

**CERAMICS**

**C01-C21**

- C-01 **Effect of Additives on the Properties of  $\alpha$ -Hemihydrate Synthesized from FGD gypsum**  
Panpa, W., Prakaypun, W. and Jinawath, S.
- C-02 **Adhesion of Borosilicate Glass and Fe-Ni-Co Alloy ; A Revisit**  
Waraporn Piyavit, Chutimun Chanmuang, Manat Jaimasit,  
Warrapong Thiemsorn, Akadech Puyusuk and Torranin Chairuangstri
- C-04 **Improvement Cutting Tool-Life by Sol-Gel Coating**  
Wiwat Prasertmanakit, Warakom Nerdnoi and Vissanu Meeyoo  
**Microwave Drying of a Slip Casting Operation for Tableware Product**  
Duangduen Atong, Padungsak Ratanadecho, Somsak  
Vongpradubchai, Suchon Piyachote and Nattawut Suwannapum  
**Colloidal Synthesis of Semiconductor Nanoparticles**  
H. Warad, A. Suhane, Y. Boontongkong, C. Thanachayanont and J. Dutta  
**Effect of Aging on Rheology of Ball Clay Suspensions**  
Tienchai Tonthai  
**Conductive and Transmittance F-Dope SnO<sub>2</sub> Thin Films Obtained by Chemical Spray Pyrolysis**  
Nakorn Wongtida, Sumittra Charojrochkul, Suparerk Aukkaravittayapun  
and Pongpan Chindaudom  
**Tungsten Oxide Nanoparticles: Synthesis and Application for Alcohol Sensor**  
Sitthisuntorn Supothina, Panpailin Seeharaj, Sorachon Yoriya and  
Mana Sriyudthsak
- C-11 **The Study of Enzyme Immobilization on the Electrode Biosensor by Sol-Gel Technology for Pesticide Detection,**  
**Part I: AChE Enzyme Immobilized on Graphite Electrode**  
Pongsak Wattanacharoonroj, Panchan Longpradit,  
Somnuk Jarudilokkul and Virote Boonamnuyvitaya  
**The Surface Chemistry of Zeolite LTA Formation During the Hydrothermal Synthesis**  
Bovornlak Oonkhanond and Michael E.Mullins  
**A Study of Diamond Film Coating by Hot Filament Chemical Vapour Deposition under Atmospheric Pressure**  
Kritsada Lee, Panchan Sricharoon, Virote Boonamnuyvitaya and  
Somnuk Jarudilokkul

10

13

16

19

22

25

28

31

34

- C-14 **Effect of Powder Processing on Perovskite Formation in the Pb(Zn<sub>1/3</sub>Nb<sub>2/3</sub>) O<sub>3</sub> System**  
Aree Thanaboonsombut and Kajitrat Sopolmanee
- C-15 **Development of Ferroelectric Paste by Screen-Printing Technique**  
Usa Kaeowanpen, Supatra Jinawath and Pavadee Aungkavattana
- C-16 **Immobilized TiO<sub>2</sub> Life Time for Detoxification of Aqueous Cr<sup>6+</sup>**  
Seree Tuprakay and Winai Liengcharernsit
- C-18 **Preparation and Piezoelectric Properties of PVDF Thin Films**  
Chatchai Putson, Kiranant Ratanathammapan and Chana Pewlong
- C-19 **Double Active Elements PZT for Acoustic Emission Sensor**  
C. Jomdechcha and A. Prateepasen
- C-20 **The Characteristics of Radial-Mode Piezoelectric Transformers**  
Pitak Laoratanakul and Kenji Uchino
- C-21 **Aqueous-Based Substrates Using Tape Casting Technique**  
Patarawan Kahawong, Supamas Danwittayakul and Aree Thanaboonsombut

