

Polymer Hot Information on the Latest Week's Articles (in April, 2021)

On April 5, 2021

Review

Molecular Triangles: A New Class of Macrocycles

Yu Wang, Huang Wu, and J. Fraser Stoddart*

Accounts of Chemical Research, Articles ASAP (Article), Publication Date (Web): April 1, 2021

<https://doi.org/10.1021/acs.accounts.1c00108>

- ・三角剛直構造をもつ低分子化合物を結晶配列制御、超分子構造や構造体形成に展開、高分子化も可？

Hydrogen Bonding in Self-Healing Elastomers

Zhulu Xie, Ben-Lin Hu,* Run-Wei Li,* and Qichun Zhang*

ACS Omega, Articles ASAP (Perspective), Publication Date (Web): March 29, 2021

<https://doi.org/10.1021/acsomega.1c00462>

- ・水素結合利用の自己修復型エラストマー分子設計から導電性フィルム/人工皮膚/アクチュエーターまで

Discovery of Semi- and Fully-Synthetic Carbohydrate Vaccines Against Bacterial Infections Using a Medicinal Chemistry Approach (Focus Review)

Peter H. Seeberger*

Chemical Reviews, Articles ASAP (Review), Publication Date (Web): April 1, 2021

<https://doi.org/10.1021/acs.chemrev.0c01210>

- ・半～完全人工合成の多糖類利用のバクテリア感染症用ワクチン開発状況、糖複合体の化学は偉大なり

Plastic Pollution: A Material Problem?

Jonathan M. Millican and Seema Agarwal*

Macromolecules, Articles ASAP (Perspective), Publication Date (Web): April 2, 2021

<https://doi.org/10.1021/acs.macromol.0c02814>

- ・100歳を超えたポリマーの存在意義をプラスマイナス両面での理解が重要であることを実感させられる

New Insights into the Formulation and Polymerization of Pickering Emulsions Stabilized by Natural Organic Particles

Hanaé Dupont, Valentin Maingret, Véronique Schmitt,* and Valérie Héroguez*

Macromolecules, Articles ASAP (Perspective), Publication Date (Web): March 31, 2021

<https://doi.org/10.1021/acs.macromol.1c00225>

- ・バイオベース(分子から集合体まで)の粒子状材料をピッカリングエマルジョンに利用して機能応用拡大

Heterogeneous photocatalytic reversible deactivation radical polymerization (From the themed collection: Polymer Chemistry Pioneering Investigators 2021)

Zixin An, Shilong Zhu and Zesheng An

Polym. Chem., 2021, Advance Article; The article was first published on 12 Mar 2021

<https://doi.org/10.1039/D1PY00130B>

- ・光制御リビングラジカル重合利用可能な光レドックス金属酸化物/量子ドット/ペロブスカイト/MOF 他

Synthetic approaches for copolymers containing nucleic acids and analogues: challenges and opportunities (From the themed collection: Polymer Chemistry Pioneering Investigators 2021)

Hao Lu, Jiansong Cai and Ke Zhang

Polym. Chem., 2021, Advance Article; The article was first published on 29 Mar 2021

<https://doi.org/10.1039/D0PY01707H>

- ・核酸を含む合成ポリマーの分子設計/合成反応制御/構造制御/機能設計、リビングラジカル重合も活用

What Does Conversion Mean in Polymer Science?

Hans R. Kricheldorf,* Felix Scheliga, and Steffen M. Weidner

Macromol. Chem. Phys., Version of Record online: 26 March 2021

<https://doi.org/10.1002/macp.202100010>

- ・単純な conversion(モノマー消費=ポリマー生成)以外の環化反応/高分子反応を含めて基本事項から解説

Synthesis of polymers containing vicinal tricarbonyl moiety and construction of reversible crosslinking–decrosslinking polymer system

Takeshi Endo,* Morio Yonekawa and Atsushi Sudo
Polymer International, First published: 14 March 2021
<https://doi.org/10.1002/pi.6222>

・連続するトリカルボニル構造を架橋点に組み込む分子設計で可逆的架橋/脱架橋系の提案から確立まで

An update on the future prospects of glycerol polymers

Shailja Goyal, Nacú B Hernández and Eric W Cochran*
Polymer International, Version of Record online: 25 March 2021
<https://doi.org/10.1002/pi.6209>

・グリセリンをポリグリセロール/縮合系ポリマー/ビニルポリマー側鎖/多分岐ポリマーなどに利用展開

Polymer Synthesis

High Refractive Index Photopolymers by Thiol-Yne “Click” Polymerization

Sudheendran Mavila, Jasmine Sinha, Yunfeng Hu, Maciej Podgórski, Parag K. Shah, and Christopher N. Bowman*
ACS Applied Materials & Interfaces, Articles ASAP, Publication Date (Web): March 29, 2021
<https://doi.org/10.1021/acsami.1c00831>

・チオール-イン反応で高屈折材料を合成、チオールの反応例に応じて屈折率が 1.6-1.7 間で制御可能

Mechanically Responsive Luminescent Polymers Based on Supramolecular Cyclophane Mechanophores

Yoshimitsu Sagara,* Hanna Traeger, Jie Li, Yuji Okado, Stephen Schrettl, Nobuyuki Tamaoki, and Christoph Weder*
Journal of the American Chemical Society, Articles ASAP (Article), Publication Date (Web): March 30, 2021
<https://doi.org/10.1021/jacs.1c01328>

・シクロファン型のジオールからポリウレタン合成、張力で機能団スタッキング on/off して光機能発現

Bottlebrush Polymers Carrying Side Chains on Every Backbone Atom: Controlled Synthesis, Polymerization-Induced Emission, and Circularly Polarized Luminescence

Wen-Bin Liu, Xun-Hui Xu, Shu-Ming Kang, Xue Song, Li Zhou, Na Liu, and Zong-Quan Wu*
Macromolecules, Articles ASAP (Article), Publication Date (Web): March 30, 2021
<https://doi.org/10.1021/acs.macromol.1c00016>

