

Symposium 4 — Analytical, Environmental and Green Chemistry

Monday, 17 December 2007

Technical Session	Session 1		
Date/Time	Monday, 17 December 2007 / 11:00 – 12:30 hrs		
Venue	Room 305		
Chair	Toh Chee Seng		
Sym4:01	11:00 – 11:30	Electrochemical Determination of Ions Based on Host-Guest Interactions	4:85
Keynote		<i>Hasuck Kim, T. Kim, Y. Choi, Yang Rae Kim, Jong Seung Kim, Jae Kwang Lee and S. Lee</i>	
Sym4:02	11:30 – 11:45	Comprehensive vs Multidimensional Separation Technology: Maximizing Compound Separability	4:85
Invited		<i>P. J. Marriott, G. Eyres and M. Dunn</i>	
Sym4:03	11:45 – 12:00	Quantitative Methodologies for the Analysis of 75 Endocrine Disrupting Compounds, Pharmaceuticals, and Personal Care Products in River Water Using LC/MS/MS	4:86
Invited		<i>Matthew Grigg</i>	
Sym4:04	12:00 – 12:15	Analytical Methodology for the Investigation of Metabolic Profile in the Liver Tissue Extracts of Zebrafish	4:86
		<i>E. S. Ong</i>	
Sym4:05	12:15 – 12:30	Extraction and Analysis of Free Amino Acids in Germinated Brown Rice by Reversed-Phase High Performance Liquid Chromatography	4:86
		<i>Patita Ratchakrut, Supalax Srijaranai and Voranuch Srijesdaruk</i>	
Lunch Break		12:30 – 14:00 hrs	

Technical Session	Session 2		
Date/Time	Monday, 17 December 2007 / 14:00 – 15:30 hrs		
Venue	Room 305		
Chair	Adrian M. Lee		
Sym4:06	14:00 – 14:15	Application of Ion Pair Liquid Chromatography Isotope Dilution Mass Spectrometry in Quantitative Analysis of Intracellular Metabolites	4:87
		<i>R. M. Seifar, Z. Zhao, J. van Dam, W. van Winden, W. van Gulik and J. J. Heijnen</i>	
Sym4:07	14:15 – 14:30	Rapid Prenatal Diagnosis of Common Chromosomal Aneuploidies Using Quantitative Fluorescence PCR in Singapore	4:87
		<i>Sonia Baig, Sherry Sze Yee Ho, Evelyn S. C. Koay, Lily Chiu, Gek Har Leow, Leena Gole, Narasimhan Kothandaraman, Yong Huak Chan, Lin Lin Su, Arijit Biswas and Mahesh Choolani</i>	

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Sym4:08	14:30 – 14:45	Capillary Gas Chromatographic Determination of Methylglyoxal from Serum of Diabetic Patients by Precolumn Derivatization Using Meso-Stilbenediamine as Derivatizing Reagent <i>A. J. Kandhro, M. Aslam Mirza and M. Y. Kuhuawar</i>	4:88
Sym4:09	14:45 – 15:00	Sample Preparation and Analysis of Capsaicinoids in Hot Pepper Samples and their Antioxidant Activity Affecting on Myoglobin Autooxidation Using Both Magnetic Stirring Extraction and Accelerated Solvent Extraction Associated with SPE Clean-Up and Determined by HPLC-PDA/UV-Visible and Fluorescence <i>Saksit Chanthai, Jureerat Juangsamoot, Chalerm Ruangviriyachai and Suchila Techawongstien</i>	4:88
Sym4:10	15:00 – 15:15	HPLC Chromatographic Fingerprint of Herbal Thai Medicine, <i>Malvastrum Coromandelianum</i> (Linn.) Garcke <i>J. Singkhonrat, N. Chaichit, S. Pongsamart and S. Jesadanon</i>	4:88
Sym4:11	15:15 – 15:30	Separation and Identification of Endogenous Sterols by Using Comprehensive Two-Dimensional GAS Chromatography <i>B. Mitevski and P. J. Marriott</i>	4:89