## METALS

M01-M21

- M-01 **Characteristics of Torque Related to the Cutting Processes in Sandy Loam Soil of the Rotary C-Shape Blade**  
Sirisak Chertkiattipol and Tanya Niyamapa
- M-02 **Design and Analysis of Fuel Piping Clipper in Automotive by CAD/CAE**  
Sathaporn Chatakorn, Piboon Sinprayakun, Chalie Tragangoon and Suniti Kerndnoonwong
- M-03 **Spring Back Analysis of U-Bending Process Using 3D Finite Element Model**  
Maitri Kamonrattapisut and Surangsee Dechjarern
- M-04 **Stress Analysis for Turbomachine Blades by CAE**  
S. Sucharitpwatskul, W. Limtrakarn and P. Dechaumphai
- M-05 **Increase the Efficiency of Deep Drawing Process by Using Lubricants**  
Chet Uthiyoung, Varunee Premanond, Pongpan Kaewtatip and Kusol Prommul
- M-06 **Improvement of Deep Drawing Process by Using Tool with Hard Film Coating**  
Krit Prasongcharoen, Varunee Premanond, Pongpan Kaewtatip and Ratchanee Paisarn
- M-07 **Finite Element Modelling of P/M Die Compaction Process**  
Somboon Otarawanna, Anchalee Manonukul and Julaluk Carmai
- M-08 **Finite Element Simulation Study of Hemispherical Dome Forming-Construction of Forming Limit Diagram (FLD) for Sheet Metal Forming Processes**  
S. Jirathearanat, T. Intarakumthornchai and W. Limtrakarn
- M-09 **Influences of Surface Topography on Reflectance Behavior of AISI 304 Austenitic Stainless Steel**  
Peravudh Lowhaphandu, Porrawan Swatewacharkul and Damrong Khumkhet
- M-10 **Second-Phase Particles Investigation in the High-Strength Wrought Aluminium Alloy**  
Sukangkana Lee
- M-11 **Electrowinning of Manganese Metal from Manganese Chloride Melts**  
Chaweewan Poonthananiwatkul, Sumalee Vongchan and Charkorn Jarupisitthorn

- M-12 **Applications of Silicon Steel Based on Its Giant Magnetoimpedance Effect**  
Pongsakorn Jantaratana and Chitnarong Sirisathitkul
- M-13 **A Microstructural Study of Carbides in Destabilised 30%Cr Cast Iron**  
A. Wiengmoon, T. Chairuangsrri and J.T.H. Pearce
- M-14 **Effects of Heat Treatment on Duplex Stainless Steel UNS S 31803**  
Siriporn Daopiset and Pramuk Jenkittiyon
- M-15 **Effect of Refined Microstructure on Plasma Nitriding of Aluminum**  
Patama Visuttipitukkul, Hideyuki Kuwahara and Tatsuhiko Aizawa
- M-16 **Thermomechanical Treatment of Nb-containing Microalloyed Steel**  
Prasonk Sricharoenchai, Naruedom Thadee and Jozef Zrnik
- M-17 **Study of the Crack Sensitivity of 6xxx and 7xxx Aluminum Alloys**  
Hiromi Nagaumi, Suvanchai P. and Takateru Umeda
- M-18 **Development of P/M Exhaust Flanges from Stainless Steel 409L Powders**  
Ornmanee Coovattanachai, Bhanu Vetayanugul, Rungtip Krataitong, Prayoon Lasutta, Sunchai Mata, Kanob Kongchatree, Patcharin Burke and Ruangdaj Tongsri
- M-19 **Effects of Nitrogen on General Corrosion and Pitting Corrosion Resistance of 28Cr-7Ni Duplex Stainless Steels in 3.5wt% NaCl Solution**  
Pornwasa Wongpanya and Gobboon Lothongkum
- M-20 **Erosion-Corrosion Wear Maps of Iron Alloys under Sulfide Environments**  
Chinawat Tongchat and Narong Pungwiwat
- M-21 **The Effect of Cold Rolling on Pitting Corrosion of Austenitic Stainless Steels**  
Noparat Kanjanaprayut, Siriluk Nivitchanyong and Bernard Baroux

