Poster 3

Electron Spin Resonance Study of Molybdenum Species Labelled with ^{95}Mo

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A solid state ion exchange reaction of MoO_3 with as systhesized silicoaluminophosphate type 34 (SAPO-34) generates paramagetic Mo(V) species. After activation at 500 °C and under 100 Torr of H_2 reduction, showed ESR spectra at 77 K. However, subsequent dehydration and H_2 reduction result in Mo(V) species, subsequent activation result in formation of Mo(V) species which are characterized by ESR. The ESR results indicated by the oxomolybdenum species, such as $(MoO_2)^+$ or $(MoO)^{3+}$. The $(MoO_2)^+$species seems to be more probable because of the following reasons. Since SAPO-34 has a low negative framework charge, more positive charged species, like $(MoO)^{3+}$ is not as easily stabilized.