Coffee Break	15:30 – 16:00 hrs
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Technical Session	Session 3		
Date/Time	Monday, 17 December 2007 / 16:00 – 17:00 hrs		
Venue	Room 305		
Chair	Ong Eng Shi		
Sym4:12	16:00 – 16:15	Room-Temperature-Stable Inorganic Electride as a Synthetic Organic Reagent: Application to Pinacol Coupling Reaction in Aqueous Media <i>Haritha Buchammagari, Yoshitake Toda, Hideo Hosono and Kohtaro Osakada</i>	4:89
Sym4:13	16:15 – 16:30	Removal of Chromium (VI) from Electroplating Waste Water Based on the Adsorption of its Diphenylthiocarbazone Complex Using Cellulose as the Adsorbent <i>N. Rajesh and S. Kalidhasan</i>	4:89
Sym4:14	16:30 – 16:45	Enhanced Photomineralisation of Reactive Orange 4 on Surface Fluorinated Titanium Dioxide <i>A. Vijayabalan, K. Selvam and M. Swaminathan</i>	4:90
Sym4:15	16:45 – 17:00	Production of Biodiesel from Base-Catalyzed Transesterification of Safflower Oil through an Optimized Protocol <i>U. Rashid and F. Anwar</i>	4:90

Tuesday, 18 December 2007

Technical Session	Session 4		
Date/Time	Tuesday, 18 December 2007 / 11:00 – 12:15 hrs		
Venue	Room 305		
Chair	Lee Hian Kee		
Sym4:16	11:00 – 11:30	New Sampling/Sample Preparation and Separation Technologies for On-Site Investigations <i>Janusz Pawliszyn</i>	4:90
Keynote			
Sym4:17	11:30 – 11:45	Design of Surfactant-Coated Solid Sorbents for Water Analysis <i>M. Hiraide, T. Saitoh and H. Matsumiya</i>	4:91

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Sym4:18	11:45 – 12:00	Measurement of Oxalate in Human Plasma & Serum Ultrafiltrate by HPCE and HPLC <i>Y. Ogawa, R. Z. Hossain, N. Machida and T. Maeda</i>	4:92
Sym4:19	12:00 – 12:15	Cross Injection Analysis: The Latest Flow Analysis <i>Duangjai Nacapricha, Patidta Sastranurak, Natchanon Amornthammarong, Kamonthip Sereenonchai, Thitirat Mantim, Kanchana Uraisin, Prapin Wilairat, Piyada Jittangprasert, Worapon Jearrasupat, Thatchai Chaichachwalprateep, Chatpong Chuyprasartwattana, Chatchalida Boonpanaid and Nathawut Choengchan</i>	4:92

