

# Poster Session I

**S1-001 An Experimental Model to Examine the Influence of Processing Parameters on the Morphology of Electrospayed Poly(D,L)-Lactide-co-Glycolide (PLGA) Particles**

Ming-Yi Hsu<sup>1,2</sup>, Shih-Kuang Chen<sup>2</sup>, and Shih-Jung Liu<sup>1,2</sup>

<sup>1</sup>Chang Gung Memorial Hospital, Taiwan / <sup>2</sup>Chang Gung University, Taiwan

**S1-002 Examine the Electrospinning Parameters' Strength on Poly(D,L)-Lactide-co-Glycolide Micro/Nanofibers Diameter**

Yi-Pin Chen<sup>1,2</sup>, Ya-Ling Tang<sup>1</sup>, and Shih-Jung Liu<sup>1,2</sup>

<sup>1</sup>Chang Gung University, Taiwan / <sup>2</sup>Chang Gung Memorial Hospital, Taiwan

**S1-003 Synthesis and Characterization of Novel Tetraamine Monomers and Polybenzimidazoles for High Temperature Proton Exchange Membrane Fuel Cell Applications**

Fan-Jie Lin, Yun-Ting Yao, Jyh-Chien Chen

National Taiwan University of Science and Technology, Taiwan

**S1-004 Monomer Sequence Analysis of the Poly(Vinyl Alcohol-co-Vinyl Acetate)s Prepared by Transesterification Catalyzed by Zinc Ate Complex**

Ayano Tanaka<sup>1</sup>, Misaki Senoo<sup>1</sup>, Yasunari Kusaka<sup>2</sup>, Miyuki Oshimura<sup>1</sup>, Tomohiro Hirano<sup>1</sup>, Koichi Ute<sup>1</sup>

<sup>1</sup>Tokushima University, Japan / <sup>2</sup>Sekisui Chemical Co., Ltd., Japan

**S1-005 Preparation of PVDF Thin Films by Modified Langmuir-Shaefer Method and Their Structural Analysis**

Hayato Watanabe, Hara Mitsuo, Shusaku Nagano, Takahiro Seki

Nagoya University, Japan

**S1-006 Eco-Friendly Fully Bio-Based and Thermoplastic Poly(Butylene Succinate-co-Propylene Succinate) Copolyesters: Effect of Glycerol on Thermal and Mechanical Properties**

Li-Yuan Wang, Kai-Hung Hsu, Cyuan-Lun He, Chia-Jung Cho, Chin-Wen Chen, Syang-Peng Rwei, Chi-Ching Kuo

National Taipei University of Technology, Taiwan

**S1-007 Precise Synthesis and Physical Properties of Thermosensitive Block Copolymer Gels**

Tomoki Sakai<sup>1</sup>, Do Woo Kwon<sup>1</sup>, Yuto Jochi<sup>1</sup>, Yukikazu Takeoka<sup>1</sup>, Takahiro Seki<sup>1</sup>, Kotaro Satoh<sup>2</sup>, Masami Kamigaito<sup>1</sup>

<sup>1</sup>Nagoya University, Japan / <sup>2</sup>Tokyo Institute of Technology, Japan

**S1-008 Complex Materials Consist of a Soft-Polymer and Chromophores with Photoinduced Properties**

Chi-Hsien Wang, Dao-Hong Huang, Masaki Horie

National Tsing Hua University, Taiwan

**S1-009 Recycling Polycarbonate into Polyurethane with High Atomic Economic Efficiency**

Ying-Chi Huang<sup>1</sup>, Chien-Hsin Wu<sup>1</sup>, Shenghong A. Dai<sup>2</sup>, Ru-Jong Jeng<sup>1</sup>

<sup>1</sup>National Taiwan University, Taiwan / <sup>2</sup>National Chung Hsing University, Taiwan

**S1-010 Effect of Crosslinking Types on the Properties of Biodegradable Hydrogels Based on Cassava Starch-g-Polyacrylic Acid/Natural Rubber as Coating Membrane for Slow Release Urea Fertilizer**

Patchareepon Jungsinyatam, Sayant Saengsuwan

Ubon Ratchathani University, Thailand

**S1-011 Novel Heptacyclic Carbazole Non-Fullerene Acceptors Containing Si Bridges Affords over 14% PCE without Additives**

You-Wei Lin, Jun-Yan Yu, Tsung-Wei Chen, Chain-Shu Hsu

National Chiao Tung University, Taiwan

**S1-013 Unusual Hysteresis in Phase Transition Behavior of Aqueous Solution of Acrylamide Copolymers Containing N-Ethylacrylamide as a Component**

