# Fabrication of transition metal hydroxide nanoplates in an aqueous phase

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Transition metal hydroxide (Co(OH)2, Ni(OH)2) nanoplates were synthesized by reacting metal salt with polymer and amine in an aqueous phase. This process is cheaper than other method because the experimental conditions have a relatively low reaction temperature (95 °C) and short reaction time (3h) without any post-treatment such as calcination and heating in an autoclave. The synthesized nanoplates were characterized by transmission electron microscopy (TEM), selected area electron diffraction (SAED), and X-ray diffraction (XRD). The TEM images indicated that as-prepared Co(OH)2 and Ni (OH)2 nanoplates have a uniform size and hexagonal morphology. The corresponding SAED pattern demonstrated that the hexagonal planes of as-prepared Co(OH)2 and Ni (OH)2 nanoplates are single crystalline. Also, we investigated change of pH during the reaction.