Lunch Break	12:30 – 14:00 hrs
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Technical Session	Poster Session		
Date/Time	Tuesday, 18 December 2007 / 11:00 – 12:30 hrs		
Venue	Gallery		
Sym4:35	11:00 – 12:30	Synthesis of Triosmium-Derivatized Thymidine Analogues as Potential Selective IR-Imaging Probes for Cancer Cells <i>K. H. G. Mak and W. K. Leong</i>	4:97
Sym4:36	11:00 – 12:30	An Electrochemical Square Scheme Mechanism: Redox Dependent Isomerization of Organometallic Ru ^{II} /Ru ^{III} Compounds Containing the Hydrotris(Methimazolyl)Borate Ligand <i>S. L. Kuan, W. K. Leong, L. Y. Goh and R. D. Webster</i>	4:97
Sym4:37	11:00 – 12:30	Hollow Fibre-Protected Liquid-Phase Microextraction for the Determination of Basic Degradation Products of Chemical Warfare Agents <i>N. H. S. Lee, M. T. Sng, C. Basheer and H. K. Lee</i>	4:97
Sym4:38	11:00 – 12:30	One-Step, Room-Temperature, Colorimetric Detection of Mercury (Hg ²⁺) Using DNA/Nanoparticle Conjugates <i>Xuejia Xue, Feng Wang and Xiaogang Liu</i>	4:98
Sym4:39	11:00 – 12:30	Application of Commercial Polymeric Fiber as Sorbent for Solid-Phase Microextraction Combined with High-Performance Liquid Chromatography for the Determination of Parabens in Water Samples <i>T. M. Hii, C. Basheer and H. K. Lee</i>	4:98
Sym4:40	11:00 – 12:30	Microwave-Assisted Extraction Combined with Micro-Solid-Phase Extraction for the Extraction of Polychlorinated Biphenyls from Soil <i>Liang Guo and Hian Kee Lee</i>	4:98
Sym4:41	11:00 – 12:30	Polyamide-imide (PAI) and Polyetherimide (PEI) Used for Pervaporation Separation of Water/Isopropanol Mixtures <i>Y. Wang, T. S. Chung and S. H. Goh</i>	4:99
Sym4:42	11:00 – 12:30	Scaleable Continuous Production of Ethyl (R)-3-Hydroxybutanoate with Recombinant <i>E. coli</i> <i>L. M. Toh, H. Y. Wang, K. L. Foo, S. T. Sim and S. Jaenicke</i>	4:99
Sym4:43	11:00 – 12:30	An Amperometric Aptamer-Based Sensor <i>J. X. Zhuo, Ridha Wivanius and C. S. Toh</i>	4:100
Sym4:44	11:00 – 12:30	Separation of Proteins on a Microchip <i>K. Q. Chong, L. He, Elaine T. T. Tay, Sam F. Y. Li and C. S. Toh</i>	4:100
Sym4:45	11:00 – 12:30	Application of Capillary Zone Electrophoresis to Separation of Microcystins <i>G. Birungi and S. Y. F. Li</i>	4:100

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Sym4:46	11:00 – 12:30	A Novel Conductive Gel of Functionalized Nanodiamond and Ionic Liquid on a Glassy Carbon Electrode for the Determination of Uric Acid <i>Sini George, Chanbasha Basheer, Loh Kian Ping and Hian Kee Lee</i>	4:100
Sym4:47	11:00 – 12:30	Determination of Acidic Pharmaceutically-Active Compounds in Seawater by On-Site Solid Phase Extraction and Liquid Chromatography-Tandem Mass Spectrometry <i>Y. L. Tan, J. Zhang, H. K. Lee and J. P. Obbard</i>	4:101
Sym4:48	11:00 – 12:30	Investigation into the Transport of Ferrocene Species Across Platinum Coated Nanoporous Alumina Membrane <i>Binh T. T. Nguyen, Saad M. Syed and Chee-Seng Toh</i>	4:101
Sym4:49	11:00 – 12:30	Study on the Sensitization of Luminol's Electrochemiluminescence from Nano-Particles of ZnO <i>Feng Liu and Yifeng Tu</i>	4:101
Sym4:50	11:00 – 12:30	Whole-Cell Environmental Biosensor on Diamond Platform <i>Kwok Feng Chong, Kailian Ang, Yen Peng Ting and Kian Ping Loh</i>	4:102
Sym4:51	11:00 – 12:30	Novel Chiral Stationary Phases by Covalently Bonded Azido Cellulose Phenylcarbamate and their Application in HPLC <i>Sheng Zhang, T. T. Ong, Hardy S. O. Chan and S. C. Ng</i>	4:102
Sym4:52	11:00 – 12:30	Application of μ -SPE Extraction Followed by Gas Chromatography-Flame Ionization Detection for the Determination of Triazines in Seawater <i>Seow Kuan Lim, Chanbasha Basheer and Hian Kee Lee</i>	4:102
Sym4:53	11:00 – 12:30	Extraction of Polar and Ionisable Organic Pollutants from Storm Water Sample Using Biocompatible Functional-Nanomembrane <i>Dhanya Parathara George, Chanbasha Basheer and Hian Kee Lee</i>	4:103
Sym4:54	11:00 – 12:30	Development and Application of Electromediated Microextraction Followed by High-Performance Liquid Chromatography-Ultraviolet Detection for the Determination of Haloacetic Acids and Aromatic Acetic Acids in Wastewater <i>Jagjit Kaur, Chanbasha Basheer and Hian Kee Lee</i>	4:103
Sym4:55	11:00 – 12:30	Determination of Phthalates Using Nanofiber Membrane-Based Solid-Phase Micro extraction in Rain Water by Gas Chromatography <i>Sabitha Pillai, Chanbasha Basheer and Hian Kee Lee</i>	4:103
Sym4:56	11:00 – 12:30	Automatic Sampling System for Analysis of Chemical Pollutants in Water <i>H. Wu, W. L. Wang, L. J. Yu and Sam F. Y. Li</i>	4:103
Sym4:57	11:00 – 12:30	Ultrahigh Pressure Liquid Chromatography-Mass Spectrometry and ^1H -Nuclear Magnetic Resonance Spectroscopy for Metabonomics : Potential Biomarkers for Type 2 Diabetes <i>W. S. Law, P. Y. Huang, S. F. Y. Li and E. S. Ong</i>	4:104
Sym4:58	11:00 – 12:30	Evaluation of Surfactant Assisted Pressurized Liquid Extraction for the Determination of Quercetin and Rutin in <i>Costus speciosus</i> (Keong) Smith Flowers <i>Yong Qin Chang, Jean Wan Hong Yong and Swee Ngin Tan</i>	4:104
Sym4:59	11:00 – 12:30	Solvent Extraction and Separation of Bismuth (III) with n-Octylaniline <i>S. R. Kuchekar and S. S. Kuchekar</i>	4:104
Sym4:60	11:00 – 12:30	Reversed Phase Paper Chromatographic Separation of Copper (II) and Silver (I) <i>S. R. Kuchekar, S. R. Retharekar and H. R. Aher</i>	4:104

