

## 6<sup>th</sup> ICPC Poster Presentations

### #1· Chain Microstructures of Living Ethylene/1-Octene Block Copolymers via Dynamic Monte Carlo Simulation.

Tiprawee Tongtummachat<sup>1</sup>, Siripon Anantawaraskul<sup>1</sup>, João B.P. Soares<sup>2</sup>.  
<sup>1</sup>Kasetsart University (Thailand), <sup>2</sup>University of Alberta (Canada)

### #2· The Bivariate Distribution of Molecular Weight and Chemical Composition of Olefin Block Copolymers.

Poramet Buakrong<sup>1</sup>, Siripon Anantawaraskul<sup>1</sup>, João B.P. Soares<sup>2</sup>.  
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### #3· Mathematical Model of Multiple High Temperature Thermal Gradient Interaction Chromatography (m-TGIC) of Ethylene/1-Olefin Copolymers.

Siwakorn Prasongsuksakul<sup>1</sup>, Siripon Anantawaraskul<sup>1</sup>, João B.P. Soares<sup>2</sup>.  
<sup>1</sup>Kasetsart University (Thailand), <sup>2</sup>University of Alberta (Canada)

### #4· Effect of Interdetector Delay on Mark-Houwink Constants in Gel Permeation Chromatography with Triple Detection.

Wensheng Bu.  
*Institute of Chemistry, Chinese Academy of Sciences (China)*

### #5· Preparative molar mass fractionation approach for the evaluation of the microstructural properties of branched Polyethylene (LDPE)

Paul S. Eselem Bungu, Harald Pasch.  
*Stellenbosch University (South Africa)*

### #6· Microfine Ultra High Molecular Weight Polyethylene Produced by MgO-based Ziegler-Natta Catalyst.

Patchanee Chammingkwan, Bando Yosuke, Minoru Terano, Toshiaki Taniike\*.  
*Japan Advanced Institute of Science and Technology (Japan)*

### #7· Fractionation of heterophasic ethylene-propylene copolymers by preparative TREF column.

Shangtao Chen, Xingbo Shi, Fengbo Zhang, Yangfan Wang, Qiang Huang.  
*Petrochemical Research Institute, Petrochina (China)*

### #8· Fully Automated Intrinsic Viscosity Measurement in Polyolefins

Pilar del Hierro, Alberto Ortín, Juan Sancho-Tello, Benjamín Monrabal  
*Polymer Char (Spain)*

### #9· High throughput solubles determination by a fast TREF technique.

Pilar del Hierro, Alberto Ortín, Juan Sancho-Tello, Benjamín Monrabal  
*Polymer Char (Spain)*

### #10· Prediction of mechanical and physical properties of Polyolefins by low field NMR-Intricacies of Model Development.

Vishal Goel, Ms. Priyanka Luthra, G S Kapur.  
*Indian Oil Corporation (India)*

### #11· Application of Rheology to High Density Polyethylene Pipe Processing.

Kai Jiang, Yanfang Wang, Bin Du, Yujian Zhang, Yudong Cai, Xiaoying Lu, Qiang Huang.  
*Petrochemical Research Institute, Petrochina (China)*

**#12: Rheology as a tool to quantify the cross-link density in polyethylenes cross-linked using different cross-linking technologies.**

Kaschta, Joachim<sup>1</sup>, Heiduk Ines<sup>2</sup>, Falk Martin<sup>2</sup>, Walter Lisa<sup>2</sup>, Schubert Dirk W<sup>1</sup>.

<sup>1</sup>Friedrich-Alexander-University (Germany), <sup>2</sup>Fränkische Rohrwerke Gebr. Kirchner GmbH & Co (Germany)

**#13: A Morphological Investigation On Abiotic Degradation Of High Density Polyethylene Films Containing Various Concentrations Of Addiflex Pro-Oxidants.**

Soheyl Khajehpour- Tadavani<sup>1</sup>, Gholam-Reza Nejabat\*<sup>1</sup>, Seyed-Mohammad-Mahdi Mortazavi<sup>2</sup>.

<sup>1</sup>Islamic Azad University (Iran), <sup>2</sup>Iran Polymer and Petrochemical Institute, IPPI (Iran)

**#14: Abiotic Degradation Of High Density Polyethylene Samples Containing Oxo-Biodegradable Additives: MFI Investigation.**

Soheyl Khajehpour- Tadavani<sup>1</sup>, Gholam-Reza Nejabat\*<sup>1</sup>, Seyed-Mohammad-Mahdi Mortazavi<sup>2</sup>.

