

5th ICPC Poster Presentations

#1- Effect of length of 1-alkene on melt memory of crystallization above the equilibrium melting temperature of random ethylene copolymers.

Xuejian Chen, Laura Santonja-Blasco, Al Mamun, Rufina G. Alamo
Florida State University (USA).

#2- Effect of operation conditions and column type on the fractionation of polyolefins by HT-TGIC.

Abdulaal Z. Al-Khazaal¹, João B. P. Soares²
¹University of Waterloo (Canada), ²University of Alberta (Canada).

#3- Application of genetic algorithm for identifying ethylene/1-olefin copolymerization conditions from molecular weight and chemical composition distribution.

Uthane Nanthapoolsab, Siripon Anantawaraskul
Kasetsart University (Thailand).

#4- Chemical composition distribution of linear olefin block copolymer: theoretical analysis and Monte Carlo simulation.

Suwicha Sottesakul, Siripon Anantawaraskul
Kasetsart University (Thailand).

#5- Mathematical model of high temperature thermal gradient interaction chromatography (HT-TGIC) for ethylene/1-octene copolymers.

Nantiya Inwong¹, Siripon Anantawaraskul¹, João B. P. Soares², Abdulaal Alkhazaal³
¹Kasetsart University (Thailand), ²University of Alberta (Canada), ³University of Waterloo (Canada).

#6- Quantitative HPLC of polyolefins with the evaporative light scattering detector - Evaluation of the response in a series of mobile phases.

Jan-Hendrik Arndt, Tibor Macko, Robert Brüll
Fraunhofer Institute for Structural Durability and System Reliability (LBF) (Germany).

#7- Study on correlation between resin parameters and thermo-mechanical properties of LLDPE for rotomolding applications.

Visvanathan Balasaravanan, Abhay Mulay, Abdulrahman Al-Hazmi
SABIC (Saudi Arabia).

#8- TGA/IST/GC/MS coupling: an advanced technique for LLDPE structure interpretation.

Tiffany Marre¹, Axel Bart¹, Alain Delauzun¹, Xavier Cardot¹, Ronan Cozic¹, Olivier Boyron², Christophe Boisson²
¹SRA Instruments (France), ²Université de Lyon, (France)

#9- Application of infrared spectroscopy and chemometrics to the analysis of structural composition of ethylene/butadiene copolymers.

Benoit Macqueron,^{1,2} Julien Thuilliez,² Vincent Monteil,¹ Christophe Boisson,¹ Olivier Boyron¹
¹ Université de Lyon (France), ² Manufacture Française des Pneumatiques Michelin (France).

#10- Xylene soluble fraction of HiPP.

Julien Lefebvre¹, Manel Taam¹, Philippe Lievens², Christophe Boisson¹, Timothy McKenna¹, Olivier Boyron¹
¹ Université de Lyon (France), ² Malvern Instruments Ltd. (United Kingdom)

#11- Sample preparation and HT-GPC analysis of ultra high molecular weight polyolefin and the effect of temperature.

Stephen O'Donohue, Alan Brookes
Agilent (United Kingdom)

#12- Mathematical model of crystallization elution fractionation of ethylene/1-octene copolymers.

Nuttawat Chokputtanawuttlerd¹, Siripon Anantawaraskul¹, João B. P. Soares²
¹Kasetsart University (Thailand), ²University of Alberta (Canada)

#13- Characterization and properties of polyethylene synthesized by supported non-metallocene catalyst.

Li Chuanfeng, Yang Suping, Chen Shaohui, Fu Yong, Yang Aiwu, Ren Hongping, Guo Feng
Sinopec Yangzi Petrochemical Co., Ltd. (China)

#14- Molecular weight and branching structure distributions of polyethylene.

Paul G. Clarke¹, Bassem Sabbagh¹, Wei Sen Wong²
¹Malvern Instruments Ltd. (United Kingdom), ²Malvern Instruments Inc. (USA)

#15- Determination of long chain branching in EVA copolymers by GPC-MALS and GPC-VIS: comparison and uncertainties.

Baudilio Coto, Inmaculada Suárez
University Rey Juan Carlos (Spain)

#16- Study the influence of particle size on the molecular weight of polyethylenes with high or ultrahigh molecular weights (UHMWPE).

