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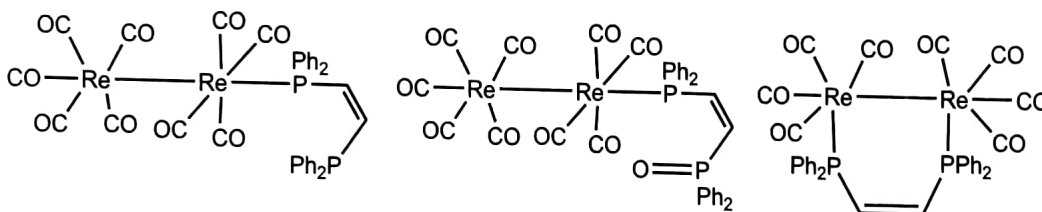
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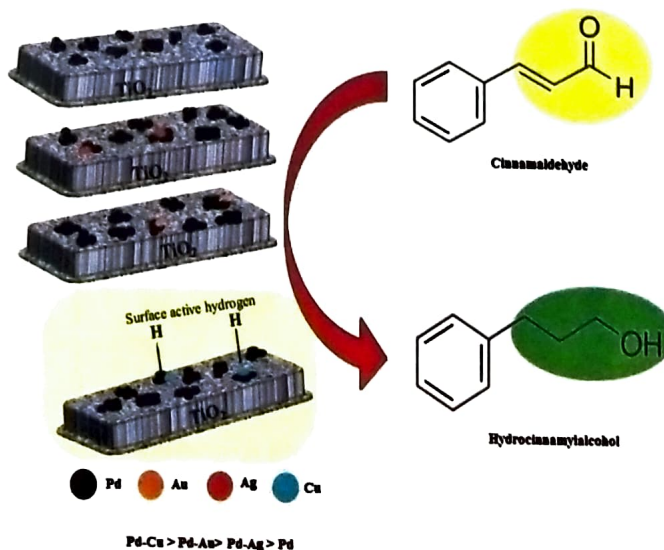
### Papers

- 1289 **Dirhenium carbonyl compounds bearing *cis*-1,2-bis(diphenylphosphino)ethylene and *cis*-1,2-bis(diphenylphosphino)ethylene oxide ligands** The synthesis and structures of three new dirhenium compounds,  $ax$ -[Re<sub>2</sub>(CO)<sub>9</sub>(κ<sup>1</sup>-*cis*-Ph<sub>2</sub>PCH=CHPh<sub>2</sub>)],  $ax$ -[Re<sub>2</sub>(CO)<sub>9</sub>{κ<sup>1</sup>-*cis*-Ph<sub>2</sub>PCH=CHPh<sub>2</sub>P(O)}] and [Re<sub>2</sub>(CO)<sub>8</sub>(μ-κ<sup>2</sup>-*cis*-Ph<sub>2</sub>PCH=CHPh<sub>2</sub>)] are described.



