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Pathways of  ${}^{1}O_{2}$  transfer in the oxidation of anthracenes with the  $H_{2}O_{2}/V^{V}/AcOH$  system (Gekhman, A.E. (162) 111)

## Vanadyl pyrophosphate

Selective oxidation of *p*-substituted toluenes to the corresponding benzaldehydes over  $(VO)_2P_2O_7$ : an in situ FTIR and EPR study (Bentrup, U. (162) 391)

## VAPO-5

On the nature of V and Mg ions in V, Mg-containing  $AlPO_4$ -5 catalysts (Blasco, T. (162) 267)

# Vibrational frequencies

Dinitrogen as probe molecule of alkali-exchanged zeolites A density functional study (Vayssilov, G.N. (162) 135)

## Vibrational spectroscopy

Complex model catalysts under UHV and high pressure conditions: CO adsorption and oxidation on alumina-supported Pd particles (Dellwig, T. (162) 51)

# Vibrational theory

DRIFTS and NIR Raman investigations on unsupported and supported allyl-lanthanoid complexes — catalysts for the polymerization of butadiene (Landmesser, H. (162) 257)

# VMgAPO-5

On the nature of V and Mg ions in V, Mg-containing  $AlPO_4$ -5 catalysts (Blasco, T. (162) 267)

#### $V_2O_5/TiO_2$

On the role of monomeric vanadyl species in toluene adsorption and oxidation on  $V_2O_5/TiO_2$  catalysts: a Raman and in situ DRIFTS study (Besselmann, S. (162) 401)

V-Sb mixed-oxide catalysts

Bulk and surface structure and composition of V–Sb mixedoxide catalysts for the ammoxidation of propane (Zanthoff, H.W. (162) 443)

Tetrairidium clusters

## Xanthate

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# XPS

Characterization of  $MoO_3/TiO_2$ -ZrO<sub>2</sub> catalysts by XPS and other techniques (Reddy, B.M. (162) 431)

# X-ray diffraction

Structural and catalytic properties of sodium and cesium exchanged X and Y zeolites, and germanium-substituted X zeolite (Concepción-Heydorn, P. (162) 227)

## XRD

Activities of supported copper oxide catalysts in the NO + CO reaction at low temperatures (Hu, Y. (162) 307)

Characterization of  $MoO_3/TiO_2$ -ZrO<sub>2</sub> catalysts by XPS and other techniques (Reddy, B.M. (162) 431)

#### Zeolite

On the researching of a new zeolite structure for the selective catalytic reduction of NO The possibilities of Cu-exchanged IM5 (Palomares, A.E. (162) 175)

## ZnO powders

Distinguishing surface and bulk electron charge carriers for ZnO powders (Walters, A.B. (162) 287)