## POLYMERS

P01-P20

- P-01 **Transient Dynamic Analysis of Stress Distribution in the Plastic Injection Mould Core/Cavity**  
Suparerk Sirivedin
- P-02 **An Experimental Study on Crystallization Analysis Fractionation (Crystaf)**  
Siripon Anantawaraskul, Joao B.P. Soares and Paula M. Wood-Adams
- P-03 **Study of Crystallization of Poly (lactide)s, and Their Racemic Crystal Structure (Stereocomplex) Employing Two-Dimensional FTIR Correlation Spectroscopy**  
Pakorn Opaprakasit, Mantana Kanchanasopa, Sergei Malkov, James P. Runt and Paul C. Painter
- P-04 **Development of Polyester Coating Material from Various Oils**  
Vikkasit Atimuttigul, Siriporn Damrongsukkul and Wiwut Tanthapanichakoon
- P-05 **Development of Carbon Black (CB) / High Impact Polystyrene Conductive Compound : Using Twin Screw Extruder Technique for Electronic Packaging Applications**  
Sorraya Phiboonkulsumrit, Nandh Thavarungkul and Wannee Chinsirikul
- P-06 **Liquid Crystalline Polymer/Polyethylene Blend Films: Effects of Compatibilizer, Screw Speed and Temperature Profile on Morphology, Oxygen Barrier and Mechanical Properties**  
Tatiya Trongsatitkul, Duangdao Aht-Ong and Wannee Chinsirikul
- P-07 **Analysis of Welding Parameters in Through Transmission Laser Welding**  
Somporn Peansukmanee and Bovornchok Poopat
- P-08 **Using Mathematical Modeling of Oxygen and Carbon Dioxide Composition as A Tool in Developing Equilibrium Modified Atmosphere Packages of Thai Fresh Vegetables**  
Asira Fuongfuchat, Wannee Chinsirikul, Noppadon Kerddonfag, Tatiya Trongsatitkul and Vanee Chonhenchop



**Artificial Muscle Construction Using Natural Rubber Latex in Thailand**

Sathaporn Laksanacharoen

**Biodegradable Polyesters for Use as Absorbable Nerve Guides :**

**A Preliminary Study**

Winita Punyodom, Robert Molloy, Runglawan Somsunan,  
Chatchayanee Kamcharoen, Chanida Medhavidhayakool,  
Ruangret Choonmongkol, Kanit Sananpanich and Apisate Pleumsamran

**Mechanical and Surface Properties of Polysiloxane-Modified Chitosan Films**

Metha Rutnakornpituk and Paradorn Ngamdee

**Susceptibility of a Plant Soft Rot Bacterium *Erwinia carotovora* subsp.**

***carotovora* to Chitosan and Some Conventional Antimicrobial Chemicals**

Pornpip Wongkaew, Sopa Pisawongprakarn and Supalak Singhabutr

**The Effect of Non-Rubber Components on Thermal Oxidative Degradation  
in Natural Rubber**

Surakit Tuampoemsab, Jitladda Sakdapipanich and Yasuyuki Tanaka

**Continuous UV/Ozone Surface Modification for Composite Manufacturing**

Paisan Khanchaitit and Duangdao Aht-Ong

**Development of Fire Resistant Wood-Substituted Composites from  
Polybenzoxazine Alloys**

Natcha Kampangsaeree, Nitinat Suppakarn and Sarawut Rimdusit

**Mechanical Properties and Dynamic Mechanical Thermal Analysis of  
Microwave-Cured Epoxy Resins**

Varaporn Tanrattanakul and Kaew SaeTiaw

**Effect of Vetiver Contents and Vetiver Lengths on Mechanical and  
Morphological Properties of Vetiver-Polypropylene Composites**

Wandee Thuamthong, Yupaporn Ruksakulpiwat, Wimonlak Sutapun  
and Nitinat Suppakarn

**Turbulent Drag Reduction in Aqueous Solutions of Poly (Ethylene Oxide)  
and Cationic Surfactant Complexes: Effect of Polymer Concentration,  
Polymer Molecular Weight, Surfactant Concentration and Ionic Strength**