Menghao Li, Koki Maeda, Miyuki Oshimura, Tomohiro Hirano, Koichi Ute

Tokushima University, Japan

**S1-016 Effect of Maleic Anhydride Polyethylene on the Mechanical and Thermal Properties of Kenaf Fiber/Reused-HDPE Composites**

Jungho Kim, Byungsoo Park, Jihan Seo, Donghwan Cho

Kumoh National Institute of Technology, Korea

**S1-019 Piperazine-Based Polyamide Thin-Film Composite Membranes for Nanofiltration**

Shu-Hsien Huang<sup>1,2</sup>, Li-Jen Hu<sup>1</sup>, Kueir-Rarn Lee<sup>2</sup>, Juin-Yih Lai<sup>2,3</sup>

<sup>1</sup>National Ilan University, Taiwan / <sup>2</sup>Chung Yuan University, Taiwan / <sup>3</sup>National Taiwan University of Science and Technology, Taiwan

**S1-022 Synthesis of Hyperbranched Polyurethane Acrylates via One-Pot Copolymerization**

Kuo-Chung Cheng, Wei-Chih Chen, Pei-Shan Cheng, Po-Chih Wang

National Taipei University of Technology, Taiwan

# Poster Session I

**S1-024 Facile Fabrication of Superporous and Biocompatible Hydrogel Scaffolds for Artificial Corneal Periphery**

Yu-Ping Lee, Chong-Wei Hsu, Leng-Rong Yu,  
I-Jong Wang, Jia-Yush Yen, Chi-An Dai

*National Taiwan University, Taiwan*

**S1-025 Polyimide Membranes from Bisphenol Compounds for CO<sub>2</sub> Capture**

Jen-Yu Lee<sup>1</sup>, Shih-Chieh Yeh<sup>1</sup>, Chien-Hsin Wu<sup>1</sup>,  
Chien-Chieh Hu<sup>2</sup>, Shu-Chen Chiang<sup>3</sup>, Ru-Jong Jeng<sup>1</sup>

<sup>1</sup>National Taiwan University, Taiwan / <sup>2</sup>National Taiwan University of Science and Technology, Taiwan /

<sup>3</sup>Chung Shan Institute of Science and Technology, Taiwan

**S1-026 Synthesis of Chain end Sequence-Controlled Polymers by Living Anionic Addition Reaction ~One-Pot Synthesis of Multi end Functionalized Polymers~**

Kazuki Takahata, Raita Goseki, Takashi Ishizone

*Tokyo Institute of Technology, Japan*

**S1-027 Amino Group Modification of Poly(Vinyl Alcohol) Side Chain by Chemoselective Transesterification Using Zinc Ate Complex**

Miyuki Oshimura, Ryo Kagitani, Tomohiro Hirano,  
Koichi Ute

*Tokushima University, Japan*

**S1-028 Syntheses and Self-Assembly of Chiral Diblock Copolymers Deriving from Mandelic Acid**

Jung-Tzu Hsu<sup>1</sup>, Mei-Chi Huang<sup>1</sup>, Hsiao-Fang Wang<sup>2</sup>,  
Po-Ting Chiu<sup>2</sup>, Jing-Cherng Tsai<sup>1</sup>, Rong-Ming Ho<sup>2</sup>

<sup>1</sup>National Chung Cheng University, Taiwan / <sup>2</sup>National Tsing Hua University, Taiwan

**S1-029 Comparison of Starch-g-Polyacrylic Acid Hydrogel as smart materials for Removal of Brilliant Green Dye from Aqueous Solution**

Worarat Chantharapathaka,  
Rattanamanee Namthachan, Sayant Saengsuwan

*Ubon Ratchathani University, Thailand*

**S1-030 Piezoelectric Properties of Polyvinylidene Fluoride Sensors Under High Mechanical Strain**

Sojeong Kim<sup>1</sup>, Deuk Yong Lee<sup>1</sup>, Bae-Yeon Kim<sup>2</sup>,  
Young-Jei Oh<sup>3</sup>

<sup>1</sup>Daelim University, Korea / <sup>2</sup>Incheon National University, Korea / <sup>3</sup>Korea Institute of Science and Technology, Korea

**S1-031 Electrosynthesis of Copolymer from 1,4-bis((9H-carbazol-9-yl)methyl)Benzene and (2,3-dihydrothieno[3,4-b][1,4]dioxin-2-yl)Methanol and its Application on Flexible Electrochromic Device**

Yu-Xuan Lin<sup>1</sup>, Zhan-Quan Liu<sup>2</sup>, Che-Kai Liu<sup>2</sup>,  
Yu-Chang Huang<sup>1</sup>, Tzi-yi Wu<sup>2</sup>, Chung-Wen Kuo<sup>1</sup>

<sup>1</sup>National Kaohsiung University of Science and Technology, Taiwan / <sup>2</sup>National Yunlin University of Science and Technology, Taiwan

