Poster presentation (core time: 9:00-11:30, July 28)

In the session except for the Electronics and Information Technology, a short presentation will be made from 9:00 to 10:30.

Chemistry and Materials (1) Chairperson: Ryota KONDO

MC-P-01 Enhancement of impact properties via Vulcanized Natural Rubber latex blended with PP/wood composites
Abstract page 110
Natchaya SIRIPORNAMART[1], Hathaikarn MANUSPIYA[1], Srichariya KACHORNVITAYA[2],
[1] *The Petroleum and Petrochemical College, Chulalongkorn University*
[2] *The Union link Co,. Ltd*

MC-P-02 Preparation and electrocatalytic activity for ethanol oxidation of Pt-TiO_2/graphene composite nanofibers for direct ethanol fuel cell application
Abstract page 111
Tawanchay THUESOMBAT[1], Kannanut SENEEKATIMA[3], Rojana PORNPRASERTSUK[1,2]
[1] *Department of Material Science, Faculty of Science, Chulalongkorn University*
[2] *Center of Excellence on Petrochemical and Materials Technology, Chulalongkorn University*
[3] *The Gem and Jewelry Institute of Thailand (Public Organization)*

MC-P-03 Deposition of YSZ thin films on powder-injection anode by electrophoretic deposition technique
Abstract page 112
Sirima CHAUOON, Rojana PORNPRASERTSUK, Nutthita CHUANKRERKKUL, Malinee MEEPHO
Department of Materials Science, Faculty of Science, Chulalongkorn University

MC-P-04 Efficiency of TiO_2 coating on porous silica beads for degradation of cumene hydroperoxide
Abstract page 113
Kamonwan PINATO [1], Komkrit SUTTIPONPARNIT [2], Withaya PANPA [3], Supatra JINAWATH [4], Dujreutai Pongkao KASHIMA [1,4]
[1] *Research Unit of Advanced Ceramics, Department of Materials Science, Faculty of Science, Chulalongkorn University*
[2] *PTT Research and Technology Institute (PTT RTI), Thailand.*
[3] *Faculty of Industrial Technology, Thepsatri Rajabhat University*
[4] *Center of Excellence on Petrochemical and Materials Technology, Chulalongkorn University*

MC-P-05 The study of improving tooling manufacturing quality by using risk management with TRIZ
Abstract page 114
Ciping JIANG
Industrial Engineering and Management, Cheng Shiu University

MC-P-06 Absorption and desorption behaviors of strontium ion using alginate fiber
Abstract page 115
Duangkamol DANWANICHAKUL, Tetsuya FURUIKE, Hiroshi TAMURA
Department of Chemistry and Materials Engineering Kansai University

MC-P-07 Preparation of gel electrolytes based on natural polymers

Abstract Ditpon KOTATHA, Tetsuya FURUIKE, Hiroshi TAMURA

page 116 *Department of Chemistry and Materials Engineering Kansai University*

MC-P-08 Issues in dehydrogenation process of 2LiBH4-(1-x) MgH2-xAl composite ($0 \leqq x \leqq 0.5$) for

Abstract reversible hydrogen storage

page 118 Sumiya SHIMADA, Ryota KONDO, Hiroyuki T. TAKESHITA

Department of Chemistry and Materials Engineering Kansai University

MC-P-9 Evaluationof Mg nucleation and growth process for mechanism clarification of incubation period

Abstract in MgH_2 dehydrogenation

page 117 Shintaro YUI[1], Tatutaka AOYAMA[1], Ryota KONDO[1], Koji TANAKA[2], Hiroyuki T. TAKESHITA[1]

[1] *Department of Chemistry and Materials Engineering Kansai University*

[2] *Research Institute of Electrochemical Energy, National Institute of Advanced Industrial Science and Technology (AIST)*

MC-P-10 Effect of grain boundary on hydrogenationcapacity of magnesium hydride

Abstract Nobuaki YAMAMOTO[1], Syunsuke SATAKE[1], Koji TANAKA[2], Ryota KONDO[1], Hiroyuki T.

page 119 TAKESHITA[1]

[1] *Department of Chemistry and Materials Engineering Kansai University*

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MC-P-11 Effects of the amount of PVP and heat treatment conditions on the porosity of SiO_2 thin films

Abstract prepared by PVP-assisted sol-gel method

page 120 Yutaka EMI, Hiromitsu KOZUKA, Hiroaki UCHIYAMA

Department of Chemistry and Materials Engineering Kansai University

MC-P-12 Water-repellency, hardness and transparency of polyfluorocarbon-silica hybrid thin films prepared

