OH/CO$_3$ prepared at 95 °C and 25 °C (■ LDH, ★ TSA, ● Al(OH)$_3$, ○ Li$_2$CO$_3$).