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Sym4:61	11:00 – 12:30	Synthesis of Alkyl 2-(2-oxoquinoline-1 (2 H)-yl)acrylate <i>Fatemeh Parsa, Issa Yavari and Bitu Mohtat</i>	4:105
Sym4:62	11:00 – 12:30	Effect of Sodium Azide on Peroxidase Isozyme Profiles in Cowpea (<i>Vigna Unguiculata</i> (L) Walp) <i>B. J. Apparao</i>	4:105
Sym4:63	11:00 – 12:30	Study on the <i>Mycobacterium bovis</i> BCG Tokyo 172 Cell Wall Skeleton (SMP-105): Physicochemical Properties and Ultrastructural Features <i>Y. U. Uenishi, K. K. Kawabe, T. N. Nomura and M. S. Sunagawa</i>	4:105
Sym4:64	11:00 – 12:30	Pressurized Hot Water Extraction of Biomarker Compounds in <i>Gastrodia elata</i> Blume <i>Chin Chye Teo, Jean Wan Hong Yong, Swee Ngin Tan and Choy Sin Hew</i>	4:106
Sym4:65	11:00 – 12:30	Analysis Some Plant Hormones in Coconut (<i>Cocos nucifera</i> L.) Water Using HPLC and LC/MS After Solid-Phase Extraction <i>Zhen Ma, Liya Ge, Jean Wan Hong Yong and Swee Ngin Tan</i>	4:106
Sym4:66	11:00 – 12:30	Metal Ion Loaded Chelating Resins for Efficient Removal of Arsenate Ion from Water <i>D. Mohanty, P. Mohapatra and S. Samal</i>	4:106
Sym4:67	11:00 – 12:30	Design of Selective Optical Chemosensor for Determination of Thiocyanate Ion in Aqueous Solution <i>S. Ershad, L. Saghatforoush and R. Osdaghi</i>	4:107
Sym4:68	11:00 – 12:30	Recovery of Phosphate from Sea Water Using Boehmite with Sulfate Group <i>N. Kawasaki, F. Ogata, M. Kabayama and S. Tanada</i>	4:107
Sym4:69	11:00 – 12:30	Microwave Assisted Synthesis of New NLO Material-(2E)-3-(biphenyl-4-yl)-1-(4-methoxyphenyl)-prop-2-en-1-one <i>B. K. Sarojini, B. Narayana, J. Indira and H. S. Yathirajan</i>	4:108
Sym4:70	11:00 – 12:30	Production and Separation of Tandem Repeats of Recombinant Yeast Prion Like Protein Fragment <i>T. J. Park, J. J. Park, J. H. Hwang and Y. Kim</i>	4:108
Sym4:71	11:00 – 12:30	The Isolation and Structural Elucidation of Bioactive Secondary Metabolites from the Marine Cyanobacterium, <i>Lyngbya Majuscula</i> , Collected from Singapore <i>Tripathi Ashootosh and Lik Tong Tan</i>	4:108
Sym4:72	11:00 – 12:30	Adsorption Mechanism of Arsenic and Chromium onto Calcined Gibbsite <i>F. Ogata, N. Kawasaki, M. Kabayama and S. Tanada</i>	4:109
Sym4:73	11:00 – 12:30	Comparison of the Contents of Various Antioxidants of Sea Buckthorn Berries Using Capillary Electrophoresis <i>Jelena Gorbatsova, Tiina Lõugas, Raivo Vokk and Mihkel Kaljurand</i>	4:109
Sym4:74	11:00 – 12:30	Measurement of Electroosmotic Flow in Nonaqueous Capillary Electrophoresis Using Thermal Marks and Capacitively Coupled Contactless Conductivity Detection <i>A. Seiman, M. Vaher and M. Kaljurand</i>	4:109
Sym4:75	11:00 – 12:30	Optimisation of Static Liquid-Phase Microextraction Extraction Conditions <i>R. J. Teo</i>	4:110
Sym4:76	11:00 – 12:30	Highly Sensitive Spectrophotometric Determination of Chromium in Alloy Steel Samples <i>J. S. Prakash and P. Nagaraja</i>	4:110