<sup>1</sup>Islamic Azad University, <sup>2</sup>Iran Polymer and Petrochemical Institute, IPPI (Iran)

**#15: Chemical Structures Characterization Of High Density Polyethylene Films Containing Different Concentrations Of Oxo-Biodegradable Additive.**

Soheyl Khajehpour- Tadavani<sup>1</sup>, Gholam-Reza Nejabat\*<sup>1</sup>, Seyed-Mohammad-Mahdi Mortazavi<sup>2</sup>.

<sup>1</sup>Islamic Azad University, <sup>2</sup>Iran Polymer and Petrochemical Institute, IPPI (Iran)

**#16: Evaluating The Abiotic Degradation Of High Density Polyethylene Films Containing Pro-Degradants Under UVC Exposure.**

Soheyl Khajehpour- Tadavani<sup>1</sup>, Gholam-Reza Nejabat\*<sup>1</sup>, Seyed-Mohammad-Mahdi Mortazavi<sup>2</sup>.

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**#17: Industrial Applications Of Fast-Scanning Dsc: New Opportunities For Studying Polypropylene Crystallization.**

Ralf Kleppinger<sup>1,2</sup>, Daniel Istrate<sup>1</sup>, Klaas Remerie<sup>2</sup>.

<sup>1</sup>DSM Resolve (The Netherlands), <sup>2</sup>SABIC Technology and Innovation (The Netherlands)

**#18: Influence of chain microstructure on LLPS and crystallization of dual reactor Ziegler-Natta made impact polypropylene ethylene copolymers (IPC).**

L. Santonja-Blasco<sup>1</sup>, W. Rungswang<sup>2</sup>, R.G. Alamo<sup>1</sup>.

<sup>1</sup>Florida State University (USA), <sup>2</sup>SCG Chemicals (Thailand)

**#19: Progress in one shot fractionation and quantitation of polyolefin formulations.**

Nicolas Longiéras.

PEAKEXPERT (France)

**#20: Quantitative analysis of molecular heterogeneities of polyolefins using high temperature two dimensional liquid chromatography**

Sampat Singh Bhati, Tibor Macko, Robert Brüll.

Fraunhofer Institute, LBF (Germany)

**#21: Boron nitride, molybdenum disulfide and tungsten disulfide as column packing for separation of polyethylene and polypropylene.**

Sampat Singh Bhati<sup>1</sup>, Benjamín Monrabal<sup>2</sup>, Robert Brüll<sup>1</sup>, Tibor Macko<sup>1</sup>.

<sup>1</sup>Fraunhofer Institute, LBF (Germany), <sup>2</sup>Polymer Char (Spain)

**#22: Thermal-Gradient NMR Spectroscopy of EPDM: Interaction with Graphite only by the Backbone or by the Whole Molecule?**

Frank Malz<sup>1</sup>, Robert Brüll<sup>1</sup>, Zhe Zhou<sup>2</sup>, Rongjuan Cong<sup>2</sup>, Dibyanjan Mekap<sup>3</sup>, Willem deGroot<sup>2</sup>.

<sup>1</sup>Fraunhofer Institute, LBF (Germany), <sup>2</sup>The Dow Chemical Company (<sup>2</sup>USA, <sup>3</sup>The Netherlands)

**#23· Spectral separation of polyolefin mixtures at high temperature by 13C-detected DOSY with thermal convection suppression.**

**Mitsuhiko Onda**, Kyoko Hiroike, Hiroko Sato, Takumi Yamanoue.  
*Mitsui Chemical Analysis & Consulting Service (Japan)*

**#24· Novel GPC triple detector approaches for branching analysis in Polyethylene: estimating g-index from gpcBR.**

**Alberto Ortín**<sup>1</sup>, Juan Sancho-Tello<sup>1</sup>, Esther López<sup>1</sup>, Pilar del Hierro<sup>1</sup>, Wallace W. Yau<sup>2</sup>.  
<sup>1</sup>*Polymer Char (Spain)*, <sup>2</sup>*Polyolefin Characterization Consultant (USA)*

**#25· Comparison of GPC triple detector methods for absolute molar mass determination.**

**Alberto Ortín**<sup>1</sup>, Juan Sancho-Tello<sup>1</sup>, Esther López<sup>1</sup>, Pilar del Hierro<sup>1</sup>, Wallace W. Yau<sup>2</sup>.  
<sup>1</sup>*Polymer Char (Spain)*, <sup>2</sup>*Polyolefin Characterization Consultant (USA)*

**#26· Advanced data processing for dual-detector GPC-QC: Band-broadening correction method based on effective volume offset (EVO).**

**Alberto Ortín**<sup>1</sup>, Juan Sancho-Tello<sup>1</sup>, Esther López<sup>1</sup>, Pilar del Hierro<sup>1</sup>, Benjamín Monrabal<sup>1</sup>, Wallace W. Yau<sup>2</sup>.  
<sup>1</sup>*Polymer Char (Spain)*, <sup>2</sup>*Polyolefin Characterization Consultant (USA)*