**S1-032 Synthesis and Characterization of Star-Shaped Poly(N-Vinylpyrrolidone) with a  $\beta$ -cyclodextrin Core via RAFT Polymerization**

Jianwei Jiang, Longhai Piao

*Kongju National University, Korea*

**S1-033 Facile Synthesis Nitrogen-Doped Microporous Carbons from Polybenzoxazine Resins for CO<sub>2</sub> Uptake**

Mei-Yin Tsai, Mohamed Gamal Mohamed,  
Shiao-Wei Kuo

*National Sun Yat-sen University, Taiwan*

**S1-034 Nanofiber Electrodes for Biosensors: Superhydrophobic Surface Properties, Highly Electrical Conductivity, and their Applications for Smart Clothing**

Chen-Yang Huang, Kuan-Yu Chen, Bo-Syuan Huang,  
Chih-Wei Chiu

*National Taiwan University of Science and Technology, Taiwan*

**S1-036 Precise Synthesis of Poly(isoprene)-Block-Poly(3-alkylthiophene)**

Tung-Ho Tao, Chi-Yang Chao

*National Taiwan University, Taiwan*

**S1-037 The Study of Photocurable Biocompatible Polymers Applied in 3D Printing Scaffold Formations**

June-Yo Chen, Yu-Ming Chen,  
Kaiser a. Villalobos Gorday, Jane Wang

*National Tsing Hua University, Taiwan*

**S1-038 Synthesis of Poly(Acrylic Acid)-Based Bottlebrush Polymers Toward Binders for Silicon Anodes**

Anjali Nagapadi Preman, Jinha Son, Suk-Kyun Ahn

*Pusan National University, Seoul*

**S1-039 Synthesis of Block Polymer Based on Double-Decker-Shaped Polyhedral Silsesquioxanes (DDSQ) Nanocomposites**

Yu-Hsuan Tsao, Wei-Cheng Chen, Shiao-Wei Kuo

*National Sun Yat-Sen University, Taiwan*

# Poster Session I

**S1-040 Synthesis of Poly(Acrylic Acid-Block-N-Vinylamine) Amphoteric Block Copolymers and Their Association Behaviors in Water**

Sung-Gyu Lee, Joon-Hee Cho, Young-Je Kwark

*Soongsil University, Korea*

**S1-041 A Stretchable and Transparent Polymer with Dual-healability by Using Disulfide and Diels-Alder Dynamic Bonds**

Chun-Ming Yeh, Chun-Hsiu Lin, Zong-You Han, Ho-Hsiu Chou

*National Tsing Hua University, Taiwan*

**S1-044 Bistable Photoconductive Self-Assembled Fibers Consisting of  $\pi$ -Conjugated Gelators**

Daisuke Yamaguchi, Takashi Kato

*The University of Tokyo, Japan*

**S1-046 Effect of Side Chain and Molecular Weight on Poly(3-thioalkylthiophene) (P3ST)-Based Polymer Semiconductors for Organic Field Effect Transistors Application**

Po-Shen Lin<sup>1</sup>, Tomoya Higashihara<sup>2</sup>, Ming-Chou Chen<sup>1</sup>, Cheng-Liang Liu<sup>1</sup>

<sup>1</sup>National Central University, Taiwan / <sup>2</sup>Yamagata University, Japan

**S1-049 Preparation of Self-Healing Polymer by Cobalt Ions**

Pei-Yi Lai, Tzu-Hsuan Chiang

*National United University, Taiwan*

**S1-050 Control of Surfactant Nanostructures by Humidity in Hygroscopic Siloxane Photopolymer**

Tomoya Takeshita, Mitsuo Hara, Shusaku Nagano, Takahiro Seki

*Nagoya University, Japan*

**S1-051 Flexible DNA-Based Resistive Switching Memory Devices with Bio-Based Polyethylene Furanoate as the Substrate**

Jeun-Yan Lam<sup>1</sup>, Guang-Way Jang<sup>2</sup>, Cheng-Jyun Huang<sup>2</sup>, Shih-Huang Tung<sup>1</sup>, Wen-Chang Chen<sup>1</sup>

<sup>1</sup>National Taiwan University, Taiwan / <sup>2</sup>Industrial Technology Research Institute, Taiwan

**S1-052 Synthesis, Characterization, Optical and Electrochemical Properties of the Alternating Copolymers Containing Triphenylvinylphenyl and Fluorinated Triphenylvinylphenyl Substituted 3,6- or 2,7-Carbazoles and Naphthalene Bisimides**