Siriluck Suksamranjit, Anuvat Sirivat and Alexander M. Jamieson

**Electrorheological Properties of Polyaniline Suspension**

Piyanoot Hiamtup, Anuvat Sirivat and Alexander M. Jamieson

**Polymer Light - Emitting Diode: from Synthesis to Fabrication**

Somboon Sahasithiwat

143

146

149

152

155

158

161

164

167

170

173

176

- | CERAMICS | PC01-PC43   |
|----------|---|
| PC-01    | <b>Fabrication and Characterisation of Superhard Nanostructured Coating</b><br>Nurot Panich, Sun Yong, Virasak Kraivichien and Pannida Vimuktanon   |
| PC-02    | <b>Silicon Nitride Synthesis via the Carbothermal Reduction and Nitridation of Rice Husk Ash</b><br>Ruttairat Precharyutasin, Varong Pavarajarn and Piyasan Praserttham   |
| PC-03    | <b>High Strength Materials: Alumina-Zirconia Composite Using Low Cost Raw Powder</b><br>Khanthima Hemra, Shigetaka Wada and Supatra Jinawath  |
| PC-04    | <b>Improvement of Attrition Mill</b><br>Nirut Wangmoonklang, Khantima Hemra and Shigetaka Wada  |
| PC-05    | <b>Influence of Composition on Structure and Redox Interaction between Mn and Cu of Soda-Lime-Silica Glass</b><br>Worapong Thiemsorn, Kanchana Keowkamnerd, Sukon Phanichphant, Pichanon Suwannathada and Heiko Hessenkemper                      |
| PC-06    | <b>Sintering of MgO and Al<sub>2</sub>O<sub>3</sub> doped <math>\beta</math>-Si<sub>3</sub>N<sub>4</sub> Powder in Air Atmosphere Furnace and Properties of the Sintered Ceramics</b><br>Nirut Wangmoonklang, Kuljira Sujirote and Shigetaka Wada |
| PC-07    | <b>Flat on Flat Wear Test Equipment for Fretting Wear at High Temperature</b><br>Hathaipat Koiprasert, Panadda Niranatlumpong and Supattanapong Dumrongrattana  |
| PC-08    | <b>Feasibility Study on Mass Finishing of Plasma-Sprayed Alumina Coatings for Textile Components Using Bowl Vibrator</b><br>P. Insaue, H. Koiprasert and P. Niranatlumpong  |
| PC-09    | <b>Oxidation Mechanisms of Reaction-Bonded Silicon Nitride</b><br>Kannigar Dateraksa and Kuljira Sujirote   |
| PC-10    | <b>Physical and Chemical Properties of Glass-Ceramics Synthesized from Hydrometallurgical Zinc Waste</b><br>Sirithan Jiemsirilers, Bussaraporn Pattarachao, Parjaree Thavorniti and Sitthisuntorn Supothina                                       |
| PC-11    | <b>Mechanical Enhance Reactivity of the Decomposition Reaction of Dolomite (CaMg(CO<sub>3</sub>)<sub>2</sub>)</b><br>Nattapol Laorodphan, Kuljira Sujirote, Duangduen Atong and Kanigar Dateraksa   |
| PC-12    | <b>Effect of Reactant Characteristics on the Synthesis and Properties of Microwave Combustion Synthesis of Al<sub>2</sub>O<sub>3</sub>-TiC Powder</b><br>Duangduen Atong and Mettaya Kitiwan  |
| PC-13    | <b>The Characterization of Bismuth Titanate Nanopowders</b><br>Supap Bunkird, Sukon Phanichphant and Pusit Pookmanee  |
| PC-14    | <b>Preparation and Characterization of Electrospun Sodium Cobalt Oxide Nanofibre</b><br>Wiwat Nualsing, Chatree Saiyasombat and Santi Maensiri  |
| PC-16    | <b>Impedance Spectroscopy Study of Hydrothermally Synthesized PLZT Ceramics</b><br>S. Kongtaweelert, P. Anuragudom, S. Nualpralaksana, R.B. Heimann and S. Phanichphant   |
| PC-17    | <b>Mechanical Properties and Crack Growth Behavior of PZT Ceramics</b><br>Sukanda Jiansirisomboon, Jaruwan Jantapaha, Khuntong Songsiri and Tawee Tunkasiri   |
| PC-18    | <b>Effect of Milling Time on Phase Formation and Particle Size of Lead Titanate Powders Synthesized by the Solid-State Reaction</b><br>Rewadee Wongmaneeerung, Rattikorn Yimnirun and Supon Ananta  |
| PC-19    | <b>Comparison of Mn-doped PZT Ceramics Prepared by Mixed Oxide and Auto-Combustion of Citrate-Nitrate Gel Techniques</b><br>Pimonpan Sakoncharone and Laddawan Pdungsap   |

