

Asian Polyolefin Workshop 2015 (APO2015), World Polyolefin Congress
(WPOC2015): November 23-27, 2015, Tokyo Metropolitan University,
Japan

Time Table

November 23 (MON)	
Conference Room 3&4, Hall (2F)	Entrance Hall & Lobby
16:20-17:20 Special Lecture (Public Events) Prof. Walter Kaminsky (Univ. Hamburg, Germany) <i>"The Development and Future Aspects of Metallocene based Polyolefin"</i>	14:00-17:00 Registration (on site): Tokyo Metropolitan University, Hachioji, Tokyo, Japan
17:50-20:30 Welcome Reception "Shoya Minami Osawa" Japanese-style tavern (Izakaya)	



November 24 (TUE)

Hall 1

9:10- Opening Remarks: K. Nomura (Tokyo Metro. Univ., Japan)

9:15-9:55 **PL1: M. Terano** (JAIST, Japan)

Great history and bright future of polyolefin technologies

9:55-10:35 **PL2: L. R. Sita** (Univ. of Maryland, USA)

New opportunities for precision polyolefins

Break and Transfer (10:35-11:00)

Room IC-1

11:00-11:30 **KL1: T. F. L. McKenna** (C2P2-Univ. Lyon, France)

Impact of condensable compounds on the gas phase polymerisation of ethylene

11:30-12:00 **KL2: K. Nitta** (Kanazawa Univ., Japan)

Lunch (12:00-13:40)

Time	Session A (Room IC-1)	Session B (Room IC-2)
	Catalysis & Reaction Engineering	Polymer Characterization
13:40-	IL-A1: T. Pakkanen (Univ. Eastern Finland, Finland) New MgCl ₂ supports with ether electron donors	IL-B1: R. Cong (Dow Chemical, USA) The recent advances and challenges in polyolefin comonomer distribution analysis
14:05-	IL-A2: B. Liu (ECUST, China) New generation SiO ₂ -supported Ziegler-Natta Ti/Mg catalysts for ethylene and propylene polymerization	IL-B2: J. Tacx (Sabic, The Netherlands) Scattering behavior of polyethylenes having linear and branched structure in dilute solutions and relations between molecular parameters
14:30-	IL-A3: C. Boisson (C2P2-Univ. Lyon, France) Supported activators and activating supports for olefin polymerization catalysts	IL-B3: T. Pathaweisariyakul (SCG Chemicals, Thailand) Evaluation of long chain branching by triple-detector gel permeation chromatography
14:55-	IL-A4: R. Tanaka (Hiroshima Univ., Japan) Effect of the protic source on the preparation of aluminoxane and its activation behavior of olefin polymerization catalysts	IL-B4: M. A. Matsko (Boreskov Inst. of Catalysis, Russia) Dynamic-mechanical analysis of ethylene-1-hexene copolymers: The effect of catalyst type on short-chain branching distribution and properties of amorphous and crystalline phases

Break (15:20-15:35)

Time	Session A (Room IC-1)	Session B (Room IC-2)
	Catalysis & Reaction Engineering	Polymer Properties and Processing
15:35-	IL-A5: C. Paulik (Johannes Kepler Univ., Austria) Co-catalyst effects on the formation of active centres in Ziegler-Natta catalysts	IL-B5: Y. Bin (Dalian Univ. of Technol., China) Gel-spinning of ultra high molecular weight polyethylene and low molecular weight polyethylene blends and its morphology and mechanical properties
16:00-	IL-A6: P. Prasertthdam (Chulalongkorn Univ., Thailand) Effect of fumed silica on reduction behaviors of Ti species in Ziegler-Natta catalyst	IL-B6: Y. Hiejima (Kanazawa Univ., Japan) Rheo-Raman study of deformation in polyethylene and isotactic polypropylene
16:25-	IL-A7: T. Sugano (Toho Titanium, Japan) Characterization of PP impact copolymers by CFC and micro-CT	IL-B7: T. Kawai (Gunma Univ., Japan) In-situ SAXS/WAXD study on the deformation of β -phase isotactic polypropylene during uniaxial stretching

November 25 (WED)

Hall 1

9:00-9:40 **PL3: B. Monrabal** (Polymer Char, Spain)

Expanding our knowledge of the microstructure of high impact polypropylene and other complex PP copolymers. A challenging job for analytical science

9:40-10:20 **PL4: L. Cavallo** (KAUST, Saudi Arabia)

Modeling heterogeneous Ziegler-Natta catalytic systems

Break and Transfer (10:20-10:40)

Room IC-1

10:40-11:10 **KL3: J.-L. Gardette** (Univ. Blaise Pascal, France)

Photodegradation of polyolefins: From molecular scale towards macroscopic properties

11:10-11:40 **KL4: J. Severn** (DSM Ahead, The Netherlands)

Dyneema: Success via long and strong chain of knowledge

11:40-12:10 **KL5: K. Nomura** (Tokyo Metro. Univ., Japan)