Rou-Fang Zeng, Chin-Yang Yu

*National Taiwan University of Science and Technology, Taiwan*

**S1-053 Effect of Wood Particle Size and Additives to the Durability of Wood Plastic Composites**

Maria B. Rizkiana<sup>1</sup>, Yi-Jun Chen<sup>2</sup>, Chang-Hsin Kuo<sup>2</sup>, Shu-Kai Yeh<sup>1</sup>

<sup>1</sup>National Taiwan University of Science and Technology, Taiwan / <sup>2</sup>National Chia-Yi University, Taiwan

**S1-054 Aligned and Diameter-Reduced Electrospun Polymer Fibers Induced by the Hot-Stretching Method**

Hsun-Hao Hsu, Yu-Jing Chiu, Hsiao-Fan Tseng, Jia-Wei Li, Jiun-Tai Chen

*National Chiao Tung University, Taiwan*

**S1-055 Synthesis of Cardo-Type Polyurethanes from 1,1-Cyclopentenylenylbisphenol with Shape Memory Properties**

Kuan-Ting Chen, Ying-Chi Huang, Chien-Hsin Wu, Ru-Jong Jeng

*Nation Taiwan University, Taiwan*

**S1-056 Effect of MCF and MWCNT on the Properties of Carbon Fiber/ABS Composites Produced by Extrusion and Injection Molding Processes**

Youngeun Kim, Gayoung Kim, Donghwan Cho

*Kumoh National Institute of Technology, Korea*

**S1-057 Intelligent and Thermosensitive AuNPs-Pluronic® Nanocapsules for SERS Detection of Biomolecules**

Yu-Hsuan Lin<sup>1</sup>, Yu-Wei Cheng<sup>1</sup>, Ting-Yu Liu<sup>1</sup>, Cheng-Cheung Chen<sup>2</sup>, Ming-Chien Yang<sup>3</sup>

<sup>1</sup>Ming Chi University of Technology, Taiwan / <sup>2</sup>National Defense Medical Center, Taiwan / <sup>3</sup>National Taiwan University of Science and Technology, Taiwan

**S1-058 FCC or HCP: The Stable Close-Packed Lattice of Crystallographically Equivalent Spherical Micelles in Block Copolymer/Homopolymer Blend**

Li-Ting Chen, Nai-Wen Hsu, Babak Nouri, Hsin-Lung Chen

*National Tsing-Hua University, Taiwan*

**S1-059 Preparation of Hydrophilic-Hydrophobic Tubular Membrane for PEG Solution Dehydration by Sweep Gas Membrane Distillation**

Yu-Ting Chiu<sup>1</sup>, Kueir-Rarn Lee<sup>1</sup>, Hui-An Tsai<sup>1</sup>, Juin-Yih Lai<sup>1,2</sup>

<sup>1</sup>Chung Yuan University, Taiwan / <sup>2</sup>National Taiwan University of Science and Technology, Taiwan

# Poster Session I

**S1-060 Fabrication of Two-Dimensional Photonic Crystals of Tethered Polyvinyltetrazole on Silicon Surfaces for Visualization in Cu<sup>2+</sup> Ion Sensing**

Jem-Kun Chen<sup>1</sup>, Jun-Ru Zeng<sup>1</sup>, Chih-Chia Cheng<sup>2</sup>  
<sup>1</sup>National Taiwan University of Science and Technology, Taiwan / <sup>2</sup>National Chiao Tung University, Taiwan

**S1-061 Development of Biocompatible and Hemocompatible UV-Curing Resins for 3D-Printing and its Surface Modification for Artificial Blood Vessels**

Ting-Yu Liu, Bo-Yu Chen  
Ming Chi University of Technology, Taiwan

**S1-063 Synthesis and Photocatalytic Application of Different Bandgap Nitrogen-Doped Carbon Quantum Dots**

Mohamed Hammad Elsayed, Ho-Hsiu Chou  
National Tsing Hua University, Taiwan

**S1-064 Design, Synthesis and Electrochromic Properties of Novel Poly(Ether Sulfone)s Based on TPA with Dimethylamino Substituents**

Chiao-Ling Huang, Mu-Huai Chen, Guey-Sheng Liou  
National Taiwan University, Taiwan

**S1-065 Photochromic Poly (DPHA)/Silica/Spiroanthoxazine Hybrid Coatings on PMMA Substrates**

Tsai-Yeh Wu, Pei-Ting Chung, Chao-Ching Chang  
Tamkang University, Taiwan

**S1-066 Fabrication of Aerogel from Kombucha Bacterial Cellulose: Investigation of Some Properties**

Canan Karakus, Ayse Zehra Aroguz  
Istanbul University-Cerrahpasa, Turkey

**S1-068 Synthesis of Poly(Acrylic Acid)-Based Binders for Silicon Anodes Lithium-Ion Battery**

Anjali Nagapadi Preman, Jinha Son, Suk-Kyun Ahn  
Pusan National University, Korea

