COMMITTEES

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Local Committee

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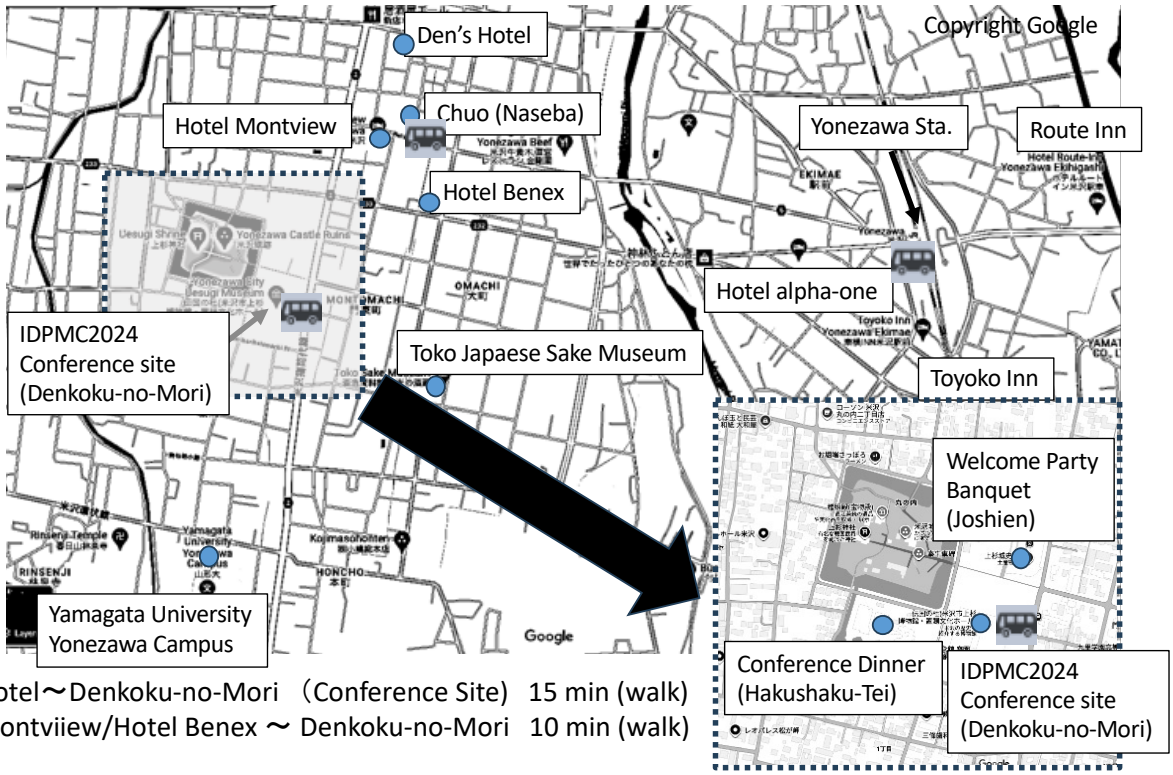
Shinichi Yamasaki	Okayama University

Map



Den's Hotel〜Denkoku-no-Mori （Conference Site） 15 min (walk)
Hotel Montviiew/Hotel Benex 〜 Denkoku-no-Mori 10 min (walk)

Yonezawa Station〜Denkoku-no-Mori 35 min (walk)・10 min (car/Taxi)
(Hotels around Yonezawa Station, We will have shuttle bus.

SHUTTLE BUS

Wednesday, September 17
Afternoon: Yonezawa Station West Gate 16:30 →Denkoku-no-Mori 17:00
Evening: Denkoku-no-Mori 20:00 → Yonezawa Station West Gate 20：30

Wednesday, September 18
Morning: Yonezawa Station West Gate 8:30 → Denkoku-no-Mori 9:00
Evening: Denkoku-no-Mori 20:30 → Yonezawa Station West Gate 21：00

Thursday, September 19
Morning: Yonezawa Station West Gate 8:30 → Denkoku-no-Mori 9:00
Evening: Denkoku-no-Mori 20:30 → Yonezawa Station West Gate 21:00

Friday, September 20
Morning: Yonezawa Station West Gate 8:30 → Denkoku-no-Mori 9:00
Afternoon: Denkoku-no-Mori 14:30 → Toko Japanese Sake Museum 15:00~15:30
→Yamagata University Yonezawa Campus 15:40~16:30
→NaseBA (Chuo, Hotel Montoview) 16:45→Yonezawa Station 17:00