・主鎖が剛直なポリイソシアニド型のボトルブラシポリマーの側鎖ポリマーにキラル導入して AIE/CPL 化

PLP-SEC Investigation of the Influence of Electrostatic Interactions on the Radical Propagation Rate Coefficients of Cationic Monomers TMAEMC and MAPTAC

Anna Urbanová, Ikenna H. Ezenwajiaku, Anatoly. N. Nikitin, Marián Sedlák, Hugo M. Vale, Robin A. Hutchinson, and Igor Lacík*
Macromolecules, Articles ASAP (Article), Publication Date (Web): March 30, 2021
<https://doi.org/10.1021/acs.macromol.1c00263>

・側鎖カチオン型メタクリル酸エステル_kp を PLP-SEC 解析、イオン性モノマー成長反応の特異性解明

Photocontrolled bromine-iodine transformation reversible-deactivation radical polymerization: facile synthesis of star copolymers and unimolecular micelles

Haihui Li, Haitao Zhao, Lan Yao, Lifeng Zhang,* Zhenping Cheng* and Xiulin Zhu
Polym. Chem., 2021, Advance Article; The article was first published on 24 Mar 2021
<https://doi.org/10.1039/D1PY00006C>

・光制御型リビングラジカル重合でマクロモノマーをブロック重合して星型ポリマー/1分子ミセル合成

Cross-linked polyurethane with dynamic phenol-carbamate bonds: properties affected by the chemical structure of isocyanate

Jiaxin Shi, Tianze Zheng, Yao Zhang, Baohua Guo and Jun Xu*
Polym. Chem., 2021, Advance Article; The article was first published on 23 Mar 2021
<https://doi.org/10.1039/D1PY00157D>

・フェノールとカルバメート間の動的結合交換を活用した自己修復型架橋ポリウレタンの合成物性設計

Synthesis of a smart bisbenzoxazine with combined advantages of bismaleimide and benzoxazine resins and its unexpected formation of very high performance cross-linked polybenzoxazole

Kan Zhang, Boran Hao, Hatsuo Ishida
Polymer, Volume 223, 3 May 2021, Article 123703, Available online 28 March 2021
<https://doi.org/10.1016/j.polymer.2021.123703>

- ・折れ曲がり状の分子構造をもつビス型ベンゾオキサジンマレイミドを用いた耐熱性の硬化物材料設計

The effects of the toughening mechanism and the molecular weights between cross-links on the fatigue resistance of epoxy polymer blends

Hajime Kishi, Satoshi Matsuda, Jin Imade, Yusuke Shimoda, Takateru Nakagawa, Yoshio Furukawa

Polymer, Volume 223, 3 May 2021, Article 123712, Available online 30 March 2021

<https://doi.org/10.1016/j.polymer.2021.123712>

- ・ core-shell 型ゴム添加系エポキシ樹脂の耐疲労特性に対する架橋点間分子量の影響を亀裂伸展から評価

Polymer Degradation

Recyclable ethylene-vinyl acetate copolymer vitrimer foams

Lin Cheng, Sijun Liu, Wei Yu

Polymer, Volume 222, 22 April 2021, Article 123662

<https://doi.org/10.1016/j.polymer.2021.123662>

- ・ エチレン/酢酸ビニルコポリマー発泡材料をボロン酸/リン酸/カルボン酸エステル動的共有結合で架橋

Bio-based & Biomedical Polymers

Highly Stretchable, Ultratough, and Multifunctional Poly(vinyl chloride)-Based Plastics via a Green, Star-Shaped Macromolecular Additive

Wei-Guang Chen, Hai-Jie Wei, Jiancheng Luo, Yu Chen,* and Peng-Fei Cao*

Macromolecules, Articles ASAP (Article), Publication Date (Web): April 2, 2021

<https://doi.org/10.1021/acs.macromol.1c00029>

- ・ PVC 用のバイオベース PCL 系可塑剤を新規提案、新規可塑剤 PCL 柔軟シエルが PVC と分子間相互作用

The in-vitro biocompatibility of ureido-pyrimidinone compounds and polymer degradation products

Paul J. Besseling, Tristan Mes, Anton W. Bosman, Joris W. Peeters, Henk M. Janssen, Maarten H. Bakker, Joost O.

Fledderus, Martin Teraa, Marianne C. Verhaar, Hendrik Gremmels, Patricia Y. W. Dankers

J. Polym. Sci., Version of Record online: 29 March 2021

<https://doi.org/10.1002/pol.20210072>

- ・ ウレイド-ピリミジン型の超分子ポリマーをバイオ利用するために生体適合性/分解性他を具体的に評価

Eugenol, a developing asset in biobased epoxy resins

Sylvain Caillol, Bernard Boutevin, Remi Auvergne

Polymer, Volume 223, 3 May 2021, 123663, Available online 23 March 2021

<https://doi.org/10.1016/j.polymer.2021.123663>

- ・ オイゲノールベースのエポキシ材料開発、目の前にある材料を用いて多官能エポキシを地道に合成

Polymer Materials

Fractal-Based Stretchable Circuits via Electric-Field-Driven Microscale 3D Printing for Localized Heating of Shape Memory Polymers in 4D Printing

Yuan-Fang Zhang, Zhenghao Li, Hongke Li, Honggeng Li, Yi Xiong, Xiaoyang Zhu,* Hongbo Lan,* and Qi Ge*

ACS Applied Materials & Interfaces, Articles ASAP (Forum Article), Publication Date (Web): March 29, 2021

<https://doi.org/10.1021/acsami.1c0357>

- ・ 形状記憶ポリマーを利用してストレッチャブル電子回路材料を 3D プリンティング、加熱形状変化誘起

Effect of Urea Links in the Backbone of Polyimide Aerogels

Baochau N. Nguyen,* Daniel A. Scheiman,* Mary Ann B. Meador, Jiao Guo, Bart Hamilton, and Linda S. McCorkle

ACS Applied Polymer Materials, Articles ASAP (Article), Publication Date (Web): April 1, 2021

<https://doi.org/10.1021/acsapm.1c00085>

- ・ 尿素構造を導入して分子間水素結合補強して良好な機械特性を示す軽量ポリイミドエアロゲルを作製

Photodeformable Azobenzene-Containing Polyimide with Flexible Linkers and Molecular Alignment