**S1-069 Controlling Molecular Packaging and Photoluminescence in Solid Films of Conjugated Polymers by Light during Film Formation**

Chan-Yu Hsu, Arnold Chang-Mou Yang  
National Tsing Hua University, Taiwan

**S1-070 Synthesis and Characterization of Amino Acid-Based Nanoparticles Composed of Stimuli-Responsive Shell and Cross-Linked Cores**

Keita Kataoka, Hideharu Mori  
Yamagata University, Japan

**S1-072 Selenium-Containing Copolymers with Pendant Vinyl/Epoxy Units by Radical Copolymerization of 2-Vinylselenophene**

Yoshihisa Tokushita, Hideharu Mori  
Yamagata University, Japan

**S2-002 Formation of Porous Membranes via an Environmental Friendly Water/IPA/PVAc-PMMA Cosolvency System**

Han-Shiang Huag, Szu-Ting Yu, Dar-Jong Lin, Liao-Ping Cheng  
Tamkang University, Taiwan

**S2-003 Influence of Iron Precursor on Polymer-Templated Growth of Carbon Nanostructures for Surface-Enhanced Raman Scattering**

Iris Ching-Ya Chang, Shih-Ting Luo, Ya-Sen Sun  
National Central University, Taiwan

**S2-004 Fabrication of Porous Polyimide and Carbon Nanotubes Using Anodic Aluminum Oxide Templates**

Hung-Chieh He, Yi-Hsuan Tu, Jia-Wei Li, Yu-Liang Lin, Jiun-Tai Chen  
National Chiao Tung University, Taiwan

**S2-005 Single-Molecule Study Reveals Novel Beads-on-a-String Structure Formed by Multiple Repeat Thrombin Aptamers**

Jianyu Liu, Wei Feng, Wenke Zhang  
Jilin University, China

**S2-006 Nanohybrids of Ag Nanoparticles/Dendron-Exfoliated Reduced Graphene Oxide for Surface-enhanced Raman Scattering Detection**

Han-Yu Lin<sup>1</sup>, Ting-Yu Liu<sup>2</sup>, Yu-Wei Cheng<sup>1,2</sup>, Chien-Hsin Wu<sup>1</sup>, Ru-Jong Jeng<sup>1</sup>  
<sup>1</sup>National Taiwan University, Taiwan / <sup>2</sup>Ming Chi University of Technology, Taiwan

**S2-007 The Study on Strength of UD Fabric Materials**

Po-Yang Lin<sup>1</sup>, Cheng-KunChu<sup>1</sup>, Po-Hao Su<sup>1</sup>, Jia-Shi Lin<sup>2</sup>  
<sup>1</sup>Chinese Culture University, Taiwan / <sup>2</sup>National Chung-Shan Institute of Science and Technology, Taiwan

**S2-008 Superhydrophilic Tannic Acid/Fe/Polymer Composites for Effective Oil/Water Separation and Dye Adsorption**

Chih-Feng Wang<sup>1</sup>, Jyun-Ming Shen<sup>2</sup>, Jittrakorn Udomsin<sup>1</sup>, Kuo-Jung Lee<sup>2</sup>, Wei-Song Hung<sup>1</sup>, Chien-Chieh Hu<sup>1</sup>, Juin-Yih Lai<sup>1,3</sup>  
<sup>1</sup>National Taiwan University of Science and Technology, Taiwan / <sup>2</sup>I-Shou University, Taiwan / <sup>3</sup>Chung Yuan University, Taiwan

# Poster Session I

**S2-009 Spontaneously Generated SAM Treatment via Blending and Additive Migration for Top-Contact Organic Field Effect Transistor**

Hwasung Lee

*Hanbat National University, Korea*

**S2-023 Effects of Counterion Valency and Ionic Strength on DNA-Dendrimer Interaction**

Bradley W. Mansel, Yen-Chih Huang, Chen-Che Yang, Hsin-Lung Chen

*National Tsing Hua University, Taiwan*

**S2-024 Residual Stresses and Young's Moduli of Ultrathin Polymer Films from Dewetting Instability on Soft Rubber**

Yu-Jr Huang, Wei-Cheng Lai, Arnold Chang-Mou Yang

*National Tsing Hua University, Taiwan*

**S2-025 Quasi-Uniform Phase Behavior in Polymer Blends via Molecular Spatial Obstruction – A "High-Entropy Polymers" Approach**

Yu-Jr Huang, Jien-Wei Yeh, Arnold Chang-Mou Yang

*National Tsing Hua University, Taiwan*

**S2-026 Wet-and Dry-Brush Solubilization Behavior of Diblock Copolymer/Homopolymer Blend Displaying Lower Critical Ordering Transition**