	<b>Effect of Iron Doping on the Properties of Strontium Bismuth Tantalate Ceramics Prepared By Auto-Combustion of Citrate-Nitrate Gel Process</b>	234
	Temporn Sookawee, Laddawan Pdungsap and Pongtip Winotai	
	<b>Hydrostatic Responses of Porous PZT and BT Ceramics</b>	237
	Adisak Jitphusa and Supasarote Muensit	
	<b>Synthesis of Nanocrystalline Cordierite Powders via a Polymerization Route</b>	240
	Paveena Laokul and Santi Maensiri	
	<b>Corrosion Resistance of Ceramic Glaze Made with Blended Fly Ash</b>	242
	Lek Sikong, Kalayanee Kooptarnond and Boriharn Choosaeng	
	<b>The Effect of pH on Si Al Fe and Ca Solubility from Lampang Basin Diatomaceous Earth</b>	245
	Sarannuch Intarachote, Napat Chantaramee and Ratchadaporn Puntharod	
	<b>Compositions and Hysteresis Property Relationships in Lead Zirconate Titanate Lead Magnesium Niobate Ceramics</b>	248
	Supattra Wongsanenmai, Athipong Ngamjarurojana, Supon Ananta and Rattikorn Yimnirun	
	<b>Utilization of Low Grade Talcum to Produce Cordierite Body</b>	251
	Surapon Plumjai, Keadsuda Donmuang and Kanchana Intarachit	
	<b>Phase and Microstructural Investigation of W/Zr Metal Contact on n-Type GaN</b>	254
	Patrajit Munsap, Pimpa Limthongkul, Tae-Yoon Seong and Chanchana Thanachayanont	
	<b>Simple Alcohol CVD Synthesis of Single-Walled Carbon Nanotubes</b>	256
	Santi Maensiri, Wirat Jareenboon, Viyada Nkanchana and Paveena Laokul	
PC-29	<b>Characterization of LiCoO<sub>2</sub> Cathode Materials Synthesized by Pechini Method</b>	257
	Phetlada Kunthadee and Thitipun Thongtem	
	<b>Effects of Uniaxial Stress on Dielectric Properties of 0.95PZT-0.05BT Ceramic</b>	260
	Sawarin Chamunglap, Supon Ananta and Rattikorn Yimnirun	
PC-31	<b>Crystal Growth by Czochralski Process at Suranaree University of Technology</b>	262
	P. Manyum	
PC-32	<b>Growth and Some Properties CdTe Thin Films by Thermal Evaporation</b>	264
	N. Gaewdang, T. Gaewdang, S. Kirtsaeng, P. Sittiketkorn and T. Chanyatham	
PC-33	<b>The Effect of NH<sub>4</sub> F and TiO<sub>2</sub> Film Thickness on the Performance of Dye-Sensitized Solar Cells</b>	267
	Sorachon Yoriya and Rungnapa Tongpool	
PC-34	<b>Improved Method for the Preparation of Pure Silicon from Rice Husk</b>	270
	Santi Rattanaveeranon, Surapol Srikaew and Paradorn Pakdeevanich	
	<b>Low-Cost Spin Coated MEH-PPV/C<sub>60</sub> Blend Solar Cells</b>	273
	C. Thanachayanont, S. Sahasithiwat, L. Menbangpung, S. Aukkaravittayapan, T. Sukhumanonda, P. Rakkwamsook, S. Chantrasakul, D. Triampo and T. Amornsakchai	
PC-36	<b>Fabrication of the SnO<sub>2</sub> + Fe<sub>2</sub> O<sub>3</sub> , CoFe<sub>2</sub> O<sub>4</sub> and ZnO+0.1Ag<sub>2</sub>O Materials and Their Application for Temperature Control, Rotation Sense and Hall Effect Test</b>	276
	Thongchai Panmatarith, Chiraporn Sriprom, Nanthida Sutthirawuth, Preeyanan Thepnuan and Sirirat Rugwech	
PC-37	<b>Long-term Study of Carbon Monoxide and Isobutane Sensing of Palladium and Platinum Doped Tin Oxide Gas Sensors</b>	279
	Paisan Setasuwon and Maywarin Piya-areetham	
PC-38	<b>Batch Processing Variation of Palladium and Platinum Doped Tin Oxide Gas Sensors in Response to Carbon Monoxide and Isobutane</b>	282
	Paisan Setasuwon and Maywarin Piya-areetham	



- PC-39 **Investigation of the Effects on Carbon Monoxide and Isobutane Sensing of Palladium and Platinum as Dopants in Tin Oxide Gas Sensors**  
Paisan Setasuwon and Yonsuang Arnantigo  
**Preparation and Characterization of TiO<sub>2</sub> /Chitosan Membrane for Ultrafiltration**  
Nawal Binhayeeniyi and Pikul Wanichapichart
- PC-41 **Heat Treatment of Sapphires from Ilkaka-Sakaraha, Madagascar**  
Krittaya Pattamalai and Rak Hansawek  
**Growth and Characterization of Cubic Hafnium Oxide Single Crystal Fibers**  
Anucha Watcharapasorn, Robert C. DeMattei and Robert S. Feigelson
- PC-43 **Invention of Scratch Resistance Tester for Hardness Evaluation of Thermally-Sprayed Coatings**  
Sukanda Jiansirisomboon and Songkran Nuanchom

