

Abstract

Disclosed are a novel silicoaluminophosphate molecular sieve, its preparation and application thereof, the molecular sieve having a schematic chemical composition, expressed on a molar basis, of $m\text{SiO}_2 \cdot \text{Al}_2\text{O}_3 \cdot n\text{P}_2\text{O}_5$, wherein m represents the molar ratio of SiO_2 to Al_2O_3 and is in a range of about 0.005-0.15, and n represents the molar ratio of P_2O_5 to Al_2O_3 and is in a range of about 0.7-1.1. The silicoaluminophosphate molecular sieve has a unique X-ray diffraction pattern, and can be used as an adsorbent, a catalyst or a catalyst carrier.

10 Fig. 2