Design of efficient catalysts for synthesis of cyclic olefin (co)polymers by olefin insertion/metathesis polymerization

Lunch (12:10-13:40)

Time	Session A (Room IC-1)	Session B (Room IC-2)
	Catalysis & Reaction Engineering	Polymer Characterization
13:40-	IL-A8: E. Groppo (Univ. Torino, Italy) Diverse reductants for Cr(VI)/SiO ₂ lead to reduced chromium sites differently active	IL-B8: Z. Zhang (NOVA Chemicals, Canada) Detection in size exclusion chromatography for olefin copolymer analysis
14:05-	IL-A9: M. Klapper (Max Planck Inst. Polymer Res., Germany) Morphology control in polyolefin synthesis via self-assembled hybrid supports	IL-B9: T. Macko (Fraunhofer LBF, Germany) Characterization of polyolefins with adsorption liquid chromatography at room temperature or at high temperature
14:30-	IL-A10: M. Chiesa (Univ. Torino, Italy) Probing the nature of Ti ³⁺ centres in heterogeneous Ziegler-Natta catalysts	IL-B10: M. Parkinson (Borealis Polyolefine, Austria) Automation of quantitative NMR spectroscopy of polyolefins in industry
14:55-	IL-A11: B. Narayana (Reliance Industries, India) Procurement & construction of polyolefins plants	IL-B11: K. Tokumitsu (Univ. of Shiga Pref., Japan) Effect of adding polysilane on heat fusion properties of PP
Break (15:20-15:35)		
Time	Session A (Room IC-1)	Session B (Room IC-2)
	Polymer Synthesis & Functionalization	Polymer Degradation & Stabilization
15:35-	IL-A12: T. C. M. Chung (Penn State Univ., USA) New functional polyolefins enabling green technologies for energy and environment applications	IL-B12: P. Gijsman (DSM Ahead, The Netherlands) Hindered amines as stabilizers for radiation cross-linked UHMwPE implants
16:00-	IL-A13: V. Monteil (C2P2-Univ. Lyon, France) New trends in free radical polymerization of ethylene under moderate pressure conditions	IL-B13: E. Richaud (Arts et Métiers ParisTech, France) Polyolefins stabilization - A kinetic study
16:25-	IL-A14: H. Fan (Zhejiang Univ., China) Siloxane containing ethylene copolymers: Synthesis, properties and applications	IL-B14: H. Nakatani (Nagasaki Univ., Japan) Polystyrene photodegradation with various TiO ₂ based photocatalyst systems
16:50-	IL-A15: I. Tritto (ISMAR-CNR, Italy) Challenges in chain-shuttling polymerization: Novel ethylene-norbornene copolymers and vs. commercial ethylene-1-octene copolymers	IL-B15: S. Ishikawa (ADEKA, Japan) Advanced additive technologies for stabilization of polypropylene based automotive materials

November 26 (THU)

Room IC-1

9:00-9:40 **PL5: M. Celina** (Sandia National Labs, USA)

Polyolefins in the context of trends in polymer degradation

9:40-10:20 **PL6: J. Soares** (Univ. of Alberta, Canada)

On the use of microstructural deconvolution methods to quantify olefin polymerization with multiple-site catalysts

Break (10:20-10:35)

Short Talk (10:35-11:40) @International Hall

Poster Session (11:40-14:00) @International Hall

Break (14:00-14:15)

Time	Session A (Room IC-1)	Session B (Room IC-2)
	Catalysis & Reaction Engineering	Polymer Properties & Processing
14:15-	IL-A16: J. L. Brinen (ExxonMobil Chemical, USA) A systematic investigation of metallocene catalyst performance in multiple polymerization platforms	IL-B16: M. Yamaguchi (JAIST, Japan) Enhancement of strain-hardening in transient elongational viscosity for polyolefin melts
14:40-	IL-A17: H. Kim (Hanwha Total Petrochemical, Korea) Development of high pressure polyethylene tubular process simulator and comparison of chemical and physical properties measured by analytical methods and simulation	IL-B17: M. Nekoomanesh (IPPI, Iran) Linear poly -olefins: New impact modifier in plastic technology
15:05-	IL-A18: M. Al-Haj Ali (Borealis, Finland) Towards better understanding of industrial polymerization processes	IL-B18: Y. Men (CIAC-CAS, China) Stress-whitening in semi-crystalline polymers
Break (15:30-15:45)		
Time	Session A (Room IC-1)	Session B (Room IC-2)
	Catalysis & Reaction Engineering	Polymer Properties & Processing
15:45-	IL-A19: Z. Fan (Zhejiang Univ., China) Investigating the structure and properties of active centers in metallocene catalyst based on olefin polymerization kinetics	IL-B19: L. A. Novokshonova (Semenov Inst. of Chem. Phys, Russia) Multi-stage polymerization processes for modification of PEHD and of the filled composites on its base
16:10-	IL-A20: S. Samingprai (PTT Global Chemical, Thailand) The effect of Lewis acid on Ziegler-Natta catalyst, TiCl ₄ /MgCl ₂ , for ethylene slurry polymerization	IL-B20: H. Takeshita (Univ. of Shiga Pref., Japan) Crystallization behavior of block copolymers containing polyethylene as a crystalline component