IDMPC2024　Program

Tuesday, September 17, 2024
16:00 – 20:00
Registration/Welcome Dinner: Uesugi Joshien (上杉城史苑)

Wednesday, September 18, 2024
Invited Talk Session: Denkokuno-Mori　（伝国の杜）Hall
09:30 – 09:40 Opening, *Go Matsuba*

Session 1. Confinement/Thin Films (Chair: Dario Cavallo)
09:40 – 10:05
1. In situ AFM observation of folded-chain crystallization of single isolated isotactic PMMA chains.
Jiro Kumaki (Yamagata University)

10:05 – 10:30
2. Crystallization of conjugated polymer thin films: The role of interfaces, molecular characteristics, and thermal processing. *Lucia Fernandez-Ballester (University of Nebraska-Lincoln)*

10:30 – 10:55
3. Tuning crystallization pathways via confinement. *Christopher Li (Drexel University)*

10:55 – 11:10
4. Interfacial effects of polymer crystallization under hard confinement.
Guoming Liu (CAS, Institute of Chemistry)

11:10 – 11:15
Short Break

Session 2. Morphology　(Chair: Claudio De Rosa)
11:15 – 11:40
5. What determines the polymorphic selection during polymer expitaxy.
Shouke Yan (Beijing University of Chemical Technology)

11:40 – 12:05
6. Effects of entanglements and intracrystalline chain diffusion on the morphology of semicrystalline polymers.
Thomas Thurn-Albrecht (Martin Luther University Halle-Wittenberg)

12:05 – 12:20
7. Exploring the effect of chain length heterogeneity on polymer crystallization using precision macromolecules. *Xuehui Dong (South China University of Technology)*

12:20 – 14:00
Lunch and Posters
（Lunch box）

Session 3. Drawing/Simulation/Analysis (Chair: Toshi Miyoshi)
14:00 – 14:15
8. Uniaxial elongation of rolled polytetrafluoroethylene sheets. *Asae Ito (Kanazawa University)*

14:15 – 14:30
9. On the key role of surface energy in crystal orientation in conjugated polymer films.
Oleksandr Dolynchuk (Martin Luther University Halle-Wittenberg)

14:30 – 14:55
10. Superlattice engineering in giant molecules. *Stephen Z.D. Cheng (University of Akron)*

14:55 – 15:20
11. Inner structures of PE and iPP spherulites as revealed by synchrotron X-ray microbeam and computer simulation methods. *Kohji Tashiro (Aichi Synchrotron Radiation Center)*

15:20 – 15:50
Coffee Break

Session 4. Drawing/Simulation/Analysis (Chair: Junichi Takimoto)
15:50 – 16:05
12. Influences of molecular weight distribution on microscopic deformation behavior of polyethylene studied by Raman spectroscopy. *Takumitsu Kida (Shiga Prefectural University)*

16:05 – 16:30
13. Understanding the role of chain entanglement on polymer crystallization: Molecular insights from simulation studies. *Liangbin Li (Chinese University of Science and Technology)*

16:30 – 16:55
14. Entropic Barrier Theory of Polymer Melting, and Energy Cascade.
Muthugappan Muthukumar (University of Massachusetts, Amherst)

16:55 – 17:10
15. Large-scale MD simulations of spontaneous crystallization of stretched polymers.
Katsumi Hagita (National Defense Academy)

17:10 – 17:15
Short Break

Session 5. Drawing/Simulation/Analysis (Chair: M. Muthukumar)
17:15 – 17:30
16. Branches, tie-chains and entanglements in PE single crystals under uniaxial tensile strain.
William Stuart Fall (Université Paris-Saclay)

17:30 – 17:45
17. Structures and mechanical properties of semicrystalline polymers at the molecular level by coarse-grained molecular dynamics simulations. *Yuji Higuchi (Kyushu University)*

17:45 – 18:10
18. Molecular simulation for the effect of polydispersity on polyethylene crystallization from the melts.
Visit Vao-soongnern (Suranaree University of Technology)