Abstract using polysilazane as silica source

page 121 K. TAIRA, H. KOZUKA, H. UCHIYAMA

Department of Chemistry and Materials Engineering Kansai University

MC-P-13 Preparation of $BiVO_4$ photoanode films from aqueous solutions of metal salts with low-speed

Abstract dip-coating technique

page 122 Seishirou IGARASHI, Hiroaki UCHIYAMA, Hiromitsu KOZUKA

Department of Chemistry and Materials Engineering Kansai University

MC-P-14 Preparation of ceramic thin films on plastic substrates by sol-gel transfer technique: Effects of the

Abstract thickness of release layer on the film formation and transferability.

page 123 Kota NIINUMA, Hiromitsu KOZUKA, Hiroaki UCHIYAMA

Department of Chemistry and Materials Engineering Kansai University

Chemistry and Materials (2) Chairperson: Akifumi KAWAMURA

MC-P-22 **Abstract** **page 131**

A simple 8-amidoquinoline derivative as a turn-on fluorescent sensor for detection of Zn (ll) and Cd (ll) ions.

Atchareeporn SMATA, Mongkol SUKWATTANASINITT

Nanotec-CU Center of Excellence on Food and Agriculture, Department of Chemistry, Faculty of Science, Chulalongkorn University

MC-P-23 **Abstract** **page 109**

Layer-by-layer modification of non-woven fabric with humic acid for the removal of heavy metals

Khine Myat OO[1] and Stephan Thierry DUBAS[1, 2]

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MC-P-24 **Abstract** **page 132**

Dialdehyde microcrystalline cellulose (DAC) generated from sugarcane bagasses- induced periodate oxidation Reaction

Satita THIANGTHAM, James RUNT, Hathaikarn MANUSPIYA

The Petroleum and Petrochemical College, Chulalongkorn University

MC-P-25 **Abstract** **page 133**

Biodegradable injectable polymer formulation exhibiting temperature-responsive sol-gel transition for instant use at clinical scene

Yasuyuki YOSHIDA[1], Akinori KUZUYA[1,2], Yuichi OHYA[1,2]

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[2] *The Organization for Research and Development of Innovative Science and Technology, Kansai University*

MC-P-26 **Abstract** **page 134**

Development of biodegradable injectable polymer formulations forming chemical cross-linkings in response to temperature

Keisuke KAWAHARA[1], Yasuyuki YOSHIDA[1], Akinori KUZUYA[1, 2], Yuichi OHYA[1, 2]

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[2] *The Organization for Research and Development of Innovative Science and Technology, Kansai University*

MC-P-27 **Abstract** **page 135**

Preparation of biodegradable hierarchical tubular structures by electrospinning for regenerative blood vessels

Kazuki NISHIMURA[1], Akinori KUZUYA[1,2], Atsushi MAHARA[3] Tetsuji YAMAOKA[3], Yuichi OHYA[1,2]

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[3] *National Cerebral and Cardiovascular Center*

MC-P-28 Design of biodegradable double network gels and evaluation of their physical properties

Abstract Takanori YOKOI [1], Takuroh KITAMURA [1], Takayuki KUROKAWA [2], Tasuku NAKAJIMA [2],
page 136 Jian Ping GONG [2] Akihiro TAKAHASHI [3], Akinori KUZUYA [1,3], Yuichi OHYA [1,3]
[1] *Department of Chemistry and Materials Engineering, Kansai University*
[2] *Faculty of Advanced Life Science, Hokkaido University*
[3] *The Organization for Research and Development of Innovative Science and Technology, Kansai University*

MC-P-29 Cellular behavior in biodegradable injectable hydrogel for tissue engineering

Abstract Hiroki TAKAI [1], Yasuyuki YOSHIDA [1], Masaaki II [3], Akinori KUZUYA [1,2], Yuichi OHYA [1,2]
page 137 [1] *Department of Chemistry and Materials Engineering, Kansai University*
[2] *The Organization for Research and Development of Innovative Science and Technology, Kansai University*
[3] *Osaka Medical College*

MC-P-30 Development of novel fluorescent probe by utilizing rotaxane structure

Abstract Hitomi OKUYAMA, Kenta HIRAYAMA, Mana ISHINO, Akinori KUZUYA, Yuichi OHYA
page 138 *Department of Chemistry and Materials Engineering, Kansai University*

MC-P-31 Inserting DNA origami into large scale DNA structure growing on mica.

