Fabrication of Zn-Al layer double hydroxide coatings on aluminum foil
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Abstract: The Zn-Al layer double hydroxide (LDH) films were successfully prepared on aluminum foil by microwave radiation method. The effect of Zn²⁺ precursor (Zn(NO₃)₂ and Zn(CH₃COO)₂) was investigated in this work. Then LDH films were modified with stearic acid using ion exchange. The characteristics of modified surface were investigated using X-ray diffraction (XRD), Fourier-transform infrared spectroscopy (FT-IR) and Scanning electron microscope (SEM). XRD results showed LDH film were mainly composed Zn-Al hydrotalcites structure. The SEM images of Zn-Al LDH showed the hexagonal crystal structure of Zn-Al LDH and the distance of hexagonal crystal structure was increased after modified surface.

Keywords: Zn-Al layer double hydroxide; Microwave radiation; Stearic acid