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Sym4:77	11:00 – 12:30	Electrochemical Assay of Various Polymer Products for Phthalate Contents <i>M. Saeed, Sirajuddin, A. Shah and A. Niaz</i>	4:111
Sym4:78	11:00 – 12:30	Preparation and Characterization of Electrically Conductive Composite Based on Polyaniline and Isobutylated Urea Formaldehyde Resin <i>B. Massoumi, E. Kashani and Raheleh Magsoudi</i>	4:111
Sym4:79	11:00 – 12:30	Determination of Lead, Copper and Cadmium in Mixed Solutions Using Stripping Voltammetry <i>K. A. Rabbani, M. A. Khaleque, P. K. Sarker and K. R. Dey</i>	4:111
Sym4:80	11:00 – 12:30	Solvent Effect on Dissociation Constant of Serine in Water-Methanol Mixtures <i>Ali Farajtabar and Farrokh Gharib</i>	4:112
Sym4:81	11:00 – 12:30	A Novel Ag ⁺ Ion-Selective PVC Membrane Sensor Based on an Aza Crown Ether Compound and Applying in Determination of Silver in Biological System <i>Farhang Mizani, Mojtaba Shamsipur and Faezeh Azmudeh</i>	4:112
Sym4:82	11:00 – 12:30	Microwave Assisted Benign Method of Chelating Resin Synthesis Having Different Thermal and Ion Exchange Properties <i>B. A. Shah, A. V. Shah and N. B. Patel</i>	4:112
Sym4:83	11:00 – 12:30	Selective Recovery of Trace Metal Ions by Synthesized Amphoteric Chelating Resin <i>Bhavna A. Shah, Ajay V. Shah Pathik M. Shah and Riddhish Bhatt</i>	4:113
Sym4:84	11:00 – 12:30	Environmental Remediation by Surfactant Micelles and Microemulsions <i>M. Nadeem and Rashid Atta Khan</i>	4:113
Sym4:85	11:00 – 12:30	Selective Pre-Concentration and Solid Phase Extraction of Co(II)-oxime I from Natural Water with C ₁₈ Disk and its Application to the Determination of Trace Cobalt <i>Ali Moghimi</i>	4:113
Sym4:86	11:00 – 12:30	Spectrophotometric Determination of Trace Amount of Copper (II) Based on the Oxidation of Thionine by Hydrogen Peroxide <i>Masoumeh Tabatabaee, Hasan Bagheri and Ali A. Kerdegari</i>	4:113
Sym4:87	11:00 – 12:30	Comparative Study of Water Quality and Environment Pollution Impact on the Main Lakes of Kashmir, Pakistan <i>M. Aslam, M. Y. Khuhawar and R. Arain</i>	4:114
Sym4:88	11:00 – 12:30	Spectrophotometric Determination of Mexiletine Hydrochloride in Pharmaceutical Preparations, Urine and Serum Using Methyl Orange and Xylenol Orange <i>Fadhil M. Najib, Ahmad M. Abdulla and Dler M. Salh</i>	4:114
Sym4:89	11:00 – 12:30	The Hydrolysis Constants of Uranyl in Aqueous Solution as a Function of pH with pH Measurement and Spectroscopy <i>Ali Farajtabar and Farrokh Gharib</i>	4:114
Sym4:90	11:00 – 12:30	Photocatalytic Degradation of Textile Azo Dye Direct Red 23 in TiO ₂ Suspended Solution <i>Mahboubeh A. Sharif, Masoumeh Tabatabaee and Mohamad Shahvazian</i>	4:115
Sym4:91	11:00 – 12:30	Volatile Constituents and Antimicrobial Activity of Ziziphora Clinopodioides Lam. From Iran <i>Zahra Aghajani, Abdolhossein Rustaiyan, Shiva Masoudi and F. Chalabian</i>	4:115
Sym4:92	11:00 – 12:30	Photo Degradation of <i>p</i> -Toluidine by Fenton Reagent <i>Dharmendra Kumar</i>	4:115

