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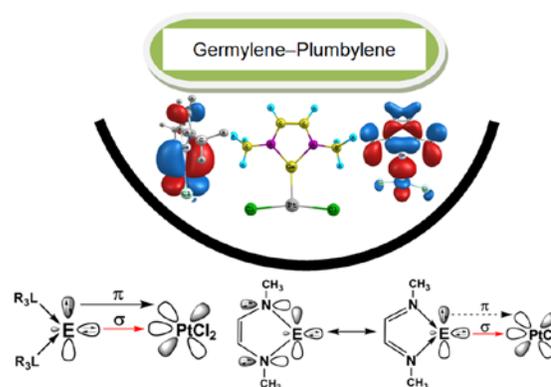
NUMBER 3

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**CONTENTS**

**269 Structural variations and chemical bonding in platinum complexes of Group 14 heavier tetrylene homologues (germylene to plumbylene)**

Equilibrium geometries of heavier tetrylene complexes [PtCl<sub>2</sub>-{NHE<sub>Me</sub>}] possess side-on-bonded NHE<sub>Me</sub> ligands. The order of the calculated bond dissociation energy is: Pt-NHGe < Pt-NHSn < Pt-NHPb. EDA-NOCV results indicate that the ligand NHE<sub>Me</sub> in Pt-NHE complexes is a strong σ-donor and π-donor and the trend of the Pt-E bond strength is due to the increase in PtCl<sub>2</sub>←NHE<sub>Me</sub> donation.



Nguyen Thi Ai Nhung\*, Huynh Thi Phuong Loan,  
 Duong Tuan Quang, Tran Duc Sy &  
 Dang Tan Hiep

**277 Kinetic and mechanistic study of oxidation of 1,2-propanediol by aqueous alkaline solution of N-bromosuccinimide in the presence of aquachloro-complex of ruthenium(III) as homogeneous catalyst**

Kinetics and mechanism of Ru(III) catalysed oxidation of 1,2-propanediol by aqueous alkaline solution of N-bromosuccinimide have been investigated in the temperature range 30-45 °C. A plausible mechanism involving attack of complex formed between NBS and Ru(III)chloride in alkaline medium on 1,2-propanediol in the slow and rate determining step is suggested. The rate law consistent with observed kinetic results is presented.

$$\frac{-d[\text{NBS}]}{dt} = \text{rate}$$

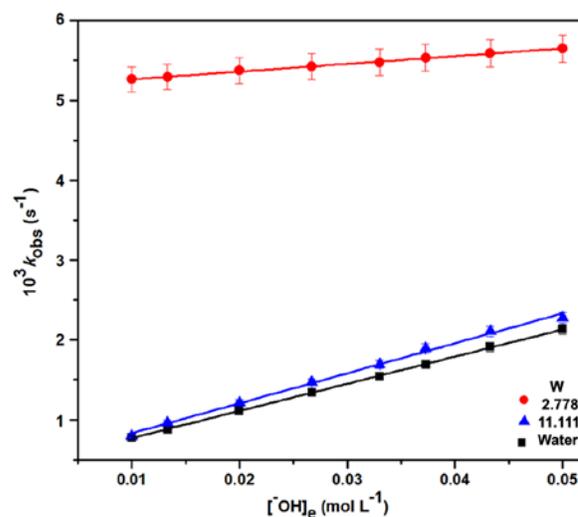
$$= \frac{3 k_d k_2 K_1 K_3 [\text{NBS}] [\text{Ru(III)}]_{\text{T}} [\text{Cl}^-] [\text{OH}^-] [1,2 - \text{propanediol}]}{k_3 [\text{NBS}] + k_2 K_1 [\text{OH}^-] [\text{Cl}^-]}$$