Panpan Zhang, Zhongxu Lan, Jia Wei,* and Yanlei Yu*

ACS Macro Lett. 2021, 10, 469–475, Publication Date (Web): March 31, 2021

<https://doi.org/10.1021/acsmacrolett.1c00040>

- ・ 光応答性アゾ基を含むポリイミドに柔軟な構造を導入して分子配列誘起を促進して形状変化アシスト

PMMA-b-PNIPAM Thin Films Display Cononsolvency-Driven Response in Mixed Water/Methanol Vapors

Christina Geiger, Julija Reitenbach, Lucas P. Kreuzer, Tobias Widmann, Peixi Wang, Robert Cubitt, Cristiane Henschel, André Laschewsky, Christine M. Papadakis, and Peter Müller-Buschbaum*
Macromolecules, Articles ASAP (Article), Publication Date (Web): April 2, 2021
<https://doi.org/10.1021/acs.macromol.1c00021>

・RAFT 重合で合成した PMMA/PNIPAM ブロック共重合体薄膜の水/メタノール溶解・相互作用を解析

Tunable Hydrophobicity via Dimensionally Confined Polymerization of Organometallic Adducts

Julia J. Chang, Chuanshen Du, Alana Pauls, and Martin Thuo
Angew. Chem. Int. Ed., Version of Record online: 01 April 2021
<https://doi.org/10.1002/anie.202101795>

・シード粒子の親水性疎水性/Wenzel-Cassie 型作用で生成ポリマー粒子の形状を制御、機構詳細は複雑

The re-manufacture and repairability of poly(ether ether ketone) discontinuous carbon fibre composites

Samuel Erland, Henry Stevens and Luke Savage
Polymer International, Version of Record online: 26 March 2021
<https://doi.org/10.1002/pi.6220>

・ポリエーテルエーテルケトン/炭素繊維複合材料の再利用で単純に再成形するだけで元の強度を保持

Polymer Structure & Physics

Editorial: Tribute to Takeji Hashimoto

Polymer, Volume 222, 22 April 2021, Article 123676
<https://doi.org/10.1016/j.polymer.2021.123676>

Adhesion & Interface Science

Light-Switchable Adhesion of Azobenzene-Containing Siloxane Based Tough Adhesive

Peng Zhang, Feng Cai, Wenzhong Wang, Guojie Wang,* and Haifeng Yu*
ACS Applied Polymer Materials, Articles ASAP (Letter), Publication Date (Web): April 1, 2021
<https://doi.org/10.1021/acsapm.1c00170>

・UV と可視光でアゾベンゼン単位の異性化誘起、接着性制御の機構が理解しづらい？ Figure 4 の意味も？

Effectiveness of cell adhesive additives in different supramolecular polymers

Ronald C. van Gaal, Bastiaan D. Ippel, Sergio Spaans, Muhabbat I. Komil, Patricia Y. W. Dankers
J. Polym. Sci., Version of Record: 29 March 2021
<https://doi.org/10.1002/pol.20210073>

・ポリウレタン/ポリエステル系のエラストマーに超分子相互作用官能基を導入して細胞接着性を制御

Crystal Engineering

Diacetylene-Based Colorimetric Radiation Sensors for the Detection and Measurement of γ Radiation during Blood Irradiation

Apoorva Mittal, Shalini Verma, Gopishankar Natanasabapathi, Pratik Kumar,* and Akhilesh K. Verma*
ACS Omega, Articles ASAP (Article), Publication Date (Web): March 29, 2021
<https://doi.org/10.1021/acsomega.0c06184>

・血液バッグ用の高精度の照射線量インディケータに PDA を利用、種々アミド誘導体の色調変化検討

Influence of Volume on the Nucleation of Model Organic Molecular Crystals through an Induction Time Approach

Isaac Jerome C. Dela Cruz, Jem Valerie Perez, Bryan Genciano Alamani, Gerard Capellades, and Allan S. Myerson*
Crystal Growth & Design, Articles ASAP (Article), Publication Date (Web): April 2, 2021
<https://doi.org/10.1021/acs.cgd.1c00101>

・アセトアミノフェンやグリシンの結晶の過冷却状態での核形成までの確率的な誘導期間を容量で制御

General Chemistry & Others

Determining the three-dimensional atomic structure of an amorphous solid

Yao Yang, Jihan Zhou, Fan Zhu, Yakun Yuan, Dillan J. Chang, Dennis S. Kim, Minh Pham, Arjun Rana, Xuezheng Tian, Yonggang Yao, Stanley J. Osher, Andreas K. Schmid, Liangbing Hu, Peter Ercius & Jianwei Miao
Nature, **592**, 7852, 2021 年 4 月 1 日 <https://www.nature.com/articles/s41586-021-03354-0>
News & View: Atomic structure of a glass imaged at last, [Atomic structure of a glass imaged at last \(nature.com\)](https://www.nature.com/articles/s41586-021-00794-6)
PDF: [d41586-021-00794-6.pdf \(nature.com\)](https://www.nature.com/articles/s41586-021-00794-6.pdf) (要約)材料科学：アモルファス固体の三次元原子構造の決定
<https://www.natureasia.com/ja-jp/nature/592/7852/s41586-021-03354-0/>

On April 12, 2021

Reviews

Tailoring of Peptide Vesicles: A Bottom-Up Chemical Approach

V. Haridas*

Accounts of Chemical Research, Articles ASAP (Article), Publication Date (Web): April 6, 2021

<https://doi.org/10.1021/acs.accounts.0c00690>

- ・分子間水素結合組み込み型合成ププチドでベシクル形成制御、旧来の親水/疎水バランスとは別の世界

Nanoscale Materials and Deformable Device Designs for Bioinspired and Biointegrated Electronics

Woongchan Lee, Huiwon Yun, Jun-Kyul Song, Sung-Hyuk Sunwoo, and Dae-Hyeong Kim*

Accounts of Materials Research, Articles ASAP (Article), Publication Date (Web): March 30, 2021