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Sym4:93	11:00 – 12:30	Transport of Silver Ion Through Bulk Liquid Membrane Using Macrocyclic and Acyclic Ligands as Carriers in Organic Solvents <i>G. H. Rounaghi and M. S. Kazemi</i>	4:116
Sym4:94	11:00 – 12:30	Discussion on the Complexing Ability of 4'-nitrobenzo-15-Crown-5 with Li ⁺ , Na ⁺ , K ⁺ , NH ₄ ⁺ Cations in Acetonitrile-Methanol Binary Solution <i>G. H. Rounaghi and E. Razavipanah</i>	4:117
Sym4:95	11:00 – 12:30	Selective Extraction and Separation of Some Azo Dyes from Aqueous Solution by Tetrabutyl Ammonium Bromide <i>Fathi Mohammad Reza and Khaje Mehdi</i>	4:117
Sym4:96	11:00 – 12:30	Para Anisidine as a New Analytical Agent <i>Raghu K. Babu</i>	4:117
Sym4:97	11:00 – 12:30	Simple Miniaturized Flow System in a Single PDMS Microfluidic Device with Optical Sensor for the Determination of Zinc (II) in Pharmaceuticals <i>Napaporn Youngvises, Awadh ALSuhaimi and Gillian M. Greenway</i>	4:118
Sym4:98	11:00 – 12:30	Enhanced Molecular Shape Selectivity by Surface-Initiated Atom Transfer Radically Polymerized Octadecyl Acrylate from Silica <i>M. Mizanur Rahman, Abul K. Mallik, Miklós Czaun, Makoto Takafuji and Hirotaka Ihara</i>	4:118
Sym4:99	11:00 – 12:30	New Efficient Carbon Paste Electrode Modifiers Formed by the Covalent Grafting of a Dipyrityl Functionality to Nanopore Sized Silica Gel for the Potentiometric Determination of Copper(II) Ions <i>M. Javanbakht, M. Abdouss, A. Badiei and M. KafaeiFanaeepour</i>	4:118