Bharat Singh\*, Sandeep Kumar Mishra &  
 Shipra Tripathi

## Notes

**286 TX-100 reverse micelles as microreactors for alkaline hydrolysis of tris(2,2'-bipyridine) iron(II) complex**

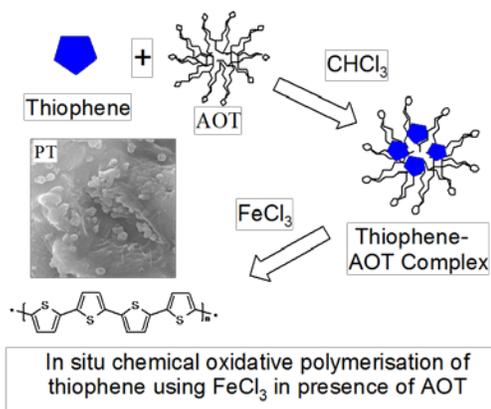
Alkaline hydrolysis of tris(2,2'-bipyridine)iron(II) complex with sodium hydroxide has been investigated in TX-100 reverse micelles using cyclohexane/water with hexanol as cosurfactant. In reverse micellar medium, the reaction is first order with respect to each reactant. The rate decreases as the [water]/[surfactant] molar ratio increases, but increases as surfactant concentration increases.



Arjama Kundu & Ambikesh Mahapatra\*

**292 *In situ* chemical oxidative polymerisation for ordered conducting polythiophene nanostructures in presence of dioctyl sodium sulfosuccinate**

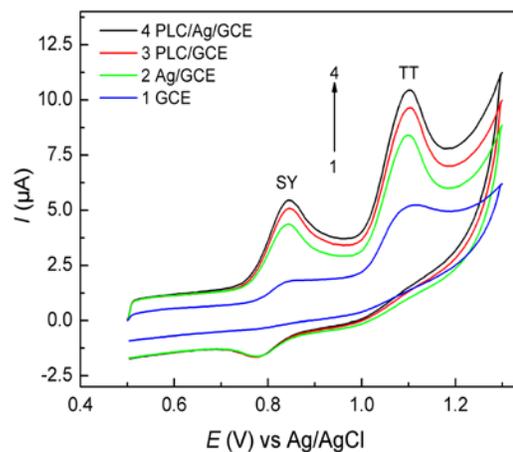
Polythiophenes have been synthesized by chemical oxidative polymerization of thiophene in the presence of the anionic surfactant, dioctyl sodium sulfosuccinate, with ferric chloride as the oxidant in chloroform solvent. Four probe electrical conductivity measurements of the samples reveal that the conductivity is in the range of  $(7.4-1.0) \times 10^{-3} \text{ S cm}^{-1}$  for the surfactant doped polythiophene samples. The band gap of the polymers is in the range of 2.25–2.50 eV.



M Anne Jose, Smitha Varghese & M Jinish Antony\*

**298 Determination of sunset yellow and tartrazine using silver and poly(L-cysteine) composite film modified glassy carbon electrode**

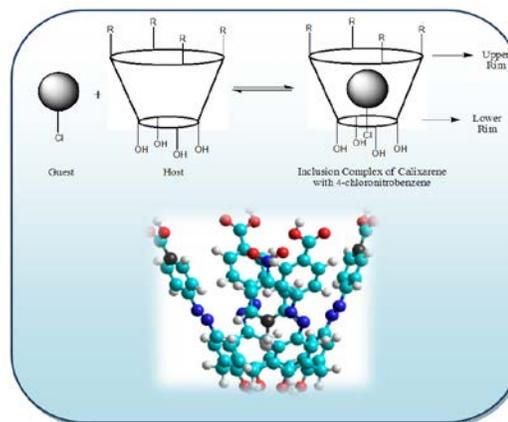
Compared with bare GCE, Ag/GCE and PLC/GCE, PLC/Ag/GCE possesses better selectivity and higher electrocatalytic activity for sunset yellow and tartrazine.



Youxia Tang, Yanming Wang, Gen Liu\* & Dengming Sun\*

**304 Dissociation dynamics of host-guest interaction between substituted calix[4]-arene and 4-chloronitrobenzene**

Inclusion complexation of upper rim substituted calix[4]arene with neutral 4-chloronitrobenzene is studied by quantum-chemical and spectrophotometric measurements. The formation of stable host-guest complexes is determined using DFT/B3LYP/6-311G(d) level of theory. The  $\pi$ - $\pi$  interaction based dissociation dynamics of the host-guest complex has been studied. In the host-guest interaction, a 1:1 complex stoichiometry is observed. The low activation energy of dissociation, obtained from the MD simulations, indicates that the complex formation equilibrium is thermodynamically controlled.



Ashok Kumar\*, Pratibha Sharma, Pawan Kumar Sharma, Monika Ahuja, Gergely Matisz, Laszlo Kollar & Sandor Kunsagi-Mate

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