<https://doi.org/10.1021/accountsmr.1c00020>

- ・実用的な材料開発の立場からのバイオエレクトロニクス関連分野でのソフトマテリアルの応用最前線

Toward Designing of Anti-infective Hydrogels for Orthopedic Implants: From Lab to Clinic

Deepa Garg, Ishita Matai,* and Abhay Sachdev

ACS Biomaterials Science & Engineering, Articles ASAP (Review), Publication Date (Web): April 7, 2021

<https://doi.org/10.1021/acsbmaterials.0c01408>

- ・抗菌、抗感染性のハイドロゲルの表面特性制御の外科的治療などへの応用を含めた実用的な話題紹介

Poly(aspartic acid) in Biomedical Applications: From Polymerization, Modification, Properties, Degradation, and Biocompatibility to Applications

Hossein Adelnia, Huong D.N. Tran, Peter J. Little, Idriss Blakey, and Hang T. Ta*

ACS Biomaterials Science & Engineering, Articles ASAP (Review), Publication Date (Web): April 2, 2021

<https://doi.org/10.1021/acsbmaterials.1c00150>

- ・ポリアスパラギン酸の医用材料に関する用途や特性に応じて分子/材料設計から応用までを詳しく解説

Clip Chemistry: Diverse (Bio)(macro)molecular and Material Function through Breaking Covalent Bonds

Peyton Shieh,* Megan R. Hill, Wenxu Zhang, Samantha L. Kristufek, and Jeremiah A. Johnson*

Chemical Reviews, Articles ASAP (Review), Publication Date (Web): April 6, 2021

<https://doi.org/10.1021/acs.chemrev.0c01282>

- ・クリックケミストリーならぬクリップケミストリー新規に提案、それが何たるかは総説中で説明あり

Molecular Pumps and Motors

Yuanning Feng, Marco Ovalle, James S. W. Seale, Christopher K. Lee, Dong Jun Kim, R. Dean Astumian,* and J. Fraser Stoddart*

Journal of the American Chemical Society, Articles ASAP (Perspective), Publication Date (Web): April 8, 2021

<https://doi.org/10.1021/jacs.0c13388>

- ・ケミカルな分子機械も生物系に負けず劣らず進化していて再先端の仕組みを理解するにはひと苦労

Recent update on potential cytotoxicity, biocompatibility and preventive measures of biomaterials used in dentistry

Ranjeet Ajit Bapat, Abhishek Parolia, Tanay Chaubal, Suyog Dharamadhikari, Anshad Mohamed Abdulla, Nasil Sakkir, Suraj Arora, Prachi Bapat, Amal M. Sindi and Prashant Kesharwani*

Biomater. Sci., 2021, Advance Article; The article was first published on 09 Apr 2021

<https://doi.org/10.1039/D1BM00233C>

- ・歯科用材料全般、ビスジグリシジルメタクリレート(bisBMA)やコンポジットレジンなどポリマー関連も

2D Self-assembled molecular networks and on-surface reactivity under nanoscale lateral confinement

Lander Verstraete* and Steven De Feyter

Chem. Soc. Rev., 2021, Advance Article; The article was first published on 09 Apr 2021

<https://doi.org/10.1039/D0CS01338B>

- ・2D 基板上の有機低分子の自己配列に面内方向で外部制限を加えて配列を高度に制御、PDAにも応用可

Emerging open microfluidics for cell manipulation

Qiang Zhang, Shuo Feng, Ling Lin,* Sifeng Mao and Jin-Ming Lin
Chem. Soc. Rev., 2021, Advance Article; The article was first published on 29 Mar 2021
<https://doi.org/10.1039/DOCS01516D>

・細胞分離/マニピュレーションへのオープンマイクロフローシステムの応用に関する研究展開最新状況

Recent Advances in Polymeric Nanoparticles for Enhanced Fluorescence and Photoacoustic Imaging

Sing Yee Ong, Changyu Zhang, Xiao Dong,* and Shao Q. Yao*
Angew. Chem. Int. Ed., Version of Record online: 08 April 2021
<https://doi.org/10.1002/anie.202101964>

・蛍光/AIE/光音響イメージングに用いるポリマーナノ粒子に関する 2017–2020 の最新研究を簡潔に紹介

Liquid-Based Adaptive Structural Materials

Jian Zhang, Baiyi Chen, Xinyu Chen, and Xu Hou
Adv. Mater., Version of Record online: 08 April 2021
<https://doi.org/10.1002/adma.202005664>

・見逃しそうなタイトルだが、液体に分散した微粒子挙動や固体表面上の液体流動など有用な内容満載

Polymer Synthesis

Spontaneous Patterning during Frontal Polymerization

Evan M. Lloyd, Elizabeth C. Feinberg, Yuan Gao, Suzanne R. Peterson, Bhaskar Soman, Julie Hemmer, Leon M. Dean, Qiong Wu, Philippe H. Geubelle,* Nancy R. Sottos,* and Jeffrey S. Moore*
ACS Central Science, Articles ASAP (Research Article), Publication Date (Web): March 24, 2021
<https://dx.doi.org/10.1021/acscentsci.1c00110>

・メタセシス系フロントル重合の最新応用研究、単純パターンニングから将来的には生物形態発現も視野に上記の解説記事 **A New Approach to Manufacturing with Frontal Polymerization to Generate Patterned Materials** John A. Pojman Sr. フロントル重合を最初に提唱、[Research & Publications - John A. Pojman](#), 背景の本棚に注目
ACS Central Science, Articles ASAP (First Reactions), Publication Date (Web): March 29, 2021
<https://doi.org/10.1021/acscentsci.1c00341>

Ultraviolet Light- or pH-Triggered Nitric Oxide Release from a Water-Soluble Polymeric Scaffold

Soumya Paul,§ Swagata Pan,§ Ayan Chakraborty, Priyadarsi De,* and Arindam Mukherjee*
ACS Applied Polymer Materials, Articles ASAP (Letter), Publication Date (Web): April 6, 2021
<https://doi.org/10.1021/acsapm.0c01375>

・無水マレイン酸/スチレン交互共重合体を機能化し紫外光/pH 応答で NO 放出する水溶性ポリマー合成

Dependence of Copolymer Composition in Radical Polymerization on Solution Properties: A Quantitative Thermodynamic Interpretation