Yu-Hsuan Lin, Hsin-Lung Chen

*National Tsing-Hua University, Taiwan*

**S2-027 Precise Synthesis of Photo-Active Zwitterionic Polymer Dormant toward Hydrophilic Transparent Coatings**

Satoshi Koishi, Masakazu Iijima, Takeo Suga, Kenichi Oyaizu

*Waseda University, Japan*

**S2-028 Antibacterial and Antifouling Characterizations of Conducting Polymer-Graphene Oxide-PDDA Nanocomposites Films by Electro-Chemical Polymerization**

Xin-Yao Peng<sup>1</sup>, Yu-Wei Cheng<sup>1</sup>, Ting-Yu Liu<sup>1</sup>, Li-Ying Huang<sup>2</sup>, Ming-Chien Yang<sup>2</sup>

<sup>1</sup>Ming Chi University of Technology, Taiwan / <sup>2</sup>National Taiwan University of Science and Technology, Taiwan

**S2-029 Springtail-Inspired Patterned Surfaces and Their Applications**

Wen-Jia Zhong, Po-Cheng Chen, Yi-Chang Chung

*National University of Kaohsiung, Taiwan*

**S2-030 Passivation of Perovskite Solar Cell Defects by Oligomer Based Additives**

Chih-Ping Chen<sup>1</sup>, Jie-Min Lan<sup>1</sup>, Chung-Lin Chung<sup>1</sup>, Yang-Yen Yu<sup>1</sup>, Hsiang-Lin Hsu<sup>2</sup>, Bing-Huang Jiang<sup>2</sup>, Ru-Jong Jeng<sup>2</sup>

<sup>1</sup>Ming Chi University of Technology, Taiwan / <sup>2</sup>National Taiwan University, Taiwan

**S3-001 Design and Synthesis of Bio-Based High-Performance Tri-Oxazine Benzoxazine Resin via Natural Renewable Resources**

Mengchao Han, Kan Zhang

*Jiangsu University, China*

**S3-002 Curved Block Copolymer Nanodiscs: Structure Transformations in Cylindrical Nanopores Using the Nonsolvent-Assisted Template Wetting Method**

Yu-Liang Lin, Ming-Hsiang Cheng, Chun-Wei Chang, Chien-Wei Chu, Chih-Ting Liu, Jiun-Tai Chen

*National Chiao Tung University, Taiwan*

**S3-003 Bio-Complementary Supramolecular Polymers with Effective Self-Healing Property**

Wen-Lu Fan, Chih-Chia Cheng

*National Taiwan University of Science and Technology, Taiwan*

**S3-004 Embedded Self-Assembled Nanofibrillar Networks in Poly(Ethylene Glycol) with Reversibly Tunable Phase Behaviors and Properties**

Wei-Chi Lai, Chun-Wai Chang, Chi-Yuan Hsueh

*Tamkang University, Taiwan*

**S3-005 Preparation of Water-Soluble Nano-Aggregate with Liquid Crystalline Core**

Yoko Mizoue, Shin-ichi Yusa

*University of Hyogo, Japan*

**S3-006 Structurally Well-Defined Isotactic Poly(2-vinylpyridine)-b-Polystyrene**

Hsiang-Ju Wang, Ting-Yi You

*National Chung Cheng University, Taiwan*

**S3-007 Synthesis of Dendrons with Peripheral Adamantane Functional Groups for Shape Memory Materials**

Tsung-Yu Yu, Chien-Hsin Wu, Shih-Chieh Yeh, Ru-Jong Jeng

*National Taiwan University, Taiwan*

**S3-008 Synthesis of Nonionic Waterborne Epoxy-Based Polymers: Structural Design and Applications**

Sin-Huei Chiu, Chien-Hsin Wu, Ying-Chi Huang, Ru-Jong Jeng

*National Taiwan University, Taiwan*

**S3-009 Methacrylate Based Amphiphilic Graft Copolymers with Self-Assembled Nanostructures as Tougheners for Epoxy Resins**

Chin-Ting Fan<sup>1</sup>, Feng-Ming Hsieh<sup>2</sup>, Mei-Hua Wang<sup>2</sup>, Tsung-Han Hsieh<sup>1</sup>, Li-Cheng Jheng<sup>1</sup>

<sup>1</sup>National Kaohsiung University of Science and Technology, Taiwan / <sup>2</sup>Industrial Technology Research Institute, Taiwan

# Poster Session I

**S3-010**    **Supramolecular Polymer Membranes for Filtration of Fluorescent Dyes**  
Yi-Hsuan Chang, Chih-Chia Cheng  
*National Taiwan University of Science and Technology, Taiwan*

