

Synthesis and characterization of vanadosilicates, AM-13 and AM-14

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Vanadium incorporated microporous material has drawn much attention because of its unique catalytic performance for partial oxidation. In this work, two novel large-pore sodium vanadosilicates (AM-13 and AM-14) were synthesized and characterized with various spectroscopic techniques.

For AM-13 synthesis, the amount of  $\text{Ca}(\text{OH})_2$  affected significantly the corresponding crystalline properties while the quantity of  $\text{VO}_2$  was critical controlling factor for the structural integrity. Further, the structural characterization was performed using X-ray photoelectron spectroscopy. Depending on the content of V, the oxidation state was affected, which suggested the different coordination environment around the V atom.