16:35-	IL-A21: V. K. Gupta (Reliance Industries, India) External Lewis base interaction with Lewis acid sites in Ziegler-Natta catalysis	IL-B21: W. Takarada (Tokyo Inst. of Tech., Japan) Effect of the blending of different stereo-regularity polypropylenes on spinnability and crystallization behavior in high-speed melt spinning of polypropylene fibers
19:00-	Symposium Banquet @Keio Plaza Hotel Tama	

November 27 (FRI)	
Room IC-1	
9:00-9:30	KL6: S. Scott (UCSB, USA) Odd- and even-electron redox processes in Phillips catalyst activation
9:30-10:00	KL7: S. Kuroda (Gunma Univ., Japan) Studies on the surface of polyolefins treated with atmospheric pressure low temperature plasmas
10:00-10:30	KL8: T. Tayano (Japan Polychem, Japan) Creation of high performance polypropylenes produced by clay-mineral supported metallocene catalyst technology
Break (10:30-10:50)	
10:50-11:20	KL9: R. Cipullo (U-Naples, Italy) Quantitative screening of Ziegler-Natta catalyst regioselectivity
11:20-11:50	KL10: V. A. Zakharov (Boreskov Inst. of Catalysis, Russia) Supported titanium-magnesium catalysts with low titanium content: New data on the active sites formation, their structures and properties in olefin polymerization
11:50-12:05	Closing Remarks: M. Terano (JAIST, Japan)
Post Symposium	



Poster Session (November 26, 11:40-14:00)

P001 A qualitative structure and activity relationship (QSAR) of olefin polymerization catalysts

Akinobu Shiga

LUMMOX Research Lab, Japan

P002 Synthesis of octahydro- and tetrahydro-[1,10]phenanthroline group 4 metal complexes for olefin polymerization

Eun Yeong Hwang, **Jin Gu Kim**, Seul Lee, Geun Ho Park, and Bun Yeoul Lee

Department of Molecular Science and Technology, Ajou University, Korea

P003 Preparation of [bis(amido)-phosphine] and [amido-phosphine sulfide or oxide] zirconium and hafnium complexes for ethylene polymerization

Chun Sun Lee, **Seul Lee**, Geun Ho Park, and Bun Yeoul Lee

Department of Molecular Science and Technology, Ajou University, Korea

P004 Evaluation of cocatalyst synthesized from boronic acid and trimethylaluminum for the propylene polymerization using the $\text{Me}_2\text{Si}(\text{Flu})(\text{t-BuN})\text{TiMe}_2$

Takaaki Hirose, Ryo Tanaka, Yuusyou Nakayama, and Takeshi Shiono

Graduate School of Engineering, Hiroshima University, Japan

P005 Isospecific polymerization of terminal siloxy-substituted α -olefin with a dichlorozirconium complex

Yusuke Saito, Norio Nakata, and Akihiko Ishii

Department of Chemistry, Graduate School of Science and Engineering, Saitama University, Japan

P006 Polymerization of long chain α -olefins by half-titanocene catalysts: precise synthesis of cylindrical polymers

Sarntamon Pengoubol, and Kotohiro Nomura

Department of Chemistry, Tokyo Metropolitan University, Japan

P007 Ethylene/propylene copolymerization with non-bridged metallocene catalyst: reaction kinetics and thermal properties

Yintian Guo, Zhisheng Fu, and Zhiqiang Fan

Department of Polymer Science & Engineering, Zhejiang University, China

P008 Synthesis of cyclic olefin copolymers by half-titanocene catalysts

Weizhen Zhao, and Kotohiro Nomura

Department of Chemistry, Tokyo Metropolitan University, Japan

P009 Stereospecific polymerization of 1,3-butadiene with a monocyclopentadienyl titanium(IV) complex bearing a pendant phosphanyl group

Mizuki Shuto, Ryo Tanaka, Yuushou Nakayama, and Takeshi Shiono

Department of Applied Chemistry, Graduate School of Engineering, Hiroshima University, Japan

P010 Isospecific-*trans*-1,4-polymerization of (*E*)-1,3-pentadiene by half-sandwich rare-earth metal catalysts

Kei Nishii^{ab}, Atsushi Yamamoto,^{ac} Masayoshi Nishiura,^b and Zhaomin Hou^{ac}

^aRIKEN, Japan. ^bNational Institute of Technology, Oyama College, Japan. ^cGraduate School of Science and Engineering, Saitama University, Japan

P011 Molecular simulations of the structure and physical properties of polymer melts

K. Moorthia,^a K. Kamiob,^b J. Ramosc,^c D. N. Theodoroud^d

^aMitsui Chemicals, Inc., Japan. ^bMC-Anac., Japan. ^cIEM CSIC, Spain. ^dNational Technical University of Athens, Greece.