**S3-011**    **Physically Cross-Linked Supramolecular Membrane with Adjustable Properties**  
Cheng-You Wu, Xiu-Jing Yang, Chih-Chia Cheng  
*National Taiwan University of Science and Technology, Taiwan*

**S3-012**    **Synthesis and Characterization of Graphene Oxide, Reduced Graphene Oxide and Functionalized Graphene Oxide as Smart Materials for Dye Removal Application**  
Manmanut Srikaew, Sayan Saengsuwan  
*Ubon Ratchathani University, Thailand*

**S3-014**    **PNIPAAm Star Polymer and its Thermo-Responsive Behavior in Aqueous Solution**  
Komol Kanta Sharker<sup>1</sup>, Yuri Toyama<sup>2</sup>, Sayuri Takeshima<sup>2</sup>, Shokyoku Kanaoka<sup>2</sup>, Shohei Ida<sup>2</sup>, Shin-ichi Yusa<sup>1</sup>  
<sup>1</sup>University of Hyogo, Japan / <sup>2</sup>The University of Shiga Prefecture, Japan

**S3-015**    **Block-Copolymer Templated Gold Nanostructures for Molecular Sensing through SERS Spectroscopy**  
Belda Amelia Junisu, Ya-Sen Sun  
*National Central University, Taiwan*

**S3-016**    **Preparation of Honeycomb-Like Shape Memory Surface by Breath Figure Method**  
Chung-Ta Hsieh, Chien-Hsin Wu, Shih-Huang Tung, Ru-Jong Jeng  
*National Taiwan University, Taiwan*

**S3-018**    **Characterization and Nanofiltration Performance of Polyamide Composite Membrane Prepared by Interfacial Polymerization Using Polyamine Monomers**  
Shu-Hsien Huang<sup>1,2</sup>, Han-Chieh Huang<sup>1</sup>, Kueir-Rarn Lee<sup>2</sup>, Juin-Yih Lai<sup>2,3</sup>  
<sup>1</sup>National Ilan University, Taiwan / <sup>2</sup>Chung Yuan University, Taiwan / <sup>3</sup>National Taiwan University of Science and Technology, Taiwan

**S3-019**    **Study on the Effect of Fabrication Parameter on Characterization and Oil/Water Emulsion Separation Performance through Ethyl Cellulose Asymmetric Membranes**  
Shu-Hsien Huang<sup>1,2</sup>, Guan-Ting Lee<sup>1</sup>, Kueir-Rarn Lee<sup>2</sup>, Juin-Yih Lai<sup>2,3</sup>  
<sup>1</sup>National Ilan University, Taiwan / <sup>2</sup>Chung Yuan University, Taiwan / <sup>3</sup>National Taiwan University of Science and Technology, Taiwan

**S3-020**    **Polyamide Thin-Film Composite Membranes: Effects of Diamine Chemical Structure and Fabrication Parameter on Forward Osmosis Performance**  
Shu-Hsien Huang<sup>1,2</sup>, Qing-Yi Huang<sup>1</sup>, Kueir-Rarn Lee<sup>2</sup>, Juin-Yih Lai<sup>2,3</sup>

<sup>1</sup>National Ilan University, Taiwan / <sup>2</sup>Chung Yuan University, Taiwan / <sup>3</sup>National Taiwan University of Science and Technology, Taiwan

**S3-021**    **Synthesis of Isotactic Poly(1-Butene)-Block-Poly(2-Vinylpyridine) for Nanolithography Applications**  
Guo-Yu Gao, Jing-Cherng Tsai, Sheng-Chang Chang  
*National Chung Cheng University, Taiwan*

**S3-022**    **Electrosynthesis of Copolymer from Trans-1,2-di(2-Thienyl)Ethylene and 2-(2-Thienyl)Furan and its Application on Electrochromic Device**  
Shu-Chien Fan<sup>1</sup>, Ho-Rei Chen<sup>1</sup>, Pin-Hsuan Chen<sup>1</sup>, Yu-Chang Huang<sup>1</sup>, Chung-Wen Kuo<sup>1</sup>, Tzi-Yi Wu<sup>2</sup>  
<sup>1</sup>National Kaohsiung University of Science and Technology, Taiwan / <sup>2</sup>National Yunlin University of Science and Technology, Taiwan

**S3-023**    **Study on the Effect of Additive on the Oil/Water Emulsion Separation Performance through Polyacrylonitrile Asymmetric Membranes**  
Shu-Hsien Huang<sup>1,2</sup>, Tse-An Chou<sup>1</sup>, Kueir-Rarn Lee<sup>2</sup>, Juin-Yih Lai<sup>2,3</sup>  
<sup>1</sup>National Ilan University, Taiwan / <sup>2</sup>Chung Yuan University, Taiwan / <sup>3</sup>National Taiwan University of Science and Technology, Taiwan

