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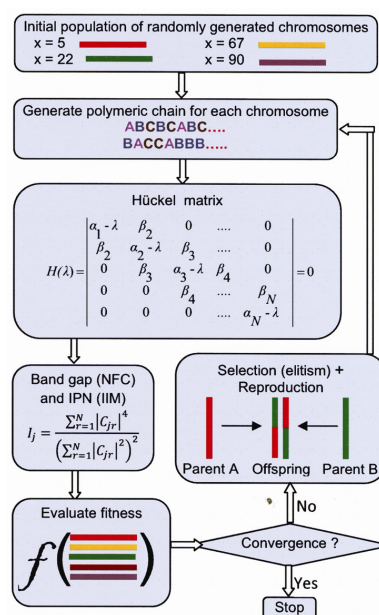
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Papers

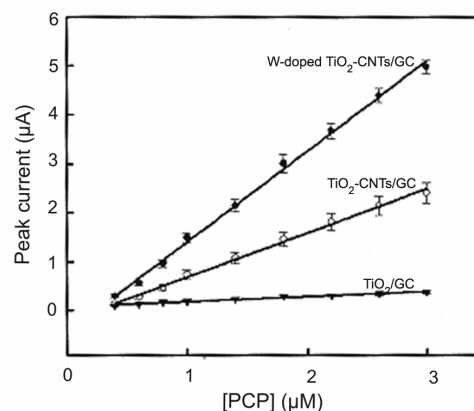
- 9 **Electro-active ternary copolymer design using genetic algorithm** For designing low band gap conducting polymers, genetic algorithm, coupled with negative factor counting technique and inverse iteration method, has been used to optimize the properties of novel ternary copolymers.



Avneet Kaur & A K Bakhshi*

- 15 **A new electrochemical sensor based on W-doped titania-CNTs composite for detection of pentachlorophenol**

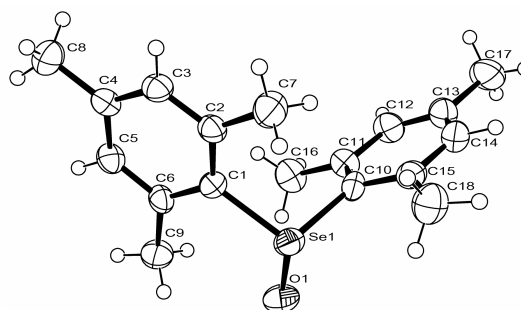
W-doped TiO₂-CNTs composite based electrochemical sensor for determination of pentachlorophenol shows good analytical performance with the linear response range from 0.4-3.0 μM, detection limit of 0.011 μM, high sensitivity and good stability.



W Q Zhang, G B Zhu, J Y Ma, X H Zhang* & J H Chen*

- 22 **Synthesis, structure and reactivity of a selenoxide derived from a bulky selenide: Bis(2,4,6-trimethylphenyl) selenoxide**

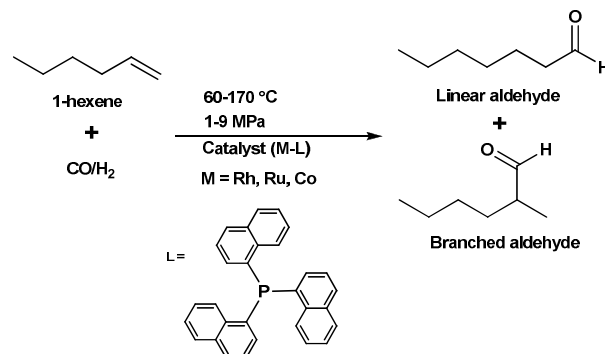
Bis(2,4,6-trimethylphenyl) selenoxide has been synthesized by oxidation of bis(2,4,6-trimethylphenyl) selenide with aqueous H_2O_2 . Single crystal X-ray diffraction analysis reveals that the selenium atom adopts a trigonal pyramidal configuration. Reaction of the selenoxide with thiols at room temperature regenerates the selenide.



Ninad Ghavale, Prasad P Phadnis, Amey Wadawale & Vimal K Jain*

- 27 **Monodentate bulky trinaphthylphosphine as ligand in Rh, Co and Ru catalyzed hydroformylation of 1-hexene**

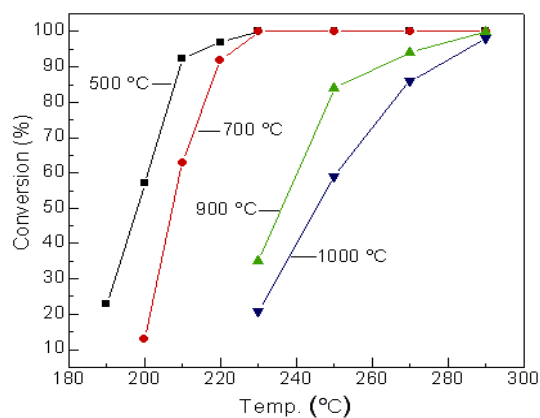
Catalytic application of Rh, Co, Ru complexes of a monodentate bulky phosphine ligand, trinaphthylphosphine, has been investigated for hydroformylation of 1-hexene.