**METALS** PM01-PM28

- PM-01 **The Effect of Freezing Time on the Thixoforming of Aluminium Alloy Slurry**  
Sukangkana Lee
- PM-03 **Tarnish Resistance of Silver Alloys**  
Siriporn Daopiset, Somnuk Watanasriyakul and Surat Wannasri
- PM-04 **On The Relationship Between Mechanical Properties and Secondary Dendrite Arm Spacing of Aluminum-Silicon-Magnesium A356**  
Patapong Racho, Atipon Plungsangmat, Teerachok Supunnapong and Onnjira Thanudape
- PM-05 **The Effect of Cold Rolling of Austenitic Stainless Steels on The Electrochemical Noise and Pitting Corrosion at Rest Potential**  
Noparat Kanjanaprayut, Siriluk Nivitchanyong and Bernard Baroux
- PM-06 **A Corrosion Inhibition Study of Stainless Steel by Chromate or Phosphate in Sodium Chloride Solution**  
Kanokwan Saengkiattiyut, Sutthirat Lisnunt and Weera Chukrachan
- PM-07 **Effect of Process Parameters on Formation of Si Particles in Hypereutectic AlSi Electric Arc-Sprayed Coatings**  
T. Choesjai, H. Koiprasert, S. Jiansirisomboon and P. Niranatlumpong
- PM-08 **Comparison on Corrosion Resistance between Nickel and Zinc Coated Aluminum Alloy**  
Somsak Supasitmongkol and Narong Pungwiwat
- PM-10 **Micro- and Nanostructure of L<sub>12</sub>-TiAl<sub>3</sub> Single Crystal Containing Mn**  
P. Manyum and Y. Inkong
- PM-11 **A Study on Microchannel Warpage of Intermetallic Microchannel Arrays**  
Kannachai Kanlayasiri
- PM-12 **Design and Construction of Gas Atomizer for Making Metal Powder**  
Suchart Yenwiset, Lek Sikong, Pitsanu Bunnaul and Sirikul Wisutmethagoon
- PM-13 **Development of an Automatic System for Ultrasonic Testing of Butt Weld Joint Using Immersion Technique**  
Somnuk Watanasriyakul and Pramuk Jenkittiyon
- PM-14 **A Preliminary Study on the Air Assisted Fuel Atomizer**  
Pipatpong Watanawanyoo and Sumpun Chaitep
- PM-16 **The Application of 3D Scanner in Reverse Engineering**  
Chatrchai Chandenduang, Narong Pitaksapsin and Prasit Wattanawongsakun

PM-17	<b>SQL for Product Data Management and Its Development on Querying and Calculation in the Bearing Selection</b> Tanunchai Jumnongpukdee and Apichart Suppavitnarm	341
PM-18	<b>Behaviors of the Admixed 409L-Cu Powders During Compaction and Sintering</b> Ornmanee Coovattanachai, Nattaya Tosangthum, Sunchai Mata, Prayoon Lasutta, Rungtip Krataitong, Bhanu Vetayanugul and Ruangdaj Tongstri	344
PM-19	<b>Dimensional Change During P/M Processing of the 316L + Ni + Cu Alloys</b> N. Tosangthum, O. Coovattanachai, S. Mata, P. Lasutta, C. Sudasna Na Ayudhya, R. Krataitong, B. Vetayanugul and R. Tongstri	347
PM-20	<b>Case Study on Silo Structural Analysis</b> P. Premvaranon, V. Soepram, T. Intarakumthornchai, S. Sucharitpawatkul, W. Limtrakarn and P. Dechaumphai	350
PM-21	<b>Optimization of Factors in Flame Spraying Process of MEC Powderjet-86 and Karta FST-201 Guns</b> Apichat Sopadang and Preechar Changyom	353
PM-22	<b>Topology and Sizing Optimization of an Automotive Component</b> Adulyasak Boonpan and Sujin Burirat	356
PM-23	<b>Self-Lubricating Bushes Produced from Stainless Steel 316L Powders</b> Bhanu Vetayanugul, Ornmanee Coovattanachai, Rungtip Krataitong, Prayoon Lasutta, Sunchai Mata, Kanob Kongchatree, Patcharin Burke and Ruangdaj Tongstri	359
PM-24	<b>Spring Back of Disk-Like Compacts Produced from Stainless Steel Powders</b> Bhanu Vetayanugul, Ornmanee Coovattanachai, Chamaiporn Sudasna Na Ayudhya, Nattaya Tosangthum, Sunchai Mata and Ruangdaj Tongstri	362
PM-25	<b>Microstructural Repair and Rejuvenation in Long-Term Serviced Turbine Blade, In-738 Nickel Base Superalloy, by HIP Process</b> Panyawat Wangyao, Sahathep Joypradit, Pongsak Tuengsook, Veerasak Homkrajai, Kanokwan Saengkiattiyut, Thanaporn Korath and Theerapong Harnvirojkul	365
PM-26	<b>Wear Monitoring Rig Development Using Value Engineering Technique</b> N. Petcharee, P. Nakprasert, S. Sisuriya and S. Wirojanupatump	368
PM-27	<b>Study of Dextran Adsorption on Hydrophobic Surface</b> Nakarin Srisuwan, Siriluck Nivitchanyong and Jean-Charles Joud	371
PM-28	<b>Development of Lead Core Detector System and Lead Flux Temperature Measurement</b> Wiwat Pongsuwan, Wisarut Wachirasiri, Wachira Chaisuwan , Somleark Putchakarn	374