**S3-024**    **Helical Superstructures Self-Assembled by Frustrated ABCBA Linear Pentablock Terpolymers**  
Yu-Xin Xiao<sup>1</sup>, Tzu-Yang Hsu<sup>1</sup>, Ching-I Huang<sup>1</sup>, An-Chang Shi<sup>2</sup>  
<sup>1</sup>National Taiwan University, Taiwan / <sup>2</sup>McMaster University, Canada

**S3-025**    **Thermal Gelation of Lecithin Organosols Induced by Inorganic Salts**  
Chia-Yi Lin, Shih-Huang Tung  
*National Taiwan University, Taiwan*

**S3-026**    **Transparent, Stretchable, Recyclable and Self-Healing Sol-Gel Based on Coordination and Hydrogen Bonding Strategies for Pressure Sensors**  
Chun-Hsiu Lin, Chun-Ming Yeh, Zong-You Han, Ho-Hsiu Chou  
*National Tsing Hua University, Taiwan*

# Poster Session I

**S3-027 Metal Nanoparticle-Embedded Sponge Ball for Oil/Water Separation and Pollutant Purification**

Han Bi Lee, Nara Han, Won San Choi

*Hanbat National University, Korea*

**S3-028 Iron Oxide/Sponge Absorbent for Fast Cleanup of Highly Hazardous Aqueous Solutions**

Sol Park, Nara Han, Won San Choi

*Hanbat National University, Korea*

**S3-029 Photoresponsive and Crystallization Behaviors of Azobenzene/Polyethylene Glycol Complexes with Hydrogen-Bonding Interactions**

Jing-Yao Ma, Hsin-Tzu Tai, Yen-Chun Lin, Chieh-Tsung Lo

*National Cheng Kung University, Taiwan*

**S3-042 Microporous Carbons Templated by PEO-b-PBLG Block Copolymers as Electrode Materials for Supercapacitors**

Tzu-Ching Yu, Ahmed F. M. EL-Mahdy, Mohamed Gamal Mohamed, Shiao-Wei Kuo

*National Sun Yat-sen University, Taiwan*

**S3-043 Self-Assembly of Water-Insoluble Molecules in Water into Stable Colloid**

Chin-Yi Chen, Wei-Cheng Peng, Chien-Lung Wang

*National Chiao Tung University, Taiwan*

**S3-044 Mechanical Motions of Azobenzene-Containing Supramolecular Materials**

Yi-Chia Lin, Masaki Horie

*National Tsing Hua University, Taiwan*

**S3-045 Fabricating the Polymeric Membranes with Sub-10 nm Pore Size**

Deuk Ju An, Su Bin Choi, Kwang Han Yoon, Dong Ik Lee, Seung Hyun Kim

*Inha University, Korea*

**S3-046 Adaptive Molecular Quaternary Clips Made by Pyrene and NDI Functionalized POSS**

Tsung-Kai Yang, Hong-Yu Hsu, Meng-Ju Hsieh, Chien-Lung Wang

*National Chiao Tung University, Taiwan*

**S3-047 Nano-Confined Polymerization in Water Producing Polymetric Nanoparticle**

Jyun-Hao Sie, Wei-Ting Chang

*National Chiao Tung University, Taiwan*

**S3-048 A Novel Photoswitchable and Stimuli-Responsive Supramolecular [2] Pseudo-Rotaxane Polymer Based on Pillar [5] arene Host and Spiropyran Guest**

Chinmayananda Gouda, Ravinder Singh, Kai-Chieh Liang, Venkatesan Srinivasadesikan, Feng-Cheng Ho, Ming-Chang Lin, Hong-Cheu Lin

*National Chiao Tung University, Taiwan*

**S3-049 Highly Stretchable and Ultrafast Self-Healing Conductive Supramolecular Gels as Wearable Health Monitoring Sensors**

Amir Khan<sup>1</sup>, Ravinder Reddy K<sup>2</sup>, Chinmayananda Gouda<sup>1</sup>, Dipti Gupta<sup>2</sup>, Hong-Cheu Lin<sup>1</sup>

<sup>1</sup>National Chiao Tung University, Taiwan / <sup>2</sup>Indian Institute of Technology Bombay, India

**S3-071 Fabrication of Chlorine e6-loaded Perfluorocarbon Nanoparticles for Enhancement of Singlet Oxygen Generation**

Hao-Kai Huang, Tung Wei-Ting, Ching-Yi Chen

*National Chung Cheng University, Taiwan*

**S3-073 Sugar-Polyterpene Block Copolymers for Sub-10 nm Microphase Separation**

Ryoya Komaki, Nao Kawakami, Takuya Isono, Kenji Tajima, Takuya Yamamoto, Toshifumi Satoh

*Hokkaido University, Japan*