P012 Polyolefin-polystyrene block copolymer : combination of coordination polymerization and anionic polymerization in one-pot

Jong Yeob Jeon, **Dong Hyun Kim**, Geun Ho Park, Su Hyun Park, and Bun Yeoul Lee

Department of Molecular Science and Technology, Ajou University, Korea

P013 Synthesis and application of hyperbranched polyethylene-*b*-poly(ethylene glycol)

Feng He, Zhisheng Fu, and Zhiqiang Fan

Department of Polymer Science & Engineering, Zhejiang University, China

P014 Synthesis of comb-branched polyolefins using a tandem catalyst system

Kailun Zhang,^a Song Guo,^a Wen-Jun Wang,^a Bo-Geng Li,^a and Shiping Zhu^b

^aCollege of Chemical and Biological Engineering, Zhejiang University, China. ^bDepartment of Chemical Engineering, McMaster University, Canada

P015 Synthesis of syndiotactic-rich polystyrene with neodymium-based catalyst

Han Zhu, He-Jin Wang, Chun-Yang Cai, and Yi-Xian Wu

State Key Laboratory of Chemical Resource Engineering, Beijing University of Chemical Technology, China

P016 Effect of Me_3Al in MAO on supported cocatalyst for propylene polymerization by *ansa*-fluorenylamidotitanium catalyst

Taiki Tabuchi, Ryo Tanaka, Yuushou Nakayama, and Takeshi Shiono

Graduate School of Engineering, Hiroshima University, Japan

P017 Synthesis and characterizations of solid MAO cocatalyst

Tomoyuki Kinoshita^a, Yujin Takemoto,^a Eiichi Kaji,^a and Kentaro Sakai^b

^aTosoh Finechem Corporation (TFC), Japan. ^bCenter for Collaborative Research & Community Cooperation, University of Miyazaki, Japan

P018 Ethylene copolymerization by half-titanocene complexes – supported MAO catalyst systems

Wannida Apisuk, and Kotohiro Nomura

Department of Chemistry, Tokyo Metropolitan University, Japan

P019 Promising improvement in MAO-free ethylene polymerization

Afsane Koochi Fayegh,^a Saied Ahmadjo,^a Mojtaba Omidvar,^a **Davood Jafari far**,^b Maryam S. Beheshti,^a and S.M.Mahdi Mortazavi^a

^aPolymerization Engineering Department, Iran Polymer and Petrochemical Institute, Iran. ^bJam Petrochemical Co., Iran

P020 Development of titanium catalyst and its application in producing UHMWPE

Zhu Ben-Hu, Sun Xiu-Li, Zhou Jiao-Long, Li Jun-Fang, and Tang Yong

State Key Laboratory of Organometallic Chemistry, Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences, China

P021 Elucidation of Phillips ethylene trimerization system and a new chromium precursor

Jong Yeob Jeon, **Su Hyun Park**, Dong Hwan Lee, and Bun Yeoul Lee

Department of Molecular Science and Technology, Ajou University, Korea

P022 Theoretical study of the role of dibenzoyl sulfide donor in heterogeneous Ziegler-Natta propylene polymerization

Manussada Ratanasak,^a and Vudhichai Parasuk^{a,b}

^aPh.D. Program in Nanoscience and Technology, Graduate School, Chulalongkorn University, Thailand.

^bDepartment of Chemistry, Faculty of Science, Chulalongkorn University, Thailand

P023 Influence of pre-contact of catalyst and cocatalyst on propylene polymerization with MgCl₂-supported Ziegler-Natta catalyst

Zhen Zhang, Zhisheng Fu, and Zhiqiang Fan

Department of Polymer Science & Engineering, Zhejiang University, China

P024 Effects of comonomer and cocatalysts on synthesis of polyethylene hollow particles with MgCl₂-supported Ziegler-Natta catalyst

Meizhou Qi, Zhisheng Fu, and Zhiqiang Fan

Department of Polymer Science & Engineering, Zhejiang University, China

P025 Activation of microspherical MgCl₂.mEtOH.nH₂O adduct by thermal treatment and used as a support for preparation of polyolefin catalysts

M. Vakili, and S.M. Ghafelebashi

Natural Petrochemical Company Research and Technology (NPC-RT), Iran

P026 The effect of comonomers on copolymerization of ethylene using Ziegler-Natta catalyst

Maryam Masoori,^a Saied Ahmadjo,^a S.M.Mahdi Mortazavi,^a and **M. Vakili**^{b,c}

^aPolymerization Engineering Department, Iran Polymer and Petrochemical Institute, Iran. ^bPolymer Department, Research and Technology