Peter Deglmann, Klaus-Dieter Hungenberg,* and Hugo M. Vale
Industrial & Engineering Chemistry Research, Articles ASAP, Publication Date (Web): April 7, 2021
<https://doi.org/10.1021/acs.iecr.1c0028>

・ラジカル共重合系の溶媒効果を実験と計算に基づいて議論展開、HEA 溶媒依存性は重大？引用文献必読

From Photoinduced Supramolecular Polymerization to Responsive Organogels

Fan Xu, Lukas Pfeifer, Stefano Crespi, Franco King-Chi Leung, Marc C. A. Stuart, Sander J. Wezenberg, and Ben L. Feringa*
Journal of the American Chemical Society, Articles ASAP (Article), Publication Date (Web): April 8, 2021
<https://doi.org/10.1021/jacs.1c01802>

・超分子ポリマー系で分子機械を駆動、ノベル賞受賞もポリマー材料/オルガノゲル分野に参入の傾向

Multiblock Copolymer Synthesis via Reversible Addition– Fragmentation Chain Transfer Emulsion Polymerization: Effects of Chain Mobility within Particles on Control over Molecular Weight Distribution

Glenn K. K. Clothier, Thiago R. Guimaraes, Graeme Moad, and Per B. Zetterlund*
Macromolecules, Articles ASAP (Article), Publication Date (Web): April 5, 2021
<https://doi.org/10.1021/acs.macromol.1c00345>

・RAFT シード乳化重合で両親媒性マルチブロック共重合体合成し分子構造から重合中の反応挙動を解析

Highly transparent and photopatternable spirobifluorene-based polythioethers with high refractive indices via thiol-ene click chemistry

Shota Iino, Shigeki Sobu, Kazuhiro Nakabayashi, Sadaki Samitsu, Hideharu Mori*

Polymer, Volume 224; 14 May 2021, 123725

<https://doi.org/10.1016/j.polymer.2021.123725>

・スピロ型フルオレンジアクリレートとジチオールのチオールエン反応で透明高屈折ポリマー材料合成

Bio-based & Biomedical Polymers

Fused Filament Fabrication (Three-Dimensional Printing) of Amorphous Magnesium Phosphate/Poly(lactic Acid) Macroporous Biocomposite Scaffolds

Karim Elhatab,* Sarit B. Bhaduri, Joseph G. Lawrence, and Prabaha Sikder

ACS Applied Bio Materials, Articles ASAP (Article), Publication Date (Web): April 6, 2021

<https://doi.org/10.1021/acsabm.0c01620>

・非晶リン酸 Mg と PLA の熔融成形ファイバーの複合材料を整形外科用の生体適合型多孔足場材料に応用

Biofilm Removal by Reversible Shape Recovery of the Substrate

Sang Won Lee, Joseph Carnicelli, Dariya Getya, Ivan Gitsov, K. Scott Phillips, and Dacheng Ren*

ACS Applied Materials & Interfaces, Articles ASAP, Publication Date (Web): April 6, 2021

<https://doi.org/10.1021/acsami.0c20697>

・両末端メタクリレート PCL を BA と共重合して形状記憶(?)エラストマー表面のバイオフィルム付着防止

Dendron-Functionalized Polyglutamate-Pyropheophorbide-a Conjugates as Nanomedicines for Breast Cancer Photodynamic Therapy

Wenjia Wang, Qianfeng Zhang, Zhiqian Li, Jing Zhang, Dayi Pan, Bing Wang, Hongyan Zhu, Hu Zhang, Zhongwei Gu, and Kui Luo*

Macromol. Rapid Commun., Version of Record online: 24 March 2021

<https://doi.org/10.1002/marc.202100013>

・側鎖にデンドロンを導入したポリグルタミン酸キャリアの細胞取り込みと ROS 細胞アポトーシス誘導

Synthesis of Polymer Brushes Via SI-PET-RAFT for Photodynamic Inactivation of Bacteria

Gervase Ng, Peter Judzewitsch, Mingxiao Li, Christian W. Pester, Kenward Jung,* and Cyrille Boyer*

Macromol. Rapid Commun., Version of Record online: 08 April 2021

<https://doi.org/10.1002/marc.202100106>

・表面開始光誘起 PET-RAFT 重合で合成したポリマーブラシとクロリン複合化で可視光で細胞付着を防止

Polymer Materials

Antifogging Hybrid Materials Based on Amino-Functionalized Polysilsesquioxanes

Tetsuya Maeda, Takashi Hamada,* Satoru Tsukada, Daiji Katsura, Kenta Okada, and Joji Ohshita*

ACS Applied Polymer Materials, Articles ASAP (Article), Publication Date (Web): April 6, 2021

<https://doi.org/10.1021/acsapm.1c00155>

・アミノ基を含む SQ のゾルゲル反応を利用して傷が入らず、曇らない表面をもつハイブリット材料合成

Balancing Self-Healing and Shape Stability in Dynamic Covalent Photoresins for Stereolithography 3D Printing

Alejandra Durand-Silva, Karen P. Cortés-Guzmán, Rebecca M. Johnson, Sachini D. Perera, Shashini D. Diwakara, and Ronald A. Smaldone*

ACS Macro Letters, 2021, 10, 486–491, Publication Date (Web): April 6, 2021

<https://doi.org/10.1021/acsmacrolett.1c00121>

・マレイミド/フラン間動的共有結合を利用して光造形物の形状安定性と自己修復性を付与した材料開発

Rim Binding of Cyclodextrins in Size-Sensitive Guest Recognition

Hiroki Hanayama, Junya Yamada, Issei Tomotsuka, Koji Harano,* and Eiichi Nakamura*

Journal of the American Chemical Society, Articles ASAP (Article), Publication Date (Web): April 7, 2021

<https://doi.org/10.1021/jacs.1c00651>

・コニカル型ナノチューブの先端の大きさに応じてシクロデキストリンが内部に包接/リムで認識など

Monodispersed Nitrogen-Containing Carbon Capsules Fabricated from Conjugated Polymer-Coated Particles via Light Irradiation