Abstract Erina KIGOSHI, Ryosuke WATANABE, Shogo HAMADA,Akinori KUZUYA,
page 139 Satoshi MURATA, Yuichi OHYA
Department of Chemistry and Materials Engineering, Kansai University

MC-P-32 Metal ion-responsive DNA quadruplex hydrogel made of PEG-DNA copolymer

Abstract Kazuki FUKUSHIMA, Shizuma TANAKA, Kenta WAKABAYASHI, Shinsuke YUKAMI,
page 140 Akinori KUZUYA, Yuichi OHYA
Department of Chemistry and Materials Engineering, Kansai University

MC-P-33 Topology control of synthetic polymer using DNA helicity

Abstract Naohide AKAMATSU, Yuta IKEDA, Yuta YAMASAKI, Akinori KUZUYA, Yuichi OHYA
page 141 *Department of Chemistry and Materials Engineering, Kansai University*

MC-P-34 Investigation of molecular crowding by using DNA quadruplex gel

Abstract Shinsuke YUKAMI, Shizuma TANAKA, Kazuki FUKUSHIMA, Kenta WAKABAYASHI,
page 142 Akinori KUZUYA, Yuichi OHYA
Department of Chemistry and Materials Bioengineering, Kansai University

MC-P-35 Preparation of liquid crystaline polymer films with molecular recognition sites by molecular imprinting

Abstract page 143

Takato SENZAKI [1], Akifumi KAWAMURA [1, 2], Takashi MIYATA [1, 2]

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MC-P-36 Preparation of dual stimuli-responsive nanoparticles as DDS carriers and their drug release properties

Abstract page 144

Ayaka HARADA [1], Shunsuke UENO [1], Akifumi KAWAMURA [1, 2],Takashi MIYATA [1,2]

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MC-P-37 Preparation of stimuli-responsive hybrid hydrogels using novel gold nanoparticle monomer and their responsive behavior

Abstract page 145

Atsushi SAKA [1], Akifumi KAWAMURA [1, 2], Takashi MIYATA [1, 2]

[1] *Department of Chemistry and Materials Bioengineering, Kansai University*

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MC-P-38 Preparation of anisotropic stimuli-responsive nanogels with block copolymer lithography

Abstract page 146

Kenichi OGATA [1], Akifumi KAWAMURA [1, 2] and Takashi MIYATA [1, 2]

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[2] *The Organization for Research and Development of Innovative Science and Technology, Kansai University*

MC-P-39 Structural design of molecularly stimuli-responsive hydrogels with assembled molecule recognition sites

Abstract page 147

Shingo YAMASHITA [1], Akifumi KAWAMURA [1, 2], Takashi MIYATA [1, 2]

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MC-P-40 Relationship between network structures and molecular responsive behaviour of stimuli-responsive hydrogels with molecular recognition sites

Abstract page 148

Saya YAMAFUJI [1], Akifumi KAWAMURA [1, 2], Takashi MIYATA [1, 2]

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MC-P-41 Synthesis of photo-responsive polymers that undergo sol-gel phase transition and cell culture on their surface

Abstract page 149

Akana MATSUDA [1], Akifumi KAWAMURA [1, 2], Takashi MIYATA [1, 2]

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MC-P-42 Preparation of antifouling surfaces that are easily cleanable by light

Abstract page 150

Toshiki SHIMAI [1], Akifumi KAWAMURA [1, 2], Takashi MIYATA [1, 2]

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Chemistry and Materials (3) Chairperson: Misaki NAKAI

MC-P-43 Fabrication and characterization of organoclays deposited on bacterial cellulose nanofibers via solution plasma process

Abstract page 151

Nattakammala JANPETCH [1], Ratana RUJIRAVANIT [1,2,3]

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MC-P-44 Degradation of gold nanoparticle-loaded chitosan hydrogel by applying solution plasma treatment

Abstract page 152

Chayanaphat CHOKRADJAROEN [1], Nagahiro SAITO [2], and Ratana RUJIRAVANIT [1,3,4]

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MC-P-45 Fabrication of bacterial cellulose composites containing gelatin

Abstract page 153

Kamonwan THONGTHANOPPAKUN [1], Ratana RUJIRAVANIT [1,2]

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MC-P-46 Release characteristics of model drugs from carboxymethyl chitin/chitin blend films

Abstract page 154

Chinnicha WIRIYAMONTREE [1,2], Ratana RUJIRAVANIT [1,2,3]

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MC-P-47 Preparation and characterization of ZnO-coated, glutaraldehyde-modified cellulose sheet