## POLYMERS

PP01-PP38

PP-01	<b>Determining the Molecular Weight Distribution of Polymers without Using GPC</b> Cattaleeya Pattamaprom, Anuwat Siriwat and R.G. Larson	376
PP-02	<b>Effects of Maleic Anhydride on Pyrolysis Mechanism of PVC</b> O. Montrikul, J. Wootthikanokkhan and V. Meeyoo	379
PP-03	<b>A Model of Crystallization Analysis Fractionation (Crystaf) Based on Monte Carlo Simulation</b> Siripon Anantawaraskul, Joao B.P. Soares and Paula M. Wood-Adams	382
PP-04	<b>Effects of Water Content in Cellulose Nitrate on the Properties of Nail Enamel with Clay as Thixotropic Agent</b> Aimon Treewisessorn, Toemsak Srikirin, Wiwut Tanthapanichakoon and Sarawut Rimdusit	385



- Mechanical Properties of Polypropylene Reinforced with Sugarcane Bagasse, Rice Husk, and Rice Husk Charcoal**  
Nattasapol Kiattipanich, Wittawat Iammaleerat, Chotirat Kiatpiriya, Narumol Kreua-ongarjukul, Thirawut Pongpayun and Chantaraporn Phalakornkule
- Banana Fibres: Extraction and Potential Use as Reinforcement for Polypropylene**  
Pranee Chumsamrong and Jongrak Kluengsamrong
- Classification of Welding Phase Behavior of High Density Polyethylene in Spin Welding by Acoustic Signal Technique**  
E. Warinsiruk, B. Poopat and M. Seenawat
- PP-08 **Permeation of Polycarbonate Membranes**  
Wanida Sumathakulawat and Pikul Wanichapichart
- Effects of pH on Cellulose Membrane Produced by Acetobacter Xylinum**  
Safitree Nawae, Pikul Wanichapichart and Sanae Kaewnopparat
- Ferroelectric Properties of PVDF and P(VDF/TrFE) Polymers**  
Nuchalee Thipmonta and Supasarote Muensit
- PP-11 **Factors Influencing the Small-Scale Melt Spinning of Poly ( $\Sigma$ -caprolactone) Monofilament Fibres**  
Anodar Charuchinda, Robert Molloy, Jintana Siripitayanane, Nipapan Molloy and Montira Sriyai
- PP-12 **Chemical Composition Distribution of Multicomponent Copolymers**  
Siripon Anantawaraskul, Joao B.P. Soares and Paula M. Wood-Adams
- PP-13 **Furfural Production from Bagasse by Steam Explosion Process**  
Vittaya Punsuvon and Alyarat Apibalsri
- PP-15 **Synthesis of Polystyrene by Novel Emulsion Polymerization**  
Nanthaporn Pukkate, Sarote Boonseng, Jitladda Sakdapipanich and Yasuyuki Tanaka
- PP-16 **Preparation of Hydroxyapatite Nanoparticles Using an Emulsion Liquid Membrane System**  
Charothon Jindarom, Virote Boonamnuayvittaya, Wiwut Tanthapanichkoon and Somnuk Jarudilokkul
- PP-17 **Characterization of Chemical Treated Vetiver Grass**  
Usa Somnuk, Yupaporn Ruksakulpiwat, Nitinat Suppakarn and Wimonlak Sutapun
- PP-18 **Dyeing of Cotton and Silk with Lac Dye Using Pad-Batch and Pad-Dry Techniques**  
Monthon Nakpathom
- PP-19 **Fractionation of Thai Rice Straw by Steam Explosion**  
Chaiyaporn Pomchaitaward, Pawadee Methacanon and Vittaya Punsuvon
- Influence of Ethylene Vinyl Acetate (EVA) on the Rheological and Mechanical Properties of Starch Filled Low-Density Polyethylene (LDPE) Composites**  
J. Kruenate, T. Leeiarkpai, Y. Rudeekit and P. Kongrat
- Aggregated Morphology of Pseudo-Two Dimensional Colloidal Particles**  
Sarunya Promkotra
- PP-22 **Evaluation of Crosslink Density and Its Effect on Compressive Strength for Ebonite Natural Rubbers**  
Duangkamol Dechojarassri, Worsak Kanok-Nukulchai and Cattaleeya Pattamaprom
- Rheological and Morphological Properties of NR-g-PMMA/PMMA Blends**  
Worawan Pechurai, Charoen Nakason, Azizon Kaesaman and Kannika Sahakaro

