

Acid free synthesis of MgO-Al<sub>2</sub>O<sub>3</sub> composites and its application to gas adsorption

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In this current approach efforts are made to synthesize MgO-Al<sub>2</sub>O<sub>3</sub> composites with varied Mg/Al ration by using simple acid free hydrothermal method. The composites are characterized by XRD, BET, SAXS and TGA. It was shown that MgO-Al<sub>2</sub>O<sub>3</sub> with very high surface area >300 m<sup>2</sup>/g and narrow pore size distribution 2-10 nm could be obtained. Further the synthesized composites are verified for their application to CO<sub>2</sub> adsorption. The developed composites show considerable amount of CO<sub>2</sub> sorption at 40 °C for Mg/Al molar ration of 0.5. This work was supported by Basic Science Research Program through the National Research Foundation of Korea (NRF) funded by the Ministry of Education (NRF 2016R1D1A1B03930855).