Petrochemical company, Iran. ^cPolymer research center, Bakhtar petrochemical company, Iran

P027 Evaluation of (non-)discrete melting endotherms of LLDPE in determination of structural heterogeneities in Ziegler-Natta catalyzed

Reza Rashedi,^a Majid Zahmati,^b Khosrow Valieghbal,^b Davoud Jafari far,^b Mostafa Ahmadi,^a and Seyed Mohammad Mehdi Mortazavi^c

^aDepartment of Polymer Engineering and Color Technology, Amirkabir University of Technology, Iran. ^bR&D Center of Jam Petrochemical

Co., Iran. ^cPolymerization Engineering Department, Iran Polymer and Petrochemical Institute, Iran

P028 Well-defined polyethylene-based block copolymers: synthesis and characterization

Zhixian Xu, Suyun Jie, and Bo-Geng Li

State Key Laboratory of Chemical Engineering, College of Chemical and Biological Engineering, Zhejiang University, China

P029 Integrated optimization modeling for propylene polymerization

M. J. H. Khan,^a **M.A. Hussain**,^a and I.M. Mujtaba^b

^aDepartment of Chemical Engineering, University of Malaya, Malaysia. ^bSchool of Engineering Design & Technology, University of Bradford, UK

P030 The effect of chain entanglement of UHMWPE on the mechanical properties of LLDPE blends

Dengfeng He, Feng Yu, and Zhong-Ren Chen

Ningbo Key Laboratory of Specialty Polymer School of Materials Science and Chemical Engineering, Ningbo University, China

P031 Blends of high molecular weight polyethylene and poly[ethylene/10-undecen-1-ol] prepared by ethylene in-situ polymerization

Qi Zhou,^a Jianghua Fang,^a Tao Chen,^b and Wei Li^b

^aDepartment of Chemical Engineering, Ningbo University of Technology, China. ^bDepartment of Polymer Engineering and Science, School of Material Science and Chemical Engineering, Ningbo University, China

P032 Epitaxial crystallization of precisely halogen-substituted polyethylene induced by carbon nanotube and graphene

Weijun Miao,^{ab} and Zhong-Ren Chen^{ab}

^aDepartment of Polymer Science and Engineering, Faculty of Materials Science and Chemical Engineering, Ningbo University, China.

^bNingbo Key Laboratory of Polymer Materials, Ningbo Institute of Material Technology and Engineering, CAS, China

P033 Localization behaviour of carbon nanotubes in melt-mixed immiscible polymer blend

Rujirek Wiwattananukul, and Masayuki Yamaguchi

School of Materials Science, Japan Advanced Institute of Science and Technology, Japan

P034 The effects of shear stress on the crystallization behavior of *isotactic* polypropylene

Byoung Chul Kim, and Sung Jin Oh

Department of Organic & Nano Engineering, Hanyang University, Korea

P035 Synthesis of polyethylene/poly(ethylene-co-propylene) In-reactor alloys by periodic switching polymerization process: effects of switching frequency on polymer structure and properties

Biao Zhang, Zhisheng Fu, and Zhiqiang Fan

Department of Polymer Science and Engineering, Zhejiang University, China

P036 Ethylene oligomerization over CF₃-substituted bis(imino)pyridine cobalt complex immobilized in fluorotetrasilic mica interlayer

Masahiro Narizuka, Shun Ishikawa, Masaaki Ohshima, Sayoko Nagashima, and **Hideki Kurokawa**

Graduate School of Science & Engineering, Saitama University, Japan

P037 Preparation of chromium(II) complexes for ethylene oligomerization

Eun Ho Kim, Myoung Sun Jeong, and Bun Yeoul Lee

Department of Molecular Science and Technology, Ajou University, Korea

P038 Selective ethylene oligomerization with Ni-exchanged metal-organic frameworks

Bing Liu, Suyun Jie, Zhiyang Bu, and Bo-Geng Li

College of Chemical and Biological Engineering, Zhejiang University, China

P039 Highly efficient ethylene dimerization by (Imido)vanadium(V) complexes containing 8-anilide-5,6,7-trihydroquinoline ligands: effect of ligand substituent in the ethylene reactivity

Atsushi Igarashi,^a Xiao-Yan Tang,^b Wenjuan Zhang,^c Wen-Hua Sun,^c Akiko Inagaki,^a Yue-Sheng Li,^b and Kotohiro Nomura^a

^aDepartment of Chemistry, Tokyo Metropolitan University, Japan. ^bChangchun Institute of Applied Chemistry, CAS, China, ^cInstitute of Chemistry, CAS, China

P040 The synthesis of linear copolymers of ethylene and alkyl acrylates with neutral phosphino-phenolate Ni(II) catalysts

Hiromasa Tanahashi,^{a,b} **Hisashi Ohtaki**,^{ab} Yohei Konishi,^{ab} Naomasa Sato,^{ab} Koso Hirokane,^a Bruce S. Xin,^b Hiroyuki Shimizu,^a Hideshi Uchino,^a Fumihiko Shimizu,^b Akio Tanna,^a and Takao Tayano^a