- Galena-STR 5L Rubber Composites as X-Rays Shields**  
Kalayanee Kooptarnond, Lek Sikong and Pichai Kaeboontong
- An Investigation of The Effect of Zeolite Structure on Adsorption of Gases in Postharvest Environment**  
Asira Fuongfuchat, Chonlada Ritvirulh, Surapich Loykulnant and Tawan Sooknoi
- PP-26 **Drug Release from Polyethylene Glycol Matrix Containing Xanthan Gum**  
Thawatchai Phaechamud
- PP-27 **Acute Skin Irritation of Anhydrous Gels Prepared from Colloidal Silicon Dioxides**  
Thawatchai Phaechamud, Srisombat Nawanopparatsakul, Tanasait Ngawhirunpat and Photchanart Toprasri
- PP-28 **A Simple Route to Nanocrystalline Hydroxyapatite Powders viz Polymerized Complex Method**  
Jutharatana Klinkaewnarong and Santi Maensiri
- PP-29 **Morphology of Thai Edentulous Mandible VS Immediate Loading Implant Design**  
Suthasinee Kasemsarn, Banchong Mahaisavariya, Kriskrai Sitthiseripratip and Trongtum Tongdee
- Physical Properties of Ya-hom Tablets Containing Chitin as The Component**  
Thawatchai Phaechamud
- PP-31 **Investigating Pitting and Crevice Corrosion Resistance of Electropolished 316L Stainless Steel in Model Body Fluid by Cyclic Potentiodynamic Polarization**  
Amnuaysak Chianpairot, Noparat Kanjanaprayut, Siriluck Nivitchanyong, Namurata Sathirachinda and Natthaphon Wuttiphan
- Sheet Plastination of the Human Brain Slices: Comparison between Two Different Staining Methods**  
Em-orn Jareonsuppapuch, Uthai Tankittiwat, Poolpol Padungchaichot and Orapin Gerdprasert
- The Permanent Preservation of the Specimens by Silicone Rubber (S-10) Standard Technique from Department-Made Plastination Unit**  
Uthai Tankittiwat, Em-orn Jareonsuppapuch, Poolpol Padungchaichot and Orapin Gerdprasert
- Mechanical Properties of PEO-Na<sup>+</sup>/Montmorillonite Nanocomposite**  
Tithinun Puatrakul
- Nanofibres and Aligned Nanofibres of Polymers via Electrospinning**  
Chatree Saiyasombat, Wiwat Nualsing, Aditape Kongchan and Santi Maensiri
- Synthesis of Mesoporous Materials by Sol-Gel Method : An Application in Toluene Adsorption**  
Chadapa Tayamanon, Virote Boonamnuayvitaya, Somnuk Jarudilokkul and Panchan Longpradit
- PP-37 **Arsenopyrite Surface Coated with MTMS : an Electrochemical Characterization**  
Auyporn Silakong, Nitinai Khummalai, Virote Boonamnuayvitaya, Somnuk Jarudilokkul and Panchan Longpradit
- PP-38 **Developing Chitosan-based Composite Wound Dressing**  
Chureerat Prahsarn