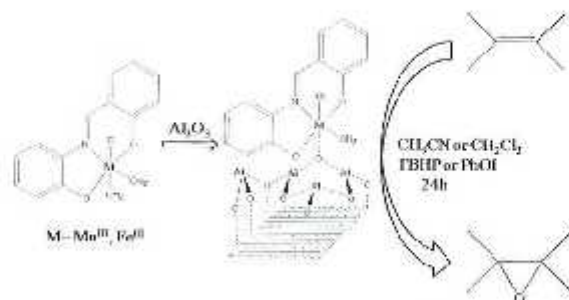


CONTENTS

1175 Alumina-supported Mn(III) and Fe(III) complexes of tridentate Schiff base ligand having ONO-donor sites: Syntheses, characterization and olefin epoxidation study

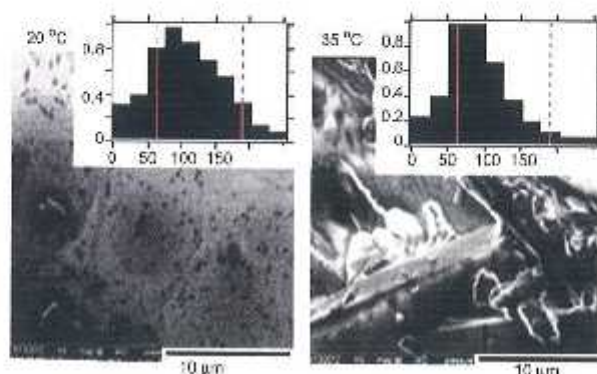
Alumina supported ONO donor Schiff-base complexes of Mn(III) and Fe(III) have been explored in alkene epoxidation study using PhIO and TBHP as terminal oxidant.



Jaydeep Adhikary, Priyabrata Banerjee & Tanmay Chattopadhyay*

1183 Nanoparticle mediated copper(II) catalyzed oxidation of mercaptosuccinic acid by methylene blue in aqueous acetone medium: Non-Arrhenius behaviour

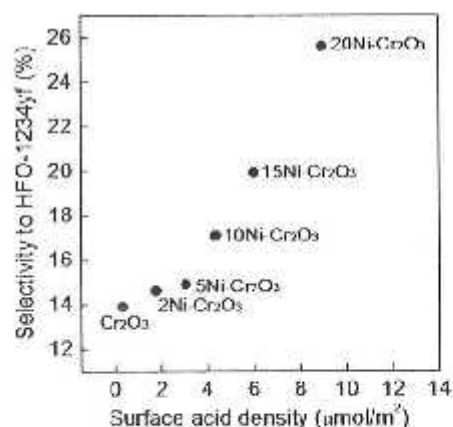
Cu(II) catalyzed oxidation of mercaptosuccinic acid by methylene blue in acidic medium shows non-Arrhenius behaviour between 20 and 30 °C. TEM, SEM, XRD and FTIR analyses indicate temperature and time dependent changes in size and morphology of nanoparticles and a variation in the Fermi band gap energy.



Mahender Pal*, Maya Shukla, Ranjana Sharma & K K Mishra*

1192 Synthesis of 2,3,3,3-tetrafluoropropene by catalytic dehydrofluorination of 1,1,1,3,3-pentafluoropropane over Ni-Cr₂O₃ Catalyst

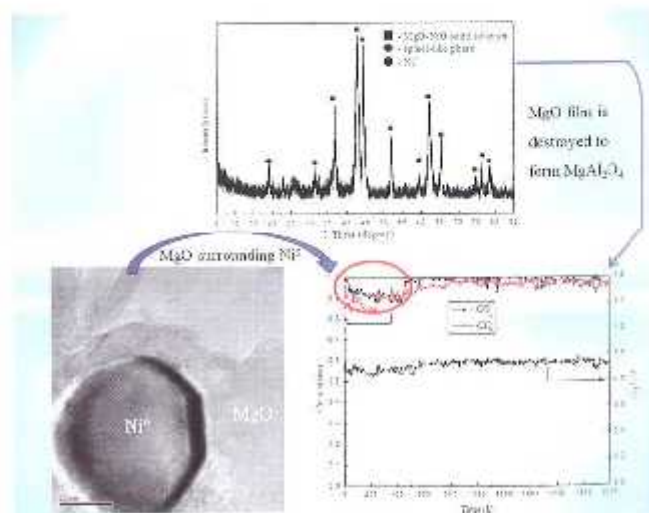
2,3,3,3-Tetrafluoropropene (HFO-1234yf) has been synthesized from 1,1,1,3,3-pentafluoropropane (HFC-245fa) by dehydrofluorination over a series of Ni-Cr₂O₃ catalysts with >99% conversion of HFC-245fa. On increasing the Ni doping in the Ni-Cr₂O₃ catalysts, the initial selectivity to HFO-1234yf gradually increases due to the increase of Lewis acid sites. When Ni doping is 2–10%, the catalysts have the appropriate surface acid density, which makes the selectivity to HFO-1234yf relatively stable during 3–10 h reaction time.