Aasif A Dabbawala, Dharmesh U Parmar, Hari C Bajaj* & Raksh V Jasra

- 33 **Effect of calcination temperature on the catalytic activity of $\text{Pd/Ce}_{0.8}\text{La}_{0.2}\text{O}_8$ /cordierite monolithic catalyst for toluene combustion**

$\text{Pd/Ce}_{0.8}\text{La}_{0.2}\text{O}_8$ /cordierite monolithic catalyst calcined at 500 °C shows the highest activity for toluene combustion (up to 90 %) at 210 °C.

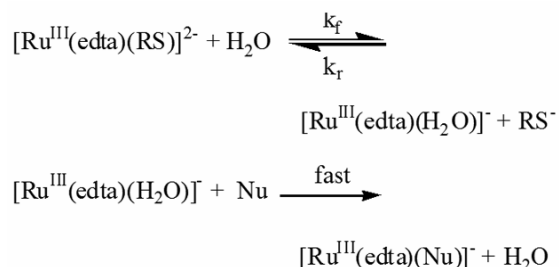


Yongjiao Wang, Yiming He, Mengfei Luo, Lei Yue, Botao Teng & Leihong Zhao*

Notes

- 38** **Reactivity of Ru-edta complexes with DNA fragments and thioaminoacids: Kinetic and mechanistic studies**

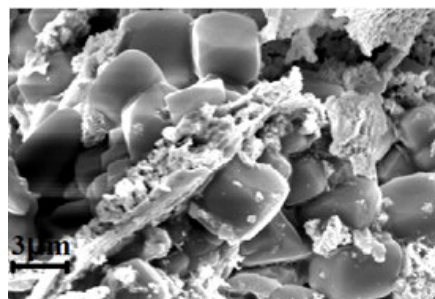
Reaction of $[\text{Ru}^{\text{III}}(\text{edta})\text{SR}]^{2-}$ with 5' nucleotides shows the binding of nucleotides to the ruthenium centre by removing the coordinated thio molecules.



Debabrata Chatterjee

- 41** **A novel route to size and shape controlled synthesis of DMSO capped ruthenium dioxide nanoparticles**

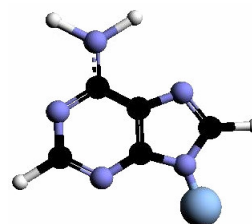
Ruthenium dioxide nanoparticles are readily synthesized from $\text{RuCl}_3 \cdot x\text{H}_2\text{O}$ via the formation of ruthenium acetylacetonate. Particle size increases with increase in calcination time at 800 °C with change of morphology. DMSO capped RuO_2 nanoparticles have also been synthesized and found to be soluble in chloroform and acetone.



Geetika Borah* & Ponchami Sharma

- 46** **Experimental and theoretical studies on sensing adenine by Ag, Au and Ag-Au bimetallic nanoparticles**

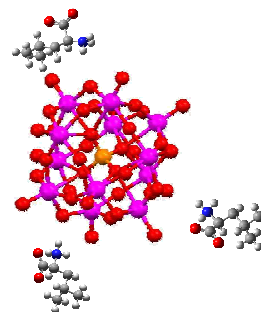
Sensing adenine by silver, gold and silver-gold bimetallic colloidal nanoparticles is due to the adsorption of adenine on the nanometallic surface through the chemisorption.



J Arikrishnan, S K Tabasum Sheerin,
M Murugavelu & B Karthikeyan*

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- 51 **Three new inorganic-organic hybrid materials based on inorganic cluster, $[(\text{PO}_4)\text{M}_{12}\text{O}_{36}]\cdot n\text{H}_2\text{O}$ (M = Mo, W)**

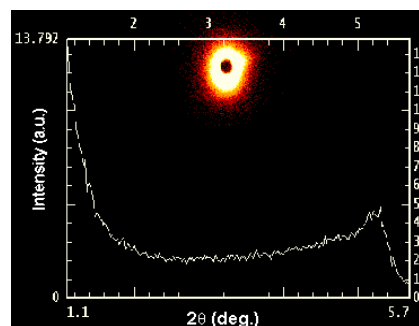
Heteropolyoxometalates based inorganic-organic hybrids have been synthesized and characterized. These hybrids contain infinite planes of inorganic moiety. The van der Waals interactions hold the organic moieties in the vacancies in the polyoxometalates crystalline network.



Mohammad Yousefi*, Hossein Eshtiagh-Hosseini,
Masoud Mirzaei, Ali R Salimi & Mohsen Nikpour

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- 55 **Synthesis and characterization of metal and metal oxide sponges using Triton X-165 as sacrificial template**

Silver, gold and copper oxide monoliths have been prepared by the sacrificial template route using Triton X-165 as surfactant. Dextran, TMB and silica nanoparticles have also been encapsulated to design monoliths for diverse applications.



Farid Khan* & Ruchi Bilgainya

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- 60 **Guide to Authors**
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Authors for correspondence are indicated by (*)