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Abstract

A novel amine-based solid sorbent was prepared for CO_2 capture, and the CO_2 adsorption characteristics were evaluated for simulated flue gas. Furthermore, CO_2 capture tests using a lab-scale three-column fixed-bed system were performed. A novel amine compound was synthesized by attaching hindered functional groups to the terminal primary amino groups of a polyamine, followed by impregnation into pelletized mesoporous MSU-F silica. This novel amine-impregnated solid sorbent