^aJapan Polychem Corporation, Japan. ^bMitsubishi Chemical Group Science and Technology Research Center, Inc., Japan

P041 Highly linear polyethylenes by modified bis(imino)pyridylcobalt dichlorides

Erlin Yue, **Yanning Zeng**, and Wen-Hua Sun

Institute of Chemistry, CAS, China

P042 Geometry constrained 8-arylamino-7,7-dimethyl-5,6-dihydroquinolynickel bromides: synthesis, characterization and ethylene polymerization

Chuanbing Huang, Shizhen Du, Erlin Yue, Yanning Zeng, and Wen-Hua Sun

Institute of Chemistry, CAS, China

P043 Polyethylenes as additives of lubricants and pour-point depressants by cycloalkyl-substituted α -imino-cycloalkylpyridylnickel halides

Zelin Sun, Wenjuan Zhang, Erlin Yue, Fang Huang, and Wen-Hua Sun

Institute of Chemistry, CAS, China

P044 Ring-tension adjusted ethylene polymerization by aryliminocycloheptapyridylnickel complexes

Fang Huang,^{ab} Erlin Yue,^b Xinquan Hu,^a and Wen-Hua Sun^b

^aCollege of Chemical Engineering, Zhejiang University of Technology, China. ^bInstitute of Chemistry, CAS, China

P045 Chain-walking polymerization of 2-hexene and 2-octene catalyzed by α -diimine nickel catalysts/MMAO: living/controlled behavior, branch structure, and mechanism

Fuzhou Wang, Ryo Tanaka, Yuushou Nakayama, and Takeshi Shiono

Graduate School of Engineering, Hiroshima University, Japan

P046 Enhancing activity and thermal-stability of nickel pre-catalysts bearing unsymmetrical 1,2-diiminoacenaphthylenes for ethylene polymerization

Shizhen Du, Erlin Yue, Yang Sun, and Wen-Hua Sun

Institute of Chemistry, CAS, China

P047 1-[4-(Fluorenyl)-2,6-dimethylphenylimino]-2-aryliminoacenaphthyl nickel bromides: synthesis, characterization, and ethylene polymerization

Katla Venkata Ramana, **N. M. Rajendran**, Shizhen Du, Wenjuan Zhang, and Wen-Hua Sun
Institute of Chemistry, CAS, China

P048 DFT study of the electronic effect on catalysis activity for benzylidenequinolin nickel complex catalyst in ethylene oligomerization

Jun Yi, Wenhong Yang, and Wen-Hua Sun
Institute of Chemistry, CAS, China

P049 Branched polyethylenes by the 8-(2-benzhydrylnaphthylimino)-5,6,7-trihydroquinolynickel halides

Erlin Yue,^{ab} **Yanning Zeng**,^b Xiao-Ping Cao,^a and Wen-Hua Sun^b
^aCollege of Chemistry and Chemical Engineering, Lanzhou University, China.
^bInstitute of Chemistry, CAS, China

P050 Polymerization of 3,3-dimethyl-1-butene by diimine Pd complexes

Keisuke Ito, Daisuke Takeuchi, and Kohtaro Osakada
Chemical Resources Laboratory, Tokyo Institute of Technology, Japan

P051 Highly robust Pd(II) α -diimine catalysts for olefin (co)polymerization

Shengyu Dai, and Changle Chen
Key Laboratory of Soft Matter Chemistry, CAS, Department of Polymer Science and Engineering, University of Science and Technology of China, China

P052 Polymerization of 3-cyclohexyl-1-butene by diimine Pd complexes

Yuki Tokura, Daisuke Takeuchi, and Kohtaro Osakada
Chemical Resources Laboratory, Tokyo Institute of Technology, Japan.

P053 Polymerization of disubstituted acetylenes by monodentate NHC-Pd catalysts

Min Li, and Changle Chen
Key Laboratory of Soft Matter Chemistry, CAS, Department of Polymer Science and Engineering, University of Science and Technology of China, China

P054 Ni, Pd catalysts for olefin (co)polymerization based on phosphine-sulfonate

Min Chen, and Changle Chen
Key Laboratory of Soft Matter Chemistry, CAS, Department of Polymer Science and Engineering, University of Science and Technology of China, China

P055 Ethylene polymerization and copolymerization with polar monomers by cationic phosphine phosphonic amide palladium complexes

Xuelin Sui, and Changle Chen
Key Laboratory of Soft Matter Chemistry, CAS, Department of Polymer Science and Engineering, University of Science and Technology of China, China

P056 Nickel complex precatalysts toward ethylene polymerization for high branched polyethylenes

Linlin Fan,^{ab} Shizhen Du,^b Cun-Yue Guo,^a and Wen-Hua Sun^b
^aSchool of Chemistry and Chemical Engineering, University of CAS, China. ^bInstitute of Chemistry, CAS, China