Md Mahbub Alam, Fahima Islam, Tareque SM Abedin, Shariff E Kabir\* & Kazi A Azam

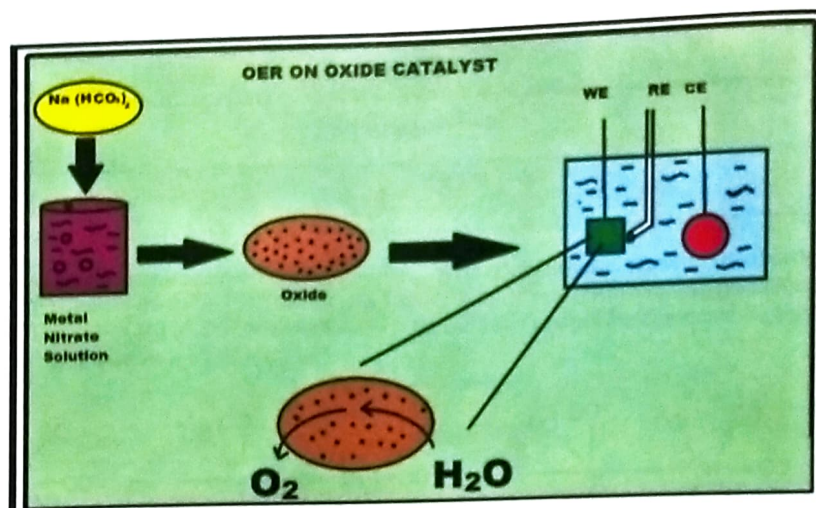
- 1296 **Selective hydrogenation of cinnamaldehyde using palladium based bimetallic catalysts Pd-M/TiO<sub>2</sub> (M=Cu, Ag and Au)** Nanoscale alloy formation, charge redistribution, ensemble effects, synergistic effects and presence of active hydrogen on Pd-Cu bimetallic catalysts are responsible for the observed higher activity.



A Saranya, G Vivekanandan, K R Krishnamurthy & B Viswanathan\*

1303 Electrocatalytic oxygen evolution reaction on Mg, Al and Fe doped spinel oxides

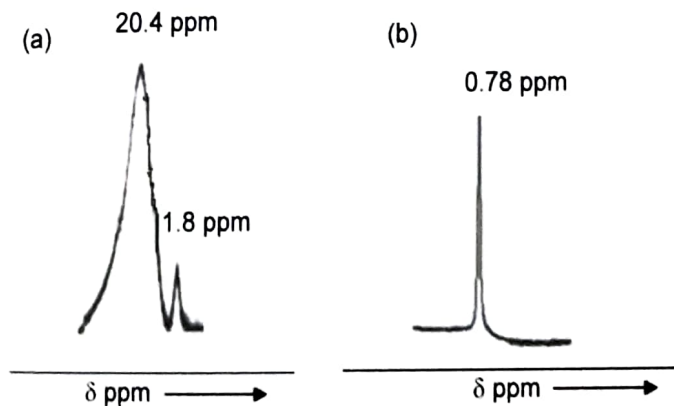
Metal doped oxides with formula  $MC_2O_4$  (M= Mg, Al and Fe) have been prepared by thermal decomposition of their metal carbonate precipitates and characterized by IR, XRD, CV, EIS and Tafel polarization techniques. The electrocatalytic activity of oxide electrodes for oxygen evolution reaction in 1 M KOH at 25 °C was also studied by Tafel polarization technique and polarization curve of each oxides showed two Tafel slopes and order of OER is unity.



Basant Lal

1309 Synthesis and characterization of some binuclear alkylene dithiophosphate complexes of bis(acetylacetonato)aluminium(III)-di-( $\mu$ -isopropoxo)di-isopropoxoaluminium(III) and sol-gel synthesis of nanosized  $\theta$ -alumina

Reactions of bis(acetylacetonato)aluminium(III)-di-( $\mu$ -isopropoxo)-di-isopropoxoaluminium(III) with a variety of alkylene dithiophosphoric acids in different molar ratio yield products of the type  $[(CH_3COCHCOCH_3)_2Al(\mu-OPr)_2Al\{S(S)P(O-G-O)_n(OPr)_{2-n}\}]$ . <sup>27</sup>Al NMR spectra of two of the derivatives, suggested the presence of aluminium(III) atoms in different coordination states. Sol-gel transformation of  $Al(OPr)_3$  and  $[(CH_3COCHCOCH_3)_2Al(\mu-OPr)_2Al(OPr)_2]$  followed by sintering at  $\sim 850$  °C yield  $\theta$ - $Al_2O_3$  in both the cases as indicated by XRD patterns.

