

**Large oriented mesoporous self-supporting Ni-Al oxide films
derived from layered double hydroxide precursors**

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Supplementary Information

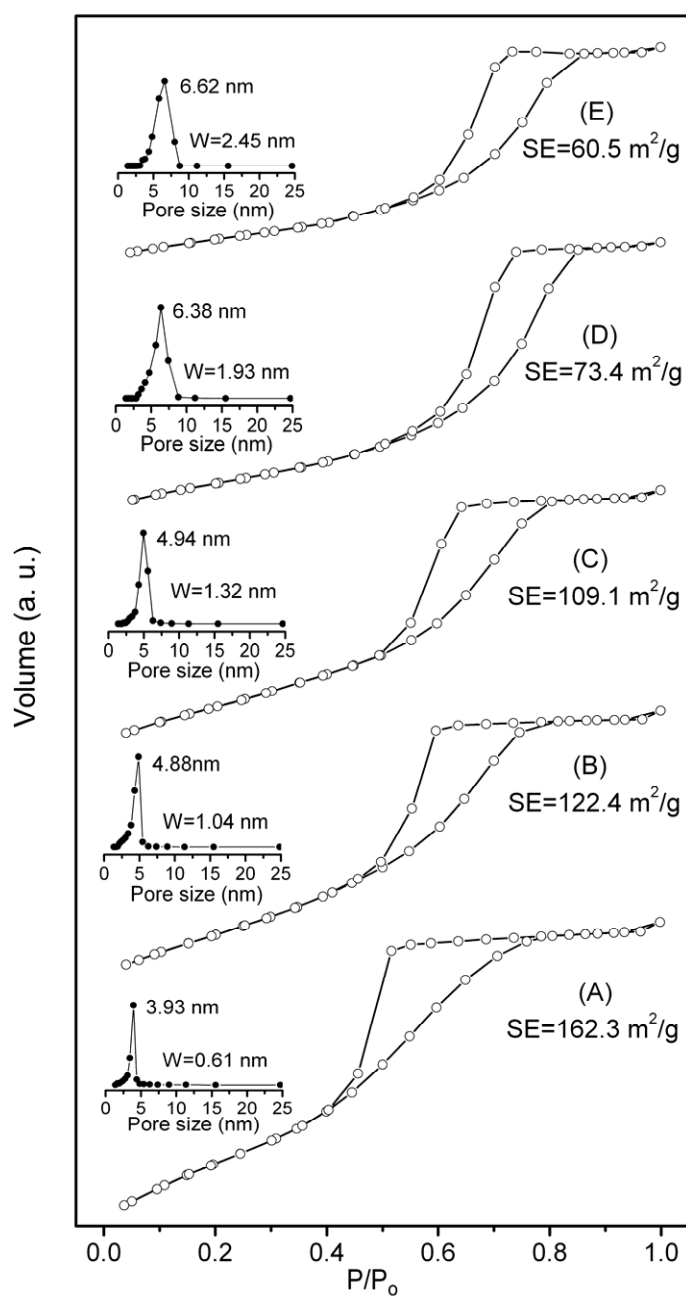


Fig. S1 N₂ adsorption and desorption isotherms and corresponding pore size distribution curves (insert) for the Ni-Al oxide films prepared by heating at 500 °C (A), 600 °C (B), 700 °C (C), 800 °C (D) and 900 °C (E). (SE represents surface area and W the peak width at half-height in the pore size distribution curves).