**#27· Deconvolution of PP-PE mixtures by using measured chromatograms by multiple band IR detector.**

**Alberto Ortín**, Jesús Montesinos, Benjamín Monrabal.  
*Polymer Char (Spain)*

**#28· High Impact Polypropylene: Morphology generation during homo-stage.**

**Miguel Plata**<sup>1</sup>, Michael Bartke<sup>1,2</sup>.  
<sup>1</sup>*Martin Luther University (Germany)*, <sup>2</sup>*Dutch Polymer Institute, DPI (The Netherlands)*

**#29· Separation of bimodal HDPE according to both the molar mass and chemical composition distribution.**

**K. N. Prabhu**<sup>1</sup>, K. Remerie<sup>2</sup>, J. Tacx<sup>2</sup>, A. Ginzburg<sup>2</sup>, P. Garg<sup>2</sup>, T. Macko<sup>1</sup>, F. Malz<sup>1</sup>, R. Brüll<sup>1</sup>.  
<sup>1</sup>*Fraunhofer Institute, LBF (Germany)*, <sup>2</sup>*SABIC Technology and Innovation (The Netherlands)*

**#30· Characterization of grafted polypropylenes using multidimensional liquid chromatography with quantitative detection.**

**K. N. Prabhu**<sup>1</sup>, K. Remerie<sup>2</sup>, J. Tacx<sup>2</sup>, P. Garg<sup>2</sup>, A. Ginzburg<sup>2</sup>, T. Macko<sup>1</sup>, F. Malz<sup>1</sup>, R. Brüll<sup>1</sup>.  
<sup>1</sup>*Fraunhofer Institute, LBF (Germany)*, <sup>2</sup>*SABIC Technology and Innovation (The Netherlands)*

**#31· Analytical solution to polymeric multilayer film.**

**Shengying Qian**, Guang Liu, Bin Chen, Wesley Li, Ying Lin, Shan Qin, Xiaofeng Yu.  
*SABIC Research & Development Centre (China)*

**#32· Effect of comonomer content distribution on the strong memory effect of crystallization and liquid-liquid phase separation in the melt of Ziegler-Natta and metallocene ethylene copolymers.**

**Minqiao Ren**<sup>1</sup>, Honghong Huang<sup>1</sup>, DongWei<sup>1</sup>, Meifang Guo<sup>1</sup>, Rufina G. Alamo<sup>2</sup>.  
<sup>1</sup>*SINOPEC Beijing Research Institute of Chemical Industry (China)*, <sup>2</sup>*Florida State University (USA)*

**#33· Microscopic analysis of melting and crystallization behaviors for isotactic polypropylene.**

**Kento Takeda**, Yusuke Hiejima, Koh-hei Nitta.  
*Kanazawa University (Japan)*

**#34· Microscopic deformation behaviors of polyethylene and polypropylene probed by in situ Raman spectroscopy.**

**Takumitsu Kida**, Yusuke Hiejima, Koh-hei Nitta.  
*Kanazawa University (Japan)*

**#35· Relation of Non-linear viscoelasticity and processing properties of polyethylene studied by Large amplitude oscillatory shear technique.**

**Boonyakeat Thitisuk**, Thippaya Pathaweisariyakul, Kanyanut Narkchampan, Marutpong Srisawat.  
*SCG Chemicals (Thailand)*

**#36· Investigation of initial radical formation leading to degradation of polypropylene.**

**Taira Tobita**, Patchanee Chammingkwan, Toshiaki Taniike, Minoru Terano.  
*Japan Advanced Institute of Science and Technology (Japan)*

**#37· The study of multi-scale structures of impact polypropylene copolymers.**

**Xiaoying Lu**, Qiang Huang, Yujian Zhang, Yudong Cai, Yujie Wang, Linmei Wu.  
*Petrochemical Research Institute, Petrochina (China)*

**#38· Fractionation and chain structure of a complex branched polyethylene.**

**Yanhu Xue**, Shuqin Bo, Xiangling Ji.  
*Chinese Academy of Sciences (China)*

**#39· Competition between  $\alpha$ ,  $\beta$  and  $\gamma$  Crystals in  $\beta$ -nucleated Propylene-ethylene Random Copolymer under Shear Flow.**

**Ying Zhao**, Chunbo Zhang, Guoming Liu, Dujin Wang.  
*Chinese Academy of Sciences (China)*

**#40· Characterization of the Microstructure of Ethylene-propylene Random Copolymer by preparative Temperature Rising Elution Fractionation.**

**Zu Fenghua**, Wang Li, Li Rongbo, Yi Jianjun.  
*Petrochemical Research Institute, Petrochina (China)*