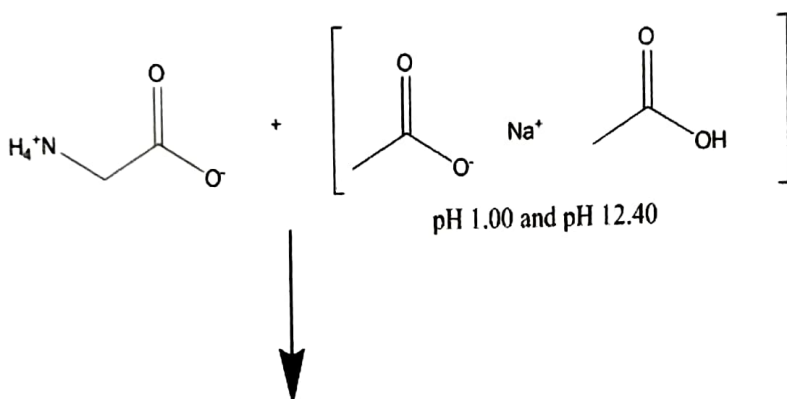


<sup>27</sup>Al NMR spectra of representative derivatives (a) for complex (1) and (b) for complex (2)

Vinita Sharma, Anita Raj Sanwaria & Nikita Sharma\*

1317 **Thermophysical studies of protonated and deprotonated glycine in aqueous sodium acetate buffer solutions at different temperatures**

Interactions of glycine in water and in (0.10, 0.50 and 1.00) mol kg<sup>-1</sup> aqueous sodium acetate buffer solutions of pH (1.00 and 12.40) have been investigated at different temperatures,  $T(K) = (298.15-318.15)$ . The results obtained from volumetric and viscometric studies are of considerable importance to identify different type of interactions (*i.e.* H-bonding, van der Waals interactions) in these systems.

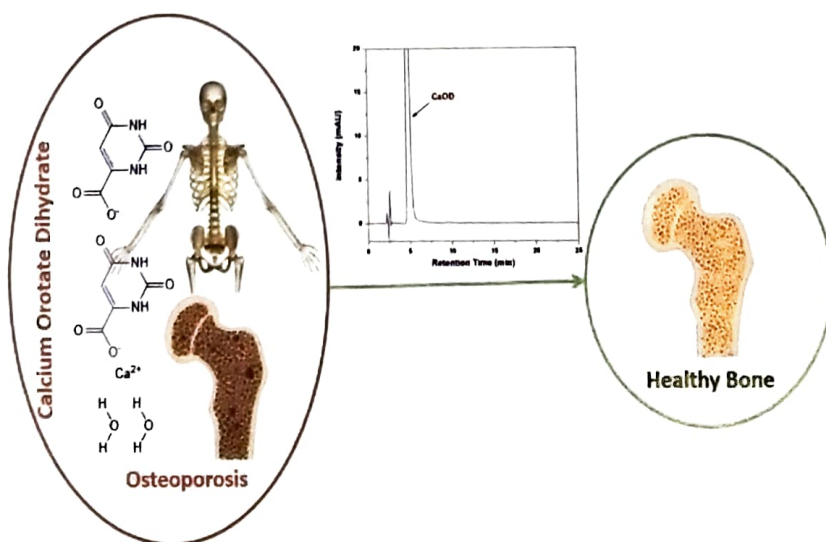


Positive  $\phi_{vs}$ ,  $\phi_v^0$ , viscosity B-coefficients indicates the presence of strong solute-solvent interactions.

Poonam Patyar\* & Gurpreet Kaur

1329 **Reversed-phase high-performance liquid chromatography method for impurity profiling of generic drug Calcium Orotate**

New reversed-phase HPLC method has been developed for the investigation of related impurities present in Calcium Orotate Dihydrate (CaOD) drug. The eluted impurity at the retention time of 6.02 min has so far not been reported in earlier methods of analysis of CaOD.



Suresh Babu Krishnan, Berlina Maria Mahimai & Paradesi Deivanayagam\*

Authors for correspondence are indicated by (\*)