P057 Tailor-made low-branched polypropylene prepared by a highly active and robust α -diimine nickel catalyst

Anyang Wu, Feng He, Zhisheng Fu, and Zhiqiang Fan
Department of Polymer Science & Engineering, Zhejiang University, China

P058 Ter-polymerization of norbornene, styrene and butyl acrylate catalyzed by Nd(naph)₃-Al(i-Bu)₃

Weihong Xu,^a Minjie Hu,^a Zhenghui Li,^a Guangming Cai,^a Haoqi Gao,^a Jianghua Fang,^a and **Zhantao Li**^b
^aCollege of Chemical Engineering, Ningbo University of Technology, China. ^bCollege of architectural and civil engineering, Ningbo University of Technology, China

P059 Design and synthesis of (Imido)vanadium(V)-alkylidene complex catalysts for fast living ring-opening metathesis polymerization (ROMP), highly *cis*-specific ROMP

Xiaohua Hou, and Kotohiro Nomura
Department of Chemistry, Tokyo Metropolitan University, Japan

P060 Synthesis and reaction chemistry of (Imido)vanadium(V) complexes, and their use as catalysts for ring opening metathesis polymerization

Kotohiro Nomura, **Hitomi Hayashibara**, Yuki Ootaka, Aurapat Ngamnithipom, and Xiaohua Hou
Department of Chemistry, Tokyo Metropolitan University, Japan

- P061 Emulsion ring opening metathesis polymerization of cyclo-olefin monomers and their unique carbon nanotube composites
Hoang The Ban, Tsutomu Nagamune, Masahiro Shigeta, Mitsugu Uejima, and Yasuo Tsunogae
ZEON CORPORATION, R&D Center, Japan
- P062 Synthesis of (Imido)Niobium(V)-alkyl, -alkylidene complex catalysts for ring-opening metathesis polymerization (ROMP)
Kritdikul Wised, and Kotohiro Nomura
Department of Chemistry, Tokyo Metropolitan University, Japan
- P063 Synthesis of end-functionalized poly(arylene vinylene)s by ADMET polymerization and chain transfer/ wittig-type coupling
Tomonari Miyashita, Akiko Inagaki, and Kotohiro Nomura
Department of Chemistry, Tokyo Metropolitan University, Japan
- P064 Precise one-pot synthesis of end-functionalized star polymers via combined olefin metathesis and wittig-type coupling
Tomohiro Miwata, Kenji Takamizu, Akiko Inagaki, and Kotohiro Nomura
Department of Chemistry, Tokyo Metropolitan University, Japan
- P065 Exclusive end-functionalization of conjugated molecules by combined olefin metathesis with wittig-type coupling
Shuta Ito,^a Sakkawet Yorsaeng,^{a,b} Ken Tsutsumi,^a and Kotohiro Nomura^a
^a*Department of Chemistry, Tokyo Metropolitan University, Japan.* ^b*The Petroleum and Petrochemical College, Chulalongkorn University, Thailand*
- P066 Copolymerization of norbornene, styrene, and maleic anhydride catalyzed by Fe(acac)₃-Al(i-Bu)₃
 Weihong Xu,^a Jianghua Fang,^a Yang Cong,^a Jianping Yang,^a Minjie Hu,^a Guangming Cai,^a Haoqi Gao,^a and **Kejian Cai**^b
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- P067 Relationship between flow instability and mixing condition for linear low-density polyethylene blends
Tomoki Itoh,^a Jirapom Seemork,^a Shogo Nobukawa,^a Hiroko Sasaki,^b Yasuo Satoh,^b and Masayuki Yamaguchi^a
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- P068 Advanced nucleating agent for light weighting of PP and TPO parts for automotive applications
Ryo Yokoyama, Takahiro Horikoshi, Shinichi Ishikawa, and Naoshi Kawamoto
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- P069 Kinetic study of bis(imino)pyridine cobalt complex supported on silica: effect of temperature on the number of active sites, propagation rate constant and MWD of polyethylene produced
Artem Barabanov, Nina Semikolenova, Vladimir Zakharov, and Mikhail Matsko
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- P070 High-throughput chemiluminescence imaging for structure-performance relationship study on polymer anti-oxidants
Toshiaki Taniike, Koyuru Nakayama, and Naoki Aratani
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- P071 Mo-modified Phillips CrOx/SiO₂ catalyst for ethylene polymerization
Ruihua Cheng, Yue Ma, Jiajun Li, and Boping Liu
State Key Laboratory of Chemical Engineering, East China University of Science and Technology, China
- P072 A new catalytic mechanism for end-functional polyolefin-polar block copolymers
Connah Burnett, Paul Goring, Christopher Kay, and Peter Scott
Department of Chemistry, University of Warwick, United Kingdom
- P073 Fabrication of ultra-high molecular weight polyethylene fine particles by MgO/MgCl₂/TiCl₄ core-shell nanocatalyst
Yusuke Bando, Patchanee Chammingkwan, Minoru Terano, and Toshiaki Taniike
School of Materials Science, Japan Advanced Institute of Science and Technology, Japan
- P074 Polyethylene block copolymers: a versatile, 2-step synthesis exploiting a novel radical mechanism
Paul D. Goring, Christopher J. Kay, Connah A. Burnett, and Peter Scott
Department of Chemistry, University of Warwick, United Kingdom
- P075 Effect of hydrogen on Ziegler-Natta catalysts in ethylene polymerization
Thanvathorn Niyomthai, Bunjerd Jongsomjit, and Piyasan Praserttham
Department of Chemical Engineering, Chulalongkorn University, Thailand
- P076 New reactor granule technology for fabrication of functionally advantageous highly filled nanocomposites
Bulbul Maira, Minoru Terano, and Toshiaki Taniike
School of Materials Science, Japan Advanced Institute of Science and Technology, Japan