Gérson V. Galdino^{1,2}; Sandra M. O. Einloft²; **Marco A. da Silva**¹

¹ *Braskem S.A. (Brazil)*, ² *PUCRS - Pontificia Universidade Católica do Rio Grande do Sul (Brazil)*

#17- Polypropylene heterophasic copolymer grafting Itaconic Acid: molecular structure analysis through fractionation techniques.

Marco A. da Silva¹, Griselda B. Galland²

¹ *Braskem S.A. (Brazil)*, ² *UFRGS – University Federal do Rio Grande do Sul (Brazil)*

#18- Effect of chlorinated hot water on pipes alpha and beta polypropylene.

Subin Damodaran¹, Robert Brüll¹, Tobias Schuster¹, Abhishek Sanoria¹, Mirko Wenzel², Martin Bastian²

¹ *Fraunhofer LBF (Germany)*, ² *SKZ-German Plastics Center (Germany)*

#19 Automated analysis of the amorphous fraction in PP resins by a modified TREF technique.

Pilar del Hierro, Alberto Ortín, Benjamín Monrabal

Polymer Char (Spain)

#20- New developments in high throughput rotational rheology for polymer melts.

Robert Freisinger, Paul Staudinger

Anton Paar (Austria)

#21- Study on the mechanical properties of PP/n-SiO₂ nanocomposites in addition of polysilane material.

Y. Fukui¹, K. Tokumitsu¹, M. Toyonaga², T. Taniike² and M. Terano²

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#22- Improving resolution in high temperature gradient liquid chromatography of polyolefins.

Prabhu Kavimani Nagar¹, Tibor Macko¹, Robert Brüll¹, Jacques Tacx², Priya Garg², Klaas Remerie²

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#23- Highly thermal conductive polypropylene nanocomposites having Al₂O₃ network formed by the combination of impregnation and sol-gel methods.

Kei Kaneko, Toshiaki Taniike, Minoru Terano

Japan Advanced Institute of Science and Technology (Japan)

#24- High temperature gel permeation chromatography using dual flow refractive index detection.

Iilir Koliqi, Amandaa K. Brewer

Tosoh Bioscience (USA)

#25- GPC analysis at different flow rates to overcome shear degradation.

Esther López, Pilar Del Hierro, Benjamín Monrabal

Polymer Char (Spain)

#26- HPLC separation of polypropylene in different mobile phases.

Tibor Macko, Jan-Hendrik Arndt, Robert Brüll

Fraunhofer Institute for Structural Durability and System Reliability (LBF) (Germany)

#27- Isothermal fractionation by DSC: stepwise isothermal segregation technique applied to random C₃C₂ copolymers.

Federica Malizia¹, Giuseppe Ferrara¹, Paolo Ferrari¹, Carla Marega²

¹ *Basell Poliolefine Italia S.r.L. (Italy)*, ² *Chemical Science Department, University of Padoa (Italy)*

#28- Structural investigation of C₃C₂ random copolymers by thermal fractionation technique.

Mara Destro, **Federica Malizia**, Giorgio Nadalini, Giuseppe Ferrara

Basell Poliolefine Italia S.r.L. (Italy)

#29- Monitoring the interaction of polyethylene on graphite by temperature-gradient NMR spectroscopy.

Frank Malz¹, Dibyanjan Mekap¹, Tibor Macko¹, Robert Brüll¹, Zhe Zhou², Rongjuan Cong², Willem deGroot²
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#30- Column-based preparative fractionation for polyolefins.

Nuria Mayo, Rebeca Chiva, Benjamín Monrabal
Polymer Char (Spain)

#31- A critical comparative study of HT-TGIC, CRYSTAF and CEF of polyolefins.

Saeid Mehdiabadi, João B. P. Soares
University of Alberta (Canada)

#32- Liquid chromatography at critical conditions (LCCC) of polyethylene.

Dibyanjan Mekap¹, Robert Brüll¹, Tibor Macko¹, Rongjuan Cong², A. Willem deGroot², Albert Parrott², Wallace Yau², Paul Cools²
¹Fraunhofer LBF (Germany), ²The Dow Chemical Company (USA)

#33- Novel method for separation and identification of n-alkanes/oligomers in HDPE by high temperature high performance liquid chromatography.

Dibyanjan Mekap¹, Robert Brüll¹, Tibor Macko¹, Rongjuan Cong², A. Willem deGroot², Albert Parrott², Wallace Yau²
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#34- Detailed information on ethylene polymers as revealed by ¹H and ¹³C NMR.