Abstract Chayanit POBSOOK [1,2], Saito NAGAHIRO [4,5], Ratana RUJIRAVANIT [1,2,3]

page 155 [1] *The Petroleum and Petrochemical College, Chulalongkorn University*
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[4] *Department of Materials, Physics and Energy Engineering, Graduate School of Engineering, Nagoya University*
[5] *Green Mobility Collaborative Research Center, Nagoya University*

MC-P-48 Laminin-elastin mimetic artificial protein for xeno-free biofunctionalozation of poly (L-lactic acid) substrate

Abstract

page 156 Masaru YAMADA [1], Sachiro KAKINOKI [1], Yoshiaki HIRANO [1], Tetsuji YAMAOKA [2]
[1] *Department of Chemistry and Materials Engineering, Kansai University*
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MC-P-49 Solubility behaviors of chitosan hydrogel by various acids

Abstract Daiki KOMOTO, Tetsuya FURUIKE, Hiroshi TAMURA

page 157 *Department of Chemistry and Materials Engineering, Kansai University*

MC-P-50 Preparation of gaft polymers onto chitosan by atom transfer radical polymerization

Abstract Hiroki HASHIMOTO, Tetsuya FURUIKE, Hiroshi TAMURA

page 158 *Department of Chemistry and Materials Engineering, Kansai University*

MC-P-51 Synthesis of C_{60}-glycoCD inclusion complex

Abstract Yusaku ASAOKA, Hiroshi TAMURA and Tetsuya FURUIKE

page 159 *Department of Chemistry and Materials Engineering, Kansai University*

MC-P-52 Metallacyclic-stabilized copper nanoparticles and the electrical conductivity/durability of the copper film

Abstract

page 160 Yusuke AKIYAMA, Tomonori SUGIYAMA, Ryuichi ARAKAWA, Hideya KAWASAKI
Department of Chemistry and Materials Engineering, Kansai University

MC-P-53 Synthesis and antibacterial properties of catanionic complex of anionic silver cluster with cationic surfactant

Abstract

page 161 Chiaki TOMINAGA, Ryuichi ARAKAWA, Hideya KAWASAKI
Department of Chemistry and Materials Engineering, Kansai University

MC-P-54 Synthesis of water-soluble carbon quantum dots for photodynamic therapy

Abstract Takashi NOZAKI, Ryuichi ARAKAWA, Hideya KAWASAKI

page 162 *Department of Chemistry and Materials Engineering, Kansai University*

Life and Food Science

LF-P-04 **Abstract page 178**

Transcriptome comparison between 'KDML105' rice and its chromosome segment substitution line with salt tolerance ability

Nopphawitchayaphong KHRUEASAN [1], Kitiporn PLAIMAS [2], Boonthida KOSITSUP [1], Anchalee CHAIDEE [1], Teerapong BUABOOCHA [3], Meechai SIANGLIW [4], Teerayut TOOJINDA [4], Luca COMI [5], Supachitra CHADCHAWAN [1]

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[5] Plant Biology Department and Genome Center, University of California Davis

LF-P-05 **Abstract page 179**

Preparation of variable shapes of biphasic calcium phosphate scaffold by mouldable technique

Sasirada TANCHITVIRIYA [1], Wirapong KORNPANOM [1], Siriporn LARPKIATTAWORN [2], Pasutha THUNYAKITPISAL [3,4], Dujreutai Pongkao KASHIMA [1,4,5]

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LF-P-06 **Abstract page 180**

Effects of chitosan coating combined with spermidine on softening of ‘Nam Dok Mai’ mango fruit

Pornchan JONGSRI, Teerada WANGSOMBOONDEE, Pranee ROJSITTHISAK, Kanogwan SERAYPHEAP

Center of Excellence in Environment and Plant Physiology, Department of Botany, Faculty of Science, Chulalongkorn University

LF-P-07 **Abstract page 181**

Exogenous Application of Putrescine Maintained Quality of Postharvest ‘Nam Dok Mai No.4’ Mango

Bussarin WONNABUSSAPAWICH, Kanogwan SERAYPHEAP

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LF-P-08 Genome wide association study for root biomass under salt stress at seedling stage in local Thai rice varieties
Abstract page 183
Thammaporn KOJONNA, Nopphakhun KHUNPOLWATTANA, Teerapong BUABOOCHA, Monnat PONGPANICH, Supachitra CHADCHAWAN
Center of Excellence in Environment and Plant Physiology, Department of Botany, Faculty of Science, Chulalongkorn University

LF-P-09 Transcriptome revealed *OsCaM1-1* affected carbon metabolism in rice under salt stress
Abstract page 184
Worawat YUENYONG, Warintra TAKPIROM, Amnart CHINPONGPANICH, Teerapong BUABOOCHA
Department of Biochemistry, Faculty of Science, Chulalongkorn University

