

# Phase distribution and electrochemical properties of Al-substituted nickel hydroxides

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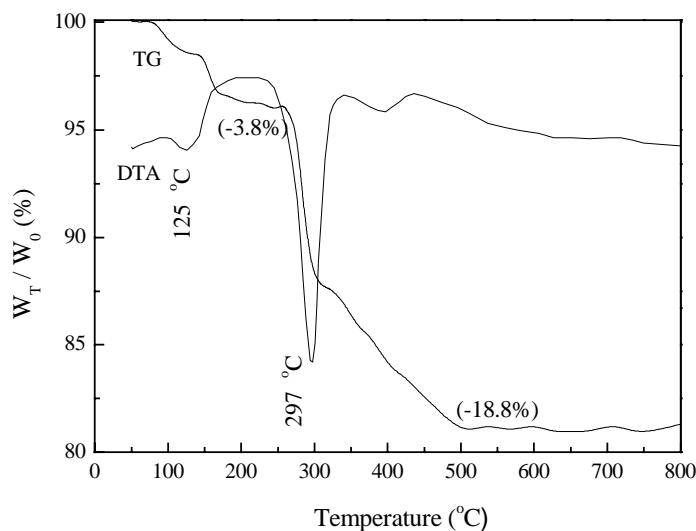


Figure S1 TG and DTA curves of the 10 mol% Al-substitution sample. The weight loss can be divided into four steps. The two steps in the range of 50-228 °C were assigned to the mass loss of the adsorption water and the structural water (3.8%), which was connected by hydrogen-bond in the layers. The mass loss in the range of 228-310 °C (8.5%) and in the range of 310-489 °C (6.5%) was attributed to the decomposition of  $\alpha$ -phase  $\text{Ni}(\text{OH})_2$  and  $\beta$ -phase  $\text{Ni}(\text{OH})_2$ , respectively.

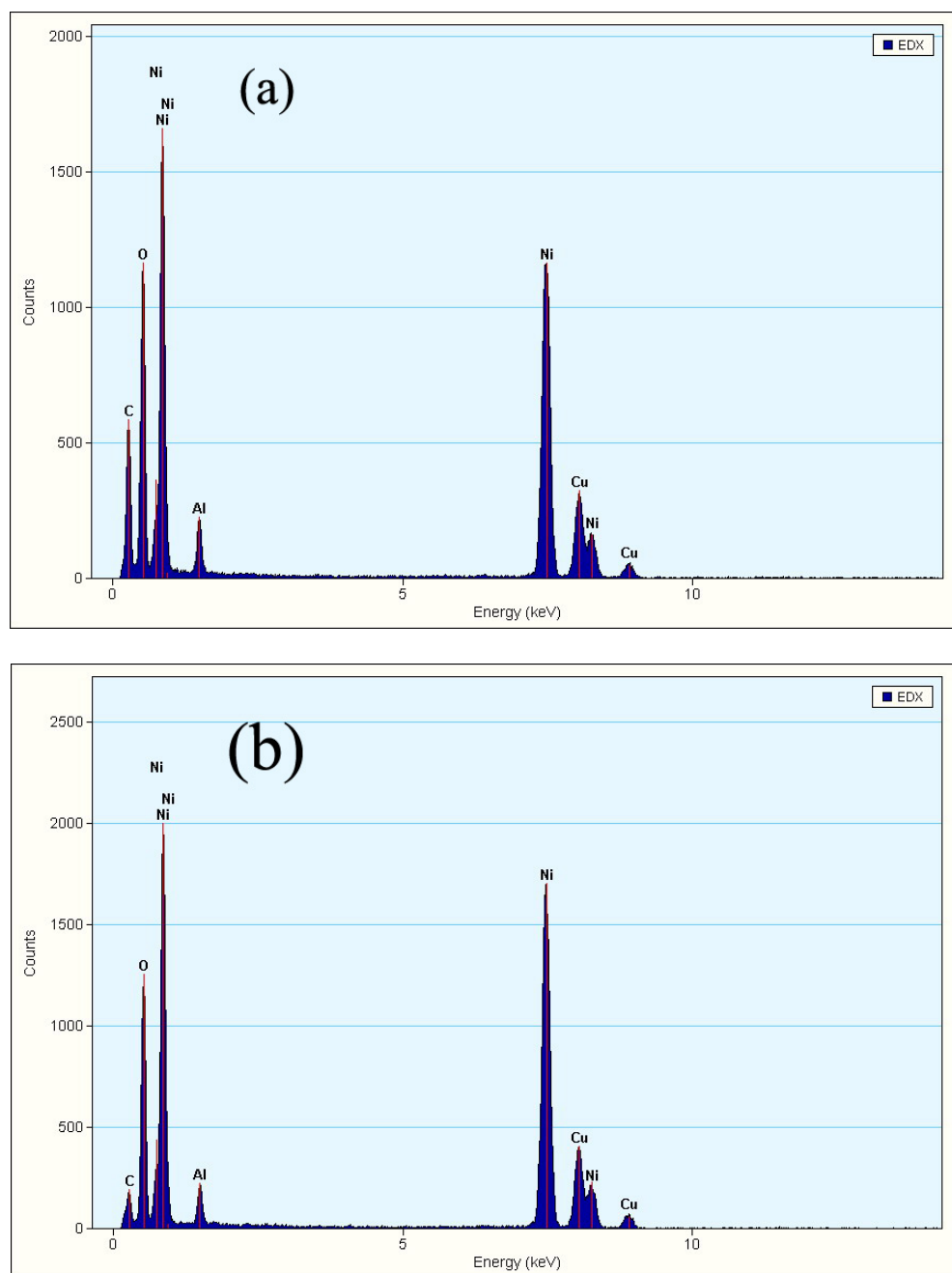


Figure S2 EDS spectra of the 10 mol% Al-substitution sample for individual  $\alpha$ -phase  $\text{Ni}(\text{OH})_2$  nanoparticles (a) and  $\beta$ -phase  $\text{Ni}(\text{OH})_2$  nanoparticles (b), respectively. EDS spectra were recorded at different spots using TEM (FEI Tacnai F20) in Tianjin University.