P077 Effect of F-modification over Phillips Cr/SiO₂ catalyst for ethylene polymerization

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P078 Effect of crystallization temperature on the microvoids formation during uniaxial elongation of β-form iPP

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P079 Woven cloth structure for miscible blends of polypropylene and polybutene-1

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P080 Organic nanoparticles as fragmentable support for Ziegler-Natta catalysts

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P081 High-throughput screening of structure modulators in magnesium ethoxide synthesis

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P082 From process conditions to polymer chain microstructure: modeling and analysis of an industrial catalytic ethylene polymerization reactors series

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P083 Structure and thermal properties of ethylene/4-methyl-1-pentene copolymers by post-metallocene titanium complex

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P084 Extensional properties of polypropylene at capillary extrusion with various die geometries

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P085 New liquid chromatography mode for separation of polypropylene

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P086 Quantitative comparison of both chemical composition and molar mass distribution of ethylene-propylene copolymers

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P087 A novel SiO₂-supported Ti/Mg Ziegler-Natta catalyst for propylene polymerization

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P088 Preparation of PP/SiO₂ nanocomposites through in-situ grafting of end-functionalized PP to nanoparticles

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P089 Synthesis and crystal structures of new MgCl₂-diether complexes

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P090 Novel Cr–V bimetallic catalysts supported by chemically-modified SiO₂ for making bimodal polyethylene products

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P091 Identification of regiodefects in polypropylene formed in quasi-living stopped-flow polymerization process

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P092 Multi-stage ethylene polymerization in a single reactor: the effect of reaction time on melt flow index

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P093 Spectral separation of mixtures of polymers by diffusion-ordered spectroscopy (DOSY) at high temperature

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P094 Structure-performance relationship of various di- and trialkoxysilane external donors used in propylene polymerization

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P095 Original synthesis of a well-defined silica based activating support for metallocene compounds and its application on slurry polymerization of ethylene

Dominique W. Sauter,^a Muhammad A. Bashir,^a Kai C. Szeto,^a Nicolas Popoff,^a Laurent Delevoye,^b Régis M. Gauvin,^b Mostafa Taoufik,^a and Christophe Boisson^a

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P096 Effect of long-chain branching on the structure and elastic properties of syndiotactic propene-1-olefins copolymers

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P097 Novel ethylene-norbornene copolymers via chain shuttling

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P098 Design of coordination environment of silsesquioxane-supported chromium catalyst for ethylene polymerization

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P099 Molecular dynamics study of the combined effects of chain length with temperature on polyethylene isothermal crystallization

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P100 Orientational behaviours of polyolefin materials determined by rheo-Raman spectroscopy

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P101 Investigation of heat generation during initial stage of gas-phase propylene polymerization on a Ziegler-Natta catalyst

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P102 New route for thermal-mechanical shearing devulcanization of waste automotive EPDM rubber using disulfide oil

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P103 Vitamin E as a promising food grade candidate for in-situ stabilization of polyethylene via MAO-free polymerization system

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P104 Inorganic network structures for improvement of thermal conductivity of polypropylene nanocomposites using impregnation method

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P105 Effect of poisoning on active center distribution of Ziegler-Natta catalyst for ethylene polymerization

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P106 Ni(II) α -diimine-catalyzed 1-dodecene polymerization: thermoplastic elastomers of block copolymers

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P107 High- and medium-throughput polyolefin research

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P108 Control of crystallization behavior by introducing functional groups to polypropylene

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P109 Simulation of multiple crystallization elution fractionations (m-CEF): effect of operating conditions

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P110 Molecular weight distribution of ethylene/1-olefin copolymers: generalized bimodality criterion

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P111 Novel nickel (II) complexes chelating β -triketiminato ligand: synthesis, characterization and ethylene polymerization

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P112 Inhibition of initial oxidative degradation of polypropylene using nitroxide radical trapping agent

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