LF-P-10 Changed to LF-O-19

LF-P-11 Production of the exopolysaccharides from *peanibacillus mucilaginosus* and study of their antioxidant activity
Abstract page 186
Tzu-Wen LIANG, San-Lang WANG
Department of Chemistry/Life Science Development Center, Tamkang University, Taiwan

LF-P-12 Fermentation of shrimp head for the production of α-glucosidase inhibitors by *Staphylococcus* sp.
Abstract page 187
Yu-Cheng SU, San-Lang WANG
Department of Chemistry/Life Science Development Center, Tamkang University, Taiwan

LF-P-13 Purification and characterization of chitosanases from a bacteria strain TKU042
Abstract page 188
Hao-Ting YU, San-Lang WANG
Department of Chemistry/Life Science Development Center, Tamkang University, Taiwan

LF-P-14 Purification and characterization of chitosanases from *Bacillus mycoides* TKU038 and their applications
Abstract page 189
Wei-Ting CHEN, San-Lang WANG
Department of Chemistry/Life Science Development Center, Tamkang University, Taiwan

LF-P-15 Fermentation of squid pen for the production of chitosanases by *Bacillus mycoides* TKU039
Abstract page 190
Chun-Ku CHEN, San-Lang WANG
Department of Chemistry/Life Science Development Center, Tamkang University, Taiwan

LF-P-16 Production and isolation of the antioxidant tryptophan from *Paenibacillus* sp.TKU036 using squid pen as the sole carbon/nitrogen source
Abstract page 191
Hsin-Ting LI, San-Lang WANG
Department of Chemistry/Life Science Development Center, Tamkang University, Taiwan

Electronics and Information Technology

EI-P-17 Threshold voltage definition method of lateral double-gate TFET
Abstract Yoshiaki MORI [1], Shingo SATO [1], Yasuhisa OKURA [1], Abhijit MALLIK [2]
page 221 [1] *Department of Electrical and Electronic Engineering, Faculty of Engineering Science, Kansai University* [2] *University of Calcutta*

EI-P-18 Aspects of resistive transition phenomena of sputter-deposited TiO_2 films
Abstract Nozomi KAWASHIMA, Shingo SATO, and Yasuhisa OMURA
page 222 *Department of Electrical and Electronic Engineering, Faculty of Engineering Science, Kansai University*

EI-P-19 Influences of air exposure on electrical characteristics of sputter-deposited undoped ZnO films
Abstract Naoto TAKAHASHI[1], Jieshen ZHANG[1],Yasuhisa OMURA[1], Tadashi SAITOH[2]
page 223 [1] *Department of Electrical and Electronic Engineering, Faculty of Engineering Science, Kansai University*
[2] *Department of Pure and Applied Physics, Faculty of Engineering Science, Kansai University*

EI-P-20 Development of calculation method about power transfer efficiency for inductive power transfer systems in case of hundreds of kilohertz
Abstract Hiroki FUCHIWAKI, Hiroyuki MORIMOTO, Daigo YONETSU
page 224 *Department of Electrical and Electronic Engineering, Faculty of Engineering Science, Kansai University*

EI-P-21 Development of calculation method about power transfer efficiency for inductive power transfer systems in case of several megahertz
Abstract Hiroyuki MORIMOTO, Daigo YONETSU, Hiroki FUCHIWAKI
page 225 *Department of Electrical and Electronic Engineering, Faculty of Engineering Science, Kansai University*

EI-P-22 Measurement of brain activity by calculation function and linguistic function using NIRS
Abstract Naoki SHIROYAMA, Yoshiko HANADA, Noriaki MURANAKA
page 226 *Department of Electrical and Electronic Engineering, Faculty of Engineering Science, Kansai University*

EI-P-23 Probabilistic model-based multi-step crossover for genetic programming
Abstract Kohei MATSUMURA [1], Yoshiko HANADA [1], Keiko ONO [2], Noriaki MURANAKA [1]
page 227 [1] *Department of Electrical and Electronic Engineering, Faculty of Engineering Science, Kansai University*
[2] *Department of Electronics and Informatics, Ryukoku University, Shiga, Japan*

EI-P-24 A quantitative evaluation of fatigue recovery in human based on near infrared spectroscopy
Abstract Kazuma MUSHA, Noriaki MURANAKA, Yoshiko HANADA
page 228 *Department of Electrical and Electronic Engineering, Faculty of Engineering Science, Kansai University*

Civil Engineering