Keigo Oyama, Musashi Seike, Koji Mitamura, Seiji Watase, Toyoko Suzuki, Taro Omura, Hideto Minami, Tomoyasu Hirai, Yoshinobu Nakamura, and Syuji Fujii*

Langmuir, Articles ASAP (Article), Publication Date (Web): April 7, 2021

<https://doi.org/10.1021/acs.langmuir.1c00286>

・単分散 PS/PPy コアシェル微粒子を近赤外レーザーで焼成し(数秒で 700°C到達)中空カーボン微粒子作製

Two-photon induced polymerization in a porous polymer film to create multi-layer structures

Ying Huang, Yusheng Zhang, Yuming Su, Zhenghao Zhai, Jiawei Chen and Cheng Wang

Chem. Commun., 2021, Advance Article; The article was first published on 07 Apr 2021

<https://doi.org/10.1039/D1CC01383A>

・MOF 中に光増感剤と多官能モノマーを流し込んで共焦点レーザー照射 3D 造形、既存技術の延長技術?

Conjugated Copolymers That Shouldn't Be

Jun Guan, Zejun Sun, Ramin Ansari, Yujia Liu, Aimi Endo, Masafumi Unno, Armelle Ouali, Shahrea Mahbub, Joseph C.

Furgal, Nuttapon Yodsinn, Siriporn Jungstittiwong, Daniel Hashemi, John Kieffer, and Richard M. Laine*

Angew. Chem. Int. Ed., Version of Record online: 08 April 2021

<https://doi.org/10.1002/anie.202014932>

・ラダー型 SQ ポリマーが予想外の吸収発光特性を発現、ダブルデッカー型のポリマーと特徴を対比

Tunable Hydrophobicity via Dimensionally Confined Polymerization of Organometallic Adducts

Julia J. Chang, Chuanshen Du, Alana Pauls, and Martin Thuo*

Angew. Chem. Int. Ed., Version of Record online: 01 April 2021

<https://doi.org/10.1002/anie.202101795>

・有機金属化合物? の粒子形成制御の研究で有機ポリマー系でないが、形状制御手法に着目点はある

Diversity-oriented synthesis of polymer membranes with ion solvation cages

Miranda J. Baran, Mark E. Carrington, Swagat Sahu, Artem Baskin, Junhua Song, Michael A. Baird, Kee Sung Han, Karl

T. Mueller, Simon J. Teat, Stephen M. Meckler, Chengyin Fu, David Prendergast & Brett A. Helms

Nature, Vol 592, 225–231 (2021). 8 April 2021, Published online: 7 April 2021

<https://doi.org/10.1038/s41586-021-03377-7>

(日本語解説)<https://www.natureasia.com/ja-jp/nature/highlights/107287>

Polymer Structure & Physics

Enhanced Electro-actuation in Dielectric Elastomers: The Nonlinear Effect of Free Ions

Bin Zheng, Xingkun Man,* David Andelman,* and Masao Doi*

ACS Macro Letters, Articles ASAP (Letter), 2021, 10, 498–502, Publication Date (Web): April 8, 2021

<https://doi.org/10.1021/acsmacrolett.1c00045>

・可塑化ポリ塩化ビニル中に電場を印加した際のイオンの挙動で引き起こされる非対称型の変形に着目

Temperature and Thickness Dependence of the Time Scale of Crystallization of Polymers under 1D Confinement

Bao Wang, Allen Mathew, and Simone Napolitano*

ACS Macro Letters, Articles ASAP (Letter) 2021, 10, 476–480, Publication Date (Web): April 5, 2021

<https://doi.org/10.1021/acsmacrolett.1c00123>

・一元的束縛状態の PLA の結晶化の遅れに関する実験データを核形成と鎖ダイナミクスからモデル化

Glass Transitions in Hydrated Polyelectrolyte Complexes

Yuhui Chen, Mo Yang, and Joseph B. Schlenoff*

Macromolecules, Articles ASAP (Article), Publication Date (Web): April 7, 2021

<https://doi.org/10.1021/acs.macromol.0c02682>

・様々な電解質ポリマー複合体を含水(25-75wt%)状態で T_g を DMA と DSC で計測し自由体積その他を議論

Adhesion & Interface Science

Droplet Control Based on Pinning and Substrate Wettability

Panagiotis E. Theodorakis,* Alidad Amirfazli, Bin Hu, and Zhizhao Che

Langmuir, Articles ASAP (Article), Publication Date (Web): April 5, 2021

<https://doi.org/10.1021/acs.langmuir.1c00215>

・液滴の表面段差によるピン止め効果を形状と表面濡れ特性から解析、ミクロ～ナノレベルまで適用可

General Chemistry & Others

Highly efficient oxidation of 2,2'-hydrazobis-isobutyronitrile to 2,2'-azobis-isobutyronitrile over a CrO_x/TiO₂ catalyst with hydrogen peroxide

Hu Zhang, Shengnan Yue, Xiuqing Zou, Xueguang Wang,* Xingli Zou* and Xionggang Lu*
Chem. Commun., 2021, Advance Article; The article was first published on 31 Mar 2021
<https://doi.org/10.1039/D1CC00380A>

- ・酸化チタン系固体表面上でヒドラジンを酸化して AIBN に高効率変換する反応触媒、重合に応用可能？

On April 19, 2021

Reviews

Green Solvents Combined with Bioactive Compounds as Delivery Systems: Present Status and Future Trends

Simone S. Silva,* Joana M. Gomes, Rui L. Reis, and Subhas C. Kundu*

ACS Applied Bio Materials, Articles ASAP (Review), Publication Date (Web): April 13, 2021

<https://doi.org/10.1021/acsabm.1c00013>

- ・バイオメディカルや医薬用途向けグリーン溶媒に関してイオン液体に焦点を絞って現状と今後の動向を解説

Renewable Polyurethanes from Sustainable Biological Precursors

Thien An Phung Hai, Marissa Tessman, Nitin Neelakantan, Anton A. Samoylov, Yuri Ito, Bhausahab S. Rajput, Naser Pourahmady, and Michael D. Burkart*