Fang Wang, Yan Liang, Wen-Xia Zhang,
Yue-Juan Wang, Ji-Qing Lu & Meng-Fei Luo^o

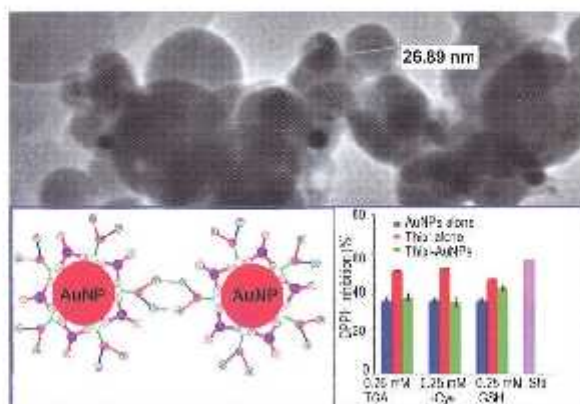
1198 Effect of phase transformation on the stability of Ni-Mg-Al catalyst for dry reforming of methane

A series of Ni/Mg(Al)O hydrocalcite-derived catalysts has been prepared by carbonate co-precipitation method at different calcination temperatures. The decrease in activity of the catalysts calcined at 600, 700, and 800 °C is due to the MgO film surrounding the Ni⁰ particles in the initial reaction stage. The activity is renewed and maintained when the MgO film surrounding Ni⁰ is destroyed on reaction with Al₂O₃ to form the MgAl₂O₄ spinel-like phase. The conversion of CH₄ and CO₂ is stable at over 95% after reaction for 2000 h.



Na Li, Chaofeng Shen, Pengjia Tan, Zhijun Zuo^o &
Wei Huang^o

- 1206 Interaction of thiolated amino acids and peptide onto the gold nanoparticle surface: Radical scavenging activity

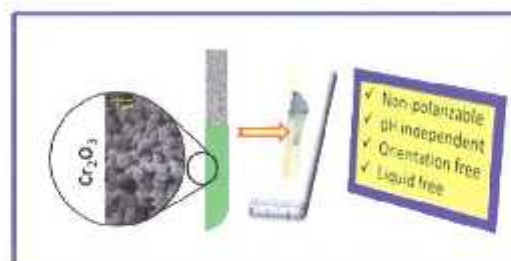


Mamohan L Satnani[§], Kumudini Chandraker, Sandeep K Vaishnav & Rekha Nagwanshi

Notes

- 1215 Liquid-free alkaline gel filled reference electrode based on Cr₂O₃ spheres

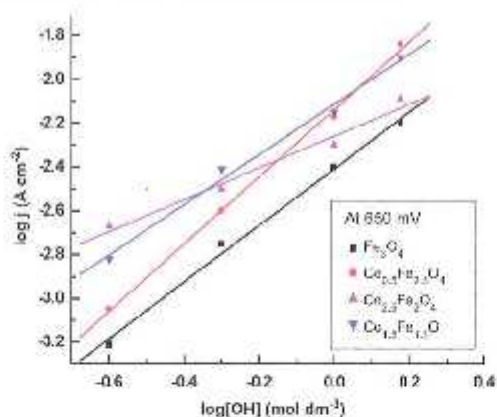
Ball yarn-like Cr₂O₃ non-agglomerated spheres, synthesized through electrochemical route, have been fabricated into liquid-free alkaline gel filled Cr₂O₃ based reference electrode. The electrode exhibits stable potential, comparable to conventional reference electrodes like SCE. It is independent of pH and has an extended shelf-life.



V Maruthapandian[†], S Muralidharan & V Saraswathy

- 1221 Electrocatalytic properties of cobalt ferrites obtained by glycine sol-gel route for oxygen evolution in alkaline medium

Partial substitution of Co for Fe in the base oxide greatly enhances its apparent electrocatalytic activity towards oxygen evolution reaction. Based on the apparent electrocatalytic scale, CoFe₂O₄ is found to be the best electrocatalyst among the investigated cobalt ferrites. The catalytic activity of the most active electrode is found to be 3–4 times higher than that of the base oxide.



Ritu Yadav & Narendra Kumar Singh[§]