Claudiu Melian, Harrie Linssen
DSM Resolve (Netherlands)

#35- Characterization of bimodal polyolefins: new routes for polyethylene pipes production.

Jovita Moreno Vozmediano, Beatriz Paredes Martínez
University Rey Juan Carlos (Spain)

#36- Improvement of failure behavior of iPP by addition of polypropylene-carbonate.

Makiko Nakahara, Koh-hei Nitta
University of Kanazawa (Japan)

#37- Quantitative evaluation of ¹³C NMR peak intensity for polyolefin solution.

Mitsuhiko Onda, Fumika Moro, Hiroko Sato
Mitsui Chemical Analysis & Consulting Service Inc. (Japan)

#38- Molecular Weight Distribution and Chemical Composition analysis of Polyethylene by Gel Permeation Chromatography. Influence of detection technologies on data quality.

Eric Osmont
Ineos Technologies (France)

#39- Impact polypropylene copolymers. Characterization as a tool to optimize their synthesis.

Maria Teresa Pastor, Baudilio Coto García, Rafael A. García Muñoz, Inmaculada Suarez Muñoz, M. Teresa Expósito Espinosa
University Rey Juan Carlos (Spain)

#40- Characterization of ethylene-propylene rubbers using DSC, CRYSTAF and HT-HPLC.

Mohau Phiri, Saliqali Cheruthazhekatt, Harald Pasch
University of Stellenbosch (South Africa)

#41- Evaluation of the sunlight degradation of HDPE and PP Silicon nanocomposites.

S. Sánchez-Ballester¹, L. Santonja-Blasco^{1,2}, J.D. Badia^{1,3}, I. Rodríguez⁴, F. Meseguer⁴, **A.Ribes-Greus**¹
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#42- Recycled polylactide blends as an alternative to polyolefins in disposable applications.

A. Salvador-Andreu, O. Gil-Castell², J.D. Badia^{1,2}, **A.Ribes-Greus**²
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#43- Thermal characterisation of non-additivated raw Polypropylene/Silicon colloidal composites.

A. Montesinos^{1,2}, O. Gil-Castell², J.D. Badia^{1,2}, I. Rodríguez³, F. Meseguer³, **A.Ribes-Greus**²
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#44- Effect of a co-catalyst modifier in the synthesis of ultra-high molecular weight polyethylene having a reduced number of entanglements.

Dario Romano¹, Efren Andablo-Reyes¹, Sara Ronca¹, Sanjay Rastogi^{1,2}
¹Loughborough University (United Kingdom), ²Teijin Aramid (Netherlands)

#45- An investigation into the effects of aging on automotive bumper samples by xylene soluble flow injection polymer analysis (XS-FIPA).

Bassem Sabagh¹, Wei Sen Wong²
¹Malvern Instruments Ltd. (United Kingdom), ²Malvern Instruments Inc. (USA)

#46- Polymorphism and crystallization kinetics of polyethylenes with precise chlorine Substitution.

L. Santonja-Blasco^{1,2}, X. Zhang¹, K.B. Wagener³, E. Boz³, R.G. Alamo¹
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#47- Raman spectroscopy as a non-destructive tool for additive analysis in polyolefins.

Abhishek Sanoria, Robert Brüll, **Tobias Schuster**, Subin Damodaran
Fraunhofer Institute for Structural Durability and System Reliability (LBF) (Germany)

#48- Imaging techniques: tool for the quantification of oriented additives.

Tobias Schuster, Karsten Rode, Subin Damodaran, Robert Brüll
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#49- Formation of silica network structures using sol-gel reaction in polypropylene amorphous region as template.

Kengo Takeuchi, Toshiaki Taniike, Minoru Terano
Japan Advanced Institute of Science and Technology (Japan)

#50- Direct comparison of IR and DRI detector for HT-GPC of polyolefins.

Wallace W. Yau¹, Huang Honghong², Guo Meifang², Wei Dong², Alberto Ortin³, Esther López³
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#51- Unusual orientation of β -iPP during uniaxial stretching studied by in-situ X-ray scattering using synchrotron radiation.

Chunbo Zhang, Guoming Liu, Yan Song, **Ying Zhao**, Dujin Wang
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