

### Synthetic method of amine modified molecular sieves 13X and CO<sub>2</sub> adsorption characteristics

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Amine modified molecular sieves 13X as solid sorbents were synthesized by wet impregnation method. Various kinds of amines, impregnation methods, drying conditions were tested for developing most suitable CO<sub>2</sub> capturing sorbents. The CO<sub>2</sub> sorption behaviors, such as equilibrium isotherms and kinetics, under atmospheric pressure conditions were studied using gravimetric method. MSB (magnetic suspension balance) results were demonstrated that the sorbents showed improvement in CO<sub>2</sub> sorption capacity over the unmodified molecular sieves 13X. The sorbents were also studied with varying synthetic parameters like working temperature, amine blending, stirring time, and drying time.