Biomacromolecules, Articles ASAP (Review), Publication Date (Web): April 6, 2021

<https://doi.org/10.1021/acs.biomac.0c01610>

- ・再生可能なバイオベース原料からポリウレタンを合成設計するための方法論の現状を集約して方向性を模索

Photopolymerization of Bio-Based Polymers in a Biomedical Engineering Perspective

Ioana Chiulan, Ellinor Bævre Heggset, Ștefan Ioan Voicu, and Gary Chinga-Carrasco*

Biomacromolecules, Articles ASAP (Review), Publication Date (Web): April 5, 2021

<https://doi.org/10.1021/acs.biomac.0c01745>

- ・糖などのバイオベースポリマーを光反応で架橋(重合ではない！よくある間違い)してバイオメディカル応用

Fabrication of Biomedical Scaffolds Using Biodegradable Polymers

Alina Kirillova, Taylor R. Yeazel, Darya Asheghali, Shannon R. Petersen, Sophia Dort, Ken Gall, and Matthew L. Becker*

Chemical Reviews, Articles ASAP (Review), Publication Date (Web): April 15, 2021

<https://doi.org/10.1021/acs.chemrev.0c01200>

- ・バイオメディカル用足場材料への生分解ポリマーの応用を材料特性/作製プロセス/用途ごとに網羅的に解説

Soft Materials by Design: Unconventional Polymer Networks Give Extreme Properties

Xuanhe Zhao,* Xiaoyu Chen, Hyunwoo Yuk, Shaoting Lin, Xinyue Liu, and German Parada

Chemical Reviews, Articles ASAP (Review), Publication Date (Web): April 12, 2021

<https://doi.org/10.1021/acs.chemrev.0c01088>

- ・バイオメディカル利用を意識したハイドロゲル設計を材料の視点から整理分類、バイオ以外で有用情報満載

Dielectric polymers for high-temperature capacitive energy storage

He Li, Yao Zhou, Yang Liu, Li Li, Yi Liu* and Qing Wang*

Chem. Soc. Rev., 2021, Advance Article, The article was first published on 13 Apr 2021

<https://doi.org/10.1039/D0CS00765J>

- ・高温使用の電池(キャパシタ)用の耐熱性誘電体ポリマー、凝った分子構造のポリマーが利用されている

Conquering the crystallinity conundrum: efforts to increase quality of covalent organic frameworks

Laurens Bourda, Chidharth Krishnaraj, Pascal Van Der Voort* and Kristof Van Hecke*

Mater. Adv., 2021, Advance Article, The article was first published on 29 Mar 2021

<https://doi.org/10.1039/D1MA00008J>

- ・COFの初期の合成の試みに始まり、結晶構造制御やより高度な反応と構造の制御に至るまでの歴史を網羅

Revisiting lignin: a tour through its structural features, characterization methods and applications

Elodie Melro,* Alexandra Filipe, Dora Sousa, Bruno Medronho and Anabela Romano
New J. Chem., 2021, Advance Article, The article was first published on 09 Mar 2021
<https://doi.org/10.1039/D0NJ06234K>

- ・リグニン利用のための基本成分の化学構造/分析法/成分分離法/微粒子/ファイバーその他への応用を紹介

Synthetic Routes to Single Chain Polymer Nanoparticles (SCNPs): Current Status and Perspectives

Meshari A. M. Alqarni, Christopher Waldron, Gokhan Yilmaz, and C. Remzi Becer*
Macromol. Rapid Commun., Version of Record online:17 April 2021
<https://doi.org/10.1002/marc.202100035>

- ・生体高分子折りたたみ機構や機能材料設計との関連から 1 分子ナノ微粒子(SCNP)の合成設計や応用を解説

Research Progress of All Organic Polymer Dielectrics for Energy Storage from the Classification of Organic Structures

Jiaming Luo, Jiale Mao,* Wenjie Sun, Shuang Wang, Lei Zhang,* Liliang Tian, Yu Chen, and Yonghong Cheng*
Macromol. Chem. Phys., Version of Record online:14 April 2021
<https://doi.org/10.1002/macp.202100049>

- ・フィルム状ポリマーキャパシタに関する最近の展開をコンパクトに解説、最近同テーマの総説続出傾向に

Correlative imaging for polymer science

Yuyang Wang, Heiner Friedrich, Ilja K. Voets, Peter Zijlstra, Lorenzo Albertazzi
J. Polym. Sci., Version of Record online:07 April 2021
<https://doi.org/10.1002/pol.20210013>

- ・ポリマーサイエンスで用いられる複数のイメージング技術を相関させて利用する分析手法についての解説

25 Years of Light-Emitting Electrochemical Cells: A Flexible and Stretchable Perspective

Kory Schlingman, Yiting Chen, R. Stephen Carmichael, and Tricia Breen Carmichael
Adv. Mater., Version of Record online:14 April 2021
<https://doi.org/10.1002/adma.202006863>

- ・OLED の歴史を振り返りフレキシブル/ストレッチャブル/低コストタグ/パッケージ/広告/照明への展開へ。

Polymer Synthesis

Stereoselective Diels–Alder Reactions of gem-Diborylalkenes: Toward the Synthesis of gem-Diboron-Based Polymers

Nadim Eghbarieh, Nicole Hanania, Alon Zamir, Molhm Nassir, Tamar Stein,* and Ahmad Masarwa*
Journal of the American Chemical Society, Articles ASAP (Article), Publication Date (Web): April 14, 2021
<https://doi.org/10.1021/jacs.1c01471>

- ・立体選択的 DA 反応で Bpin 基導入したノルボルネンを合成、ROMP でポリマー化後に官能基変換で機能化

Selective Oxidation of Polysulfide Latexes to Produce Polysulfoxide and Polysulfone in a Waterborne Environment

Lorena Infante Teixeira, Katharina Landfester,* and Héloïse Thérien-Aubin*
Macromolecules, Articles ASAP (Article), Publication Date (Web): April 8, 2021
<https://doi.org/10.1021/acs.macromol.1c00382>

- ・ミニエマルション系チオール-エン反応で合成したポリスルフィドを選択的酸化でポリスルホン他に変換

Oxanorbornenes: promising new single addition monomers for the metathesis polymerization