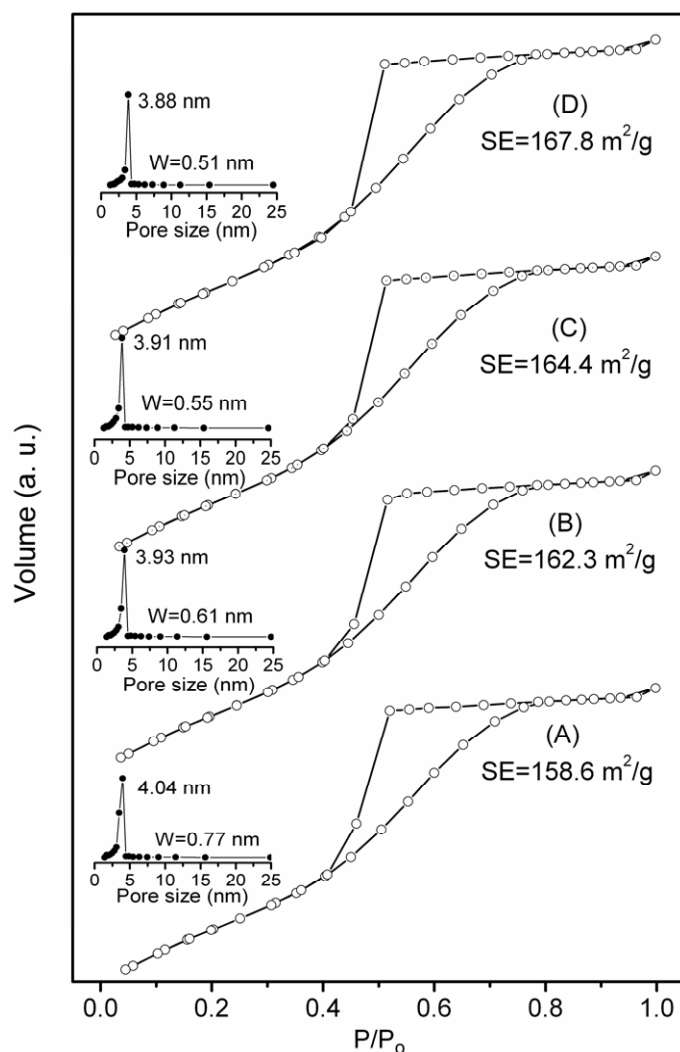


Fig. S2 N_2 adsorption and desorption isotherms and corresponding pore size distribution curves (insert) for the Ni-Al oxide films prepared by heating at 500 $^\circ\text{C}$ with an initial temperature ramping rate of 1 $^\circ\text{C}/\text{min}$ (A), 5 $^\circ\text{C}/\text{min}$ (B), 15 $^\circ\text{C}/\text{min}$ (C) and 30 $^\circ\text{C}/\text{min}$ (D). (SE represents surface area and W the peak width at half-height in the pore size distribution curves).

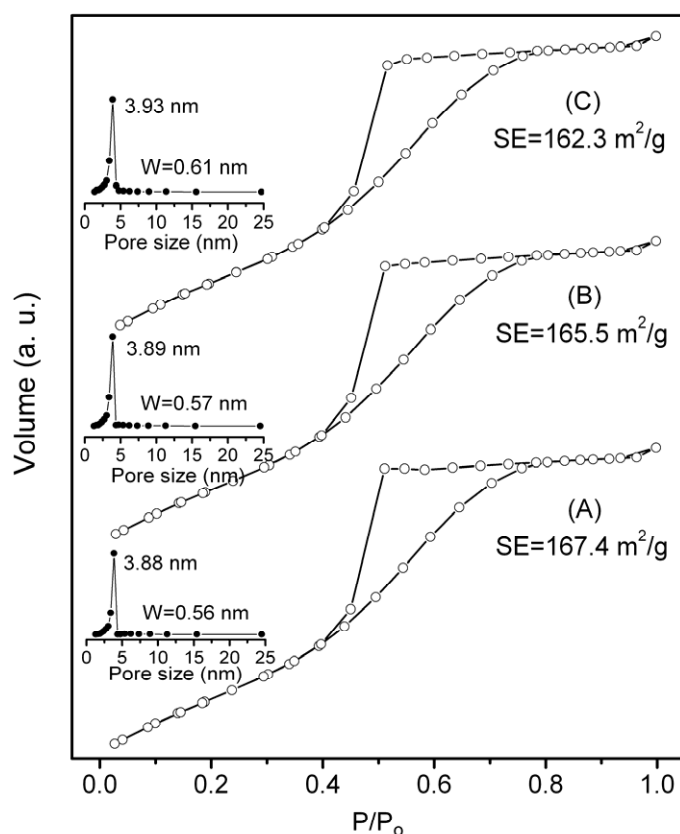


Fig. S3 N₂ adsorption and desorption isotherms and corresponding pore size distribution curves (insert) for the Ni-Al oxide films prepared by heating at 500 °C with aging time of the precursor NiAl-LDH being 24 h (A), 36 h (B), and 48 h (C). The dimension of the LDH platelets in the *c* direction (as determined by the Scherrer equation using the (003) reflection) of the NiAl-LDH nanoparticles is 5.8, 6.1 and 6.6 nm respectively in (A), (B) and (C). (SE represents surface area and W the peak width at half-height in the pore size distribution curves).