Lunch Break	12:30 – 14:00 hrs
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Technical Session	Session 5		
Date/Time	Tuesday, 18 December 2007 / 14:00 – 15:00 hrs		
Venue	Room 305		
Chair	Philip J. Marriott		
Sym4:20	14:00 – 14:15	Establishing a Color Measurements for the Electrodeposited Gold Film on Hull Cell Panel <i>C. W. Zanariah, C. W. Ngah and Norita Mohammed</i>	4:92
Sym4:21	14:15 – 14:30	Membrane-Based Electrochemical Biosensor <i>G. Koh and C.-S. Toh</i>	4:93
Sym4:22	14:30 – 14:45	Pesticide Formulation Using Ash <i>S. S. Bagchi, R. S. Subramaniam and R. T. Jadhav</i>	4:93
Sym4:23	14:45 – 15:00	Comparison of the Application of SIT and Debye-Huckel Models for the IDA Complex with Mo(VI) <i>K. Majlesi, S. Rezaienejad and M. Arafati</i>	4:93

Coffee Break	15:30 – 16:00 hrs
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Technical Program

Wednesday, 19 December 2007

Technical Session	Session 6		
Date/Time	Wednesday, 19 December 2007 / 11:00 – 12:15 hrs		
Venue	Room 305		
Chair	Hasuck Kim		
Sym4:24	11:00 – 11:30	New Insights Gained from Use of Fourier Transform Based Electrochemical Instrumentation	4:94
Keynote		<i>Alan M. Bond</i>	
Sym4:25	11:30 – 11:45	Green Analytical Strategy Miniaturized Flow System with Optical Sensor for Field Analysis and High Throughput Screening	4:94
Invited		<i>Napaporn Youngvises</i>	
Sym4:26	11:45 – 12:00	Development of Novel Micro Analytical Techniques for Environmental Applications	4:94
		<i>Chanbasha Basheer, Suresh Valiyaveettil and Hian Kee Lee</i>	
Sym4:27	12:00 – 12:15	Surface Morphology and Structure of the Binary Au-Ag, Au-Pd, Au-Ni and Ternary Au-Ag-Pd, Au-Ni-In Electrodeposited Gold Alloy By XRD, SEM, and AFM Analysis	4:94
		<i>C. W. Zanariah, C. W. Ngah and Norita Mohammed</i>	

Technical Session	Session 7		
Date/Time	Wednesday, 19 December 2007 / 14:00 – 15:45 hrs		
Venue	Room 305		
Chair	Chanbasha Basheer		
Sym4:28	14:00 – 14:15	Chiral Enabling Technologies for Analytical and Preparative Enantioseparations	4:95
Invited		<i>N. G. Siu Choon</i>	
Sym4:29	14:15 – 14:30	Chiral Sensors of Functionalized Beta-Cyclodextrins and Real Time Determination of Enantiomers by Quartz Crystal Microbalance	4:95
		<i>Changhua Xu, Siuchoon Ng and Hardy S. O. Chan</i>	
Sym4:30	14:30 – 14:45	Potentiometric PVC Membrane Sensor for the Determination of Lidocaine Hydrochloride in Some Pharmaceutical Products	4:95
		<i>Masoud Giahhi and Behzad Chahkandi</i>	
Sym4:31	14:45 – 15:00	A Transistor Sensor Applied for Different Types of Thermometric Titrations	4:95
		<i>F. M. Najib, S. Zewar and A. M. Abdulla</i>	
Sym4:32	15:00 – 15:15	Preparation of Modified Nanoporous Silica For Benzene Sensor Application	4:96
		<i>Brian Yulianto, Yoko Kumai, Shinji Inagaki and Haishen Zhou</i>	
Sym4:33	15:15 – 15:30	Solvent-free Microwave Synthesis of New Schiff-Base Ligands Derivatives of Heterocyclic Amines	4:96
		<i>Masoumeh Tabatabaee, Mitra Ghassemzadeh, Mahmoud Shahriari and Bernhard Neumüller</i>	
Sym4:34	15:30 – 15:45	Potentiometric Sensor for Hydroxyzine Detection Based on Molecularly Imprinted Polymer	4:97
		<i>M. Javanbakht, M. Abdouss, S. Eynollahi, A. Mohammadi, M. R. Ganjali and P. Norouzi</i>	

** SYM-4 END **