18:30- **Conference Dinner: Uesugi Hakushaku-Tei (上杉伯爵邸)**

Thursday, September 19, 2024
Invited Talk Session: Denkokuno-Mori （伝国の杜）Hall
Session 6. Nucleation/General Topics (Chair: Thomas Thurn-Albrecht)
09:15 – 09:40
19. Formation of nano oriented crystals of iPP with soluble nucleating agent by elongational crystallization.
Masamichi Hikosaka (Hiroshima University)

09:40 – 10:05
20. Surface nucleation of polyethylene droplets on polypropylene matrix in immiscible blends
Dario Cavallo (University of Genoa)

10:05 – 10:30
21. Hierarchical structure with a honeycomb fullerene scaffold by a fullerene–triphenylene shape amphiphile.
Yan Cao (South China University of Technology)

10:30 – 10:55
22. Sustainable long-spaced polyesters. Crystallization and properties.
Rufina Alamo (Florida State University)

10:55 – 11:00
Short Break

Session 7. Nucleation/Memory Effects (Chair: Ken Taguchi)
11:00 – 11:25
23. Polymer crystallization as a fingerprint of the molecular structure.
Claudio De Rosa (University of Naples Federico II)

11:25 – 11:50
24. Different types of self-poisoning in polymer crystallization. *Goran Ungar (Xi'an Jiaotong University)*

11:50 – 12:15
25. Recent findings about melt memory in polymer crystallization.
Alejandro Müller (University of the Basque Country, UPV/EHU)

12:15 – 12:20
Group Photo

12:20 – 14:00
Lunch and Posters
（Lunch box）

Session 8. General Topics (Chair: Christopher Li)
14:00 – 14:25
26. Understanding biaxial strain-induced polymer crystallization. *Wenbing Hu (Nanjing University)*

14:25 – 14:50
27. Crystallization during polymerization.
Sanjay Rastogi (King Abdullah University of Science and Technology)

14:50 – 15:05
28. Molecular weight dependence of crystallization behavior in polymers.
Ying Lu (CAS, Changchun Institute of Applied Chemistry)

15:05 – 15:20
29. Crystal growth of cyclic, star and linear poly(p-dioxanone). *Shinichi Yamazaki (Okayama University)*

15:20 – 15:50
Coffee Break

Session 9. Crystal Transition 1 (Chair: Koji Fukao)
15:50 – 16:15
30. Two recent developments in polymer crystallization: Brill transition in nylons and Nucleation by the Fold Surfaces (NFS). *Bernard Lotz (Institut Charles Sadron, CNRS and University of Strasbourg)*

16:15 – 16:40
31. Kinetics of the crystallization and form II to I transition in deuterated polybutene-1.
Yongfeng Men(CAS, Changchun Institute of Applied Chemistry)

16:40 – 17:05
32. Hexagonal phase formation and structural transition in long-chain aliphatic polyester.
Pengju Pan (Zhejiang University)

17:05 – 17:10
Short Break

Session 10. Crystal Transition 2 (Chair: Yongfeng Men)
17:10 – 17:25
33. Polymer crystallization with crystalline nodular aggregation near the glass transition temperature.
Takashi Konishi (Kyoto University)

17:25 – 17:30
34. Crystallization and phase transition of poly(1-butene) and its copolymers. *Zhe Ma(Tianjin University)*

17:30 – 17:55
35. Real-space imaging of crystal-crystal transformation mediated by a mesophase.
Bin Zhang (Zhengzhou University)

18:30- **Banquet: Uesugi Joshien (上杉城史苑)**

Friday, September 20, 2024
Invited Talk Session: Denkokuno-Mori （伝国の杜）Hall
Session 11. Advanced Experiments　(Chair: Alejandro Müller)
09:15 – 09:40
36. Polarized resonant soft X-ray scattering for nanoscale molecular orientation measurements in polymers.
Dean Delongchamp (National Institute of Standards and Technology)

09:40 – 10:05
37. Chain-folding structure is a witness for polymer crystallization and re-organization.
Toshi Miyoshi (University of Akron)

10:05 – 10:30
38. Crystalline structures studied by electron microscopy. *Hiroshi Jinnai (Tohoku University)*

10:30 – 10:55
39. Crystallization kinetics of poly(butylene terephthalate) over broad temperature range.
Akihiko Toda (Hiroshima University)

10:55 – 11:00
Short Break

Session 12. Advanced Experiments/Functional Properties (Chair: Shouke Yan)
11:00 – 11:25
40. TBA
Giuseppe Portale (University of Groninen)