Subhajit Pal, Mahshid Alizadeh, Phally Kong and Andreas F. M. Kilbinger
Chem. Sci., 2021, Advance Article, The article was first published on 07 Apr 2021
<https://doi.org/10.1039/D1SC00036E>

- ・第 3 世代グラブス触媒でエンド型オキサノルボルネンを 1 分子モノマー成長させてシークエンス制御成功

The block copolymer shuffle in size exclusion chromatography: the intrinsic problem with using elugrams to determine chain extension success

Kai Philipps, Tanja Junkers * and Jasper J. Michels
Polym. Chem., 2021, Advance Article, The article was first published on 08 Apr 2021
<https://doi.org/10.1039/D1PY00210D>

- ・ブロック共重合体の SEC 曲線の溶出位置が予想と反対(低分子量側)になる場合を指摘、2D 組成分析が必要

Achieving molecular weight distribution shape control and broad dispersities using RAFT polymerizations

Stephanie I. Rosenbloom, Renee J. Sifri and Brett P. Fors*

Polym. Chem., 2021, Advance Article, The article was first published on 12 Apr 2021

<https://doi.org/10.1039/D1PY00399B>

・RAFT 剤を連続添加する RAFT 重合で広い分布をもつポリマーを分散度制御しながら合成できることを実証

Role of Organic Phosphates and Phosphonates in Catalyzing Dynamic Exchange Reactions in Thiol-Click Vitrimers

Khadijeh Moazzen, Elisabeth Rossegger, Walter Alabiso, Usman Shaukat, and Sandra Schlögl*

Macromol. Chem. Phys., Version of Record online:14 April 2021

<https://doi.org/10.1002/macp.202100072>

・チオール-エン硬化系 Vitrimer 架橋系のリン酸/ホスホン酸エステルの触媒作用で架橋/交換反応を高効率化

Metal-Organic Frameworks for Practical Separation of Cyclic and Linear Polymers

Taku Sawayama, Yubo Wang, Tomohisa Watanabe, Masayoshi Takayanagi, Takuya Yamamoto, Nobuhiko Hosono,* and Takashi Uemura*

Angew. Chem. Int. Ed., Version of Record online:15 April 2021

<https://doi.org/10.1002/anie.202102794>

・MOF の制御された細孔に線状ポリマーだけが侵入できる事を利用して鎖状/環状 PEG を HPLC 分離に成功

The bio-based phthalocyanine resins with high T_g and high char yield derived from vanillin

Caiyun Wang, Manling Shi, Linxuan Fang, Menglu Dai, Gang Huang, Jing Sun**, Qiang Fang

Polymer, Volume 224, 123723, issue on 14 May 2021, online 3 April 2021

<https://doi.org/10.1016/j.polymer.2021.123723>

・バイオベース原料バニリンから誘導した高 T_g ポリスチレン誘導体を焼結でフタロシアニン構造残渣生成

Bio-based & Biomedical Polymers

Influence of Hydrogen Peroxide-Mediated Cross-Linking and Degradation on Cell-Adhesive Gelatin Hydrogels

Wildan Mubarak, Yanfei Qu, and Shinji Sakai*

ACS Applied Bio Materials, Articles ASAP (Article), Publication Date (Web): April 14, 2021

<https://doi.org/10.1021/acsabm.0c01675>

・細胞接着用ゼラチンハイドロゲルの架橋(フェノール部位の CC 架橋)と分解へのペルオキシダーゼ影響他

Controlling Surface-Induced Platelet Activation by Agarose and Gelatin-Based Hydrogel Films

Gurunath Apte, Annerose Lindenbauer, Jörg Schemberg, Holger Rothe, and Thi-Huong Nguyen*

ACS Omega, Articles ASAP (Article), Publication Date (Web): April 13, 2021

<https://doi.org/10.1021/acsomega.1c00764>

・アガロースゲル/ゼラチンを用いて血小板の材料表面への接着抑制、前者で効果大、ナノ微粒子利用検討

Core-Shell Tecto Dendrimers Enable Enhanced Tumor MR Imaging through an Amplified EPR Effect

Cong Song, Zhijun Ouyang, Honghua Guo, Jiao Qu, Yue Gao, Jindong Xia, Mingwu Shen,* and Xiangyang Shi*

Biomacromolecules, Articles ASAP (Article), Publication Date (Web): April 13, 2021

<https://doi.org/10.1021/acs.biomac.1c00262>

・G3/G5-PAMAM のコアシェルテクト(連結型) dendrimer を腫瘍 MRI に利用して EPR 効果の増強を確認

Polymer Materials

From Glassy Plastic to Ductile Elastomer: Vegetable Oil-Based UV-Curable Vitrimers and Their Potential Use in 3D Printing

Mingen Fei, Tuan Liu,* Baoming Zhao, Anthony Otero, Yu-Chung Chang, and Jinwen Zhang*

ACS Applied Polymer Materials, Articles ASAP (Article), Publication Date (Web): April 14, 2021

<https://doi.org/10.1021/acsapm.1c00063>

・植物油原料 UV 硬化型 Vitrimer を 3D プリンティング応用からガラス/エラストマーまでのテンコ盛り論文

Dendritic Micelles with Controlled Branching and Sensor Applications

Yifan Zhang, Samuel Pearce, Jean-Charles Eloi, Robert L. Harniman, Jia Tian, Cristina Cordoba, Yuetong Kang, Tomoya Fukui, Huibin Qiu, Arthur Blackburn, Robert M. Richardson, and Ian Manners*

Journal of the American Chemical Society, Articles ASAP (Article), Publication Date (Web): April 14, 2021

<https://doi.org/10.1021/jacs.1c00770>

・メタロポリマーブロック共重合体を用いたポリマーミセルが樹状構造形成し、新ナノ構造体として期待大

Supramolecular Polymerization of Triarylamine-Based Macrocycles into Electroactive Nanotubes

Flavio Picini, Susanne Schneider, Odile Gavot, Andreas Vargas Jentsch, Junjun Tan, Mounir Maaloum, Jean-