11:25 – 11:50
41. The origin of piezoelectricity in ferroelectric polymers. *Lei Zhu (Case Western University)*

11:50 – 12:05
42. The manipulation of phase transition of poly(vinylidene fluoride) from nonpolar to polar phase with high piezoelectricity. *Xiaoli Sun (Beijing University of Chemical Techology)*

12:05 – 12:30
43. Formation of stereocomplex crystals in reactive elastomers for super-toughening engineering plastics.
Yongjing Li (Hanzhou Normal University)

12:30 – 12:40 Closing

12:40 – 14:00 **Lunch**
（Lunch box）

14:00 –　Excursion (Toko Japanese Sake Museum and Yamagata University)

Poster Session(Tentative: August 9, 2024)

Thursday, September 18, 2024

~12:00 Display the posters
13:00-13:25 Poster Presentation I. (odd number: P1-01, 03, 05, …)
13:25-13:50 Poster Presentation II. (even number: P1-02, 04, 06, …)
~18:00 Remove the posters

P1-01 Spherulite morphology of spherulites of polylactic acid stereocomplex.
Go Matsuba (Yamagata University)

P1-02 Polymer Crystallization Control by Pseudo-Polyrotaxane Nanosheets.
Cong Liu (NIMS)

P1-03 Crystal Structure of Atactic and Isotactic α, α-disubstituted poly-3-hydroxybutyrate: A Chemically Recyclable Poly(hydroxyalkanoate) with Tacticity-Independent Crystallinity.
Miriam Scoti (Università di Napoli Federico II)

P1-04 Crystallization behavior in side sealing process for plastic bag production
Kogen Horikawa (Kochi Prefectural Industrial Technology Center)

P1-05 Monte-Carlo simulation of crystal structures of isotactic polypropylene.
Takumi Takabe (Yamaguchi University)

P1-06 Effect of Crystalline Orientation on Photodegradation and Fragmentation of Isotactic Polypropylene.
Yingjun An (Kyushu University)

P1-07 Morphology and Crystallization Behavior of the Segmented Polyether Ester Block Copolymer PCCD/PTHF.
Mouna Hamid (KU Leuven)

P1-08 Influence of Water Pressure on Structure Decomposition of Polycaprolactone Thin Films in Seawater Immersion Treatments.
Sono Sasaki (Kyoto Institute of Technology)

P1-09 Effect of Initial Crystallization Time on Low Temperature βα Growth Transition of Isotactic Polypropylene During Stepwise Crystallization.
Ziyuan Zhou (Zhengzhou University)

P1-10 Helical Arrangements within the α-Form Crystal of Isotactic Polypropylene.
Kouji Yamada (Toyobo Co., Ltd.)

P1-11 Effects of branched molecule addition on the crystallization and high-order structure of Poly(L-lactic acid).
Norihiko Sakaguchi (The University of Shiga Prefecture)

P1-12 Spherulite size and fracture behavior of poly(oxymethylene) containing branched molecules.
Shun Sugawa (The University of Shiga Prefecture)

P1-13 Effect of humidity on crystallization morphology of polyethylene oxide in ultrathin films.
Hailong Zou (Zhengzhou University).

P1-14 Nanoscale mechanisms of strain-induced crystallization of isoprene rubbers revealed by electron diffraction mapping.
Tomohiro Miyata (Tohoku University)

P1-15 Influence of Tearing Rate on Hieratical Structure Change of Poly(butylene succinate) / Poly(butylene succinate-co-butylene adipate) Blend Films during Tearing.
Keito Shimakawa (Kyoto Institute of Technology)

P1-16 Effect of dewetting on isothermal crystallization kinetics from the melt of marine-degradable linear polyesters in thin films.
Ryu Miyajima (Kyoto Institute of Technology)

P1-17 Wall Slip Behaviors of Crystallized Polypropylene and its Blends during Oscillatory Shear.
Xinyang Zhao (Shanghai Jiao Tong University)

P1-18 Effect of shear rate on flow-induced crystallization of high-density polyethylene evaluated by rheo-Raman spectroscopy.
Naoki Uenishi (The University of Shiga Prefecture)

P1-19 The size of the critical nucleus of polymer crystals does not depend on supersaturation.
Yang Liu (Tsinghua university)

P1-20 The Isothermal Melting Kinetics of Ultrahigh Molecular Weight Polyethylene Crystals.
Binghua Wang (Zhengzhou University)

P1-21 Probing into the Selective Nucleation Mechanism of Poly (methyl methacrylate) Modified Cellulose Nanocrystals in Enantiomeric Poly(lactic acid)s.
Jianming Zhang (Qingdao University of Science and Technology)

P1-22 Solidification Temperature and Crystallization Behavior of Short Fiber-Reinforced Polypropylene by Flash Differential Scanning Calorimetry.
Qing Jiang (Yamagata University)

P1-23 Effect of carbon fiber-MWCNT multiscale reinforcement on the Structure and Physical properties of the PEEK composite.
Takumi Okihara (Okayama University)

P1-24 The Effect of Long Alkyl Side Chains on the Response Temperature and Speed of Shape Memory Gels.
Daiki Hinata (Yamagata University)

P1-25 Preparation of Poly(lactic acid) Microspheres with Controllable content of Stereocomplex Crystals Based on Microfluidics.
Junfeng Liu (Institute of Zhejiang University – Quzhou)

P1-26 Temperature-Dependent Triple Crystal Polymorphism and Crystal Structure-Property Relationship of Poly(hexamethylene terephthalate).
Ying Zheng (Institute of Zhejiang University – Quzhou)

P1-27 Investigation on the Crystallization and Mechanical Properties of Polyvinyl Alcohol Nanocomposite with Cellulose Nanofiber.
Farjana Prova (Hiroshima University)

P1-28 Molecular Design of Efficient Polymeric Nucleating Agent.
Xuewei Wei (Tsinghua University)

P1-29 Avoiding kinetic trapping in self-assembly of DNA-functionalized gold nanoparticles by using enthalpy-mediated strategy.
Yunhan Zhang (University of Science and Technology of China)

P1-30 Molecular simulation for the effect of interchain interaction on polymer crystallization upon step-wise cooling from the melts.
Chidapha Kusinram (Suranaree University of Technology)

P1-31 Effect of chain conformation on nucleation of polymer crystallization.
Hiroshi Yokota (Kyoto University)

P1-32 3D Morphologies of Semicrystalline Polymers Revealed by Optical Tomography
Goran Ungar (Xi'an Jiatong University)

P1-33 Structural analysis of crystal lattice in the blend of syndiotactic polystyrene and modified polyphenylene ether.
Satoshi Kusano (Yamagata University)

P1-34 Effect of Cellulose Nanofiber on the Crystal Structure of Poly (vinylidene fluoride)/Organoclay Composites.
Masato Hoshi (Yamagata University).

Thursday, September 19, 2024
~12:00 Display the posters
13:00-13:25 Poster Presentation III. (odd number: P2-01, 03, 05, …)
13:25-13:50 Poster Presentation IV. (even number: P2-02, 04, 06, …)
~18:00 Remove the posters

P2-01 Secondary crystallization of low isotacticity polypropylene.
Yoshitomo Furushima (Toray Research Center, Inc.)

P2-02 In-situ Monitoring and Tuning Multilayer Stacking of Polymer Lamellar Crystals in Solution with Aggregation-Induced Emission.
Jun Xu (Tsinghua Univeristy)

P2-03 Brill Transition and Crystallization Morphology Evolution of Polyamide 1012 and Its copolymers.
Xia Dong (Beijing National Laboratory for Molecular Science)

P2-04 Origin of melt memory in polymers with weak intermolecular interactions.
Leire Sangroniz (University of the Basque Country)

P2-05 Continuous fabrication of supertoughened poly(lactic acid) filaments and investigation on the toughening mechanism.
Shanshan Xu (Zhengzhou University)

P2-06 Backbone Conformation of Hypo-crystal Poly(methyl methacrylate) Crystallized by Rapid Thermal Quenching Method with Entropy Diluents.
Van Thanh Vu (Hanyang University)

P2-07 Discovering new crystallization modes in random copolymers.
Ricardo Perez (University of the Basque Country)

P2-08 Crystallization and Degradation Behavior of Poly (4-Hydroxybutyrate)/ Sorbitol and Its Application in Bone Regeneration.
Zhihua Gan (Beijing University of Chemical Technology)

P2-09 Reactive Blending of PGA and Flexible Polyesters Using Environmentally Friendly and Cost-Effective Biodegradable Chain Extenders.
Ni Jiang (Beijing University of Chemical Technology)

P2-10 Deformation Behaviors of High-Density Polyethylene Analyzed by Nanodiffraction Imaging.
Shusuke Kanomi (Tohoku University)

P2-11 Evaluation of Staining Effect on the Morphology and Crystal Structure of Polyethylene Crystals.
Kai Chen (Tohoku University)

P2-12 Vibration-damping properties of conventional polymers blended with main-chain liquid crystalline polymers.
Keigo Sawada (The University of Shiga Prefecture)

P2-13 Molecular dynamics simulation of the nucleosome structural change process.
Takumi Hagiwara (Kyushu University)

P2-14 In situ real-time AFM of chain movements at the topmost surface of polymer films.
Jiro Kumaki (Yamagata University)

P2-15 "Printing" on Polymer Single Crystals.
Tianyu Wu (China University of Petroleum (Beijing))

P2-16 Application of fast scanning calorimetry for investigation of polymer melting and crystallization during additive manufacturing.
Evgeny Zhuravlev (University of Rostock)

P2-17 Study on Ultrahigh Strength and Toughness of Polylactide with Small Amount of Elastomer via Controlling Crystal Morphology by Pressure-induced Flow Processing.
Wanyu Wang (University of Science and Technology of China)

P2-18 Analysis of failure in high-density polyethylene doped with aggregation-induced emission dye.
Yusuke Momoi (Kanazawa University)

P2-19 Crystallization of a double crystallizable PBT/PEG multi-block copolymer at high supercooling studied via fast scanning calorimetry and synchrotron X-ray scattering.
Ilya Mongilyov (KU Leuven)

P2-20 Non-Isothermal Crystallization Kinetics of Polypropylene.
Shuhei Yasuda (Mazda Motor Corporation)

P2-21 Self-nucleation Induced Non-linear Growth of Polymer Spherulites.
Yaguang Lu (Zhengzhou University)

P2-22 Evaluation of Crystallinity and Gas Barrier Properties of P(MMA-*co*-SA) Gels.
Koh Yoshida (Yamagata University)

P2-23 Development of A Polymer Gel with High Adhesion to Polytetrafluoroethylene.
Toshiya Yamasaki (Yamagata University)

P2-24 Crystal Structure and Microstructure Effects on Gas Transport Behavior of Poly(ether-*b*-amide) Multiblock Copolymers.
Sinan Feng (Kyushu University)

P2-25 Investigating the Impact of Carbonyl Group Incorporation on High-Density Polyethylene Semicrystalline Properties.
Mohd Afiq Bin Anuar (Martin-Luther-Universität Halle-Wittenberg)

P2-26 Beta-alpha recrystallization mechanism of isotactic polypropylene.
Dong Lyu (Changchun Institute of Applied Chemistry, CAS)

P2-27 Semicrystalline morphology, intra-crystalline diffusion and mechanical modulus of selected aliphatic polyesters.
Qiang Yu (Martin-Luther-University Halle-Wittenberg)

P2-28 Structural Interpretation of Strain-Hardening Behavior of Semi-Crystalline Polymer Solids
Sanshiro Kimura (The University of Shiga Prefecture)

P2-29 Nanoporous polymers fabricated via solvent-induced crystallization of poly(ether sulfone)
Sadaki Samitsu (National Institute for Materials Science)

P2-30 Molecular Dynamics Simulations of Polymer crystallization: the Role of Chain Entanglement.
Fan Peng (University of Science and Technology of China)

P2-31 Monte Carlo simulation of polymer crystallization with the effect of entanglement.
Jinxu Yan (Nanjing University)

P2-32 Controlled phase separation of amphiphilic-type random copolymers with long-branched crystalline side chains.
Kaito Yui (Yamagata University)

P2-33 Structural analysis of two species modified ramie using synchrotron radiation.
Mitsuhiro Hirata (Yamagata Research Institute of Technology)

P2-34 Multiscale Visco-Elasto-Plasticity Modeling Considering Spherulite Structure of Crystalline Polymers.
Yoshiteru Aoyagi (Tohoku University)

P2-35 Entropy-Driven Preordering Assists Nucleation in Polyethylene.
Renkuan Cao (University of Science and Technology of China)

Underline: Candidate of Student Poster Award

Abstract Website

https://www.idmpc2024.com/abstract-of-idmpc2024/

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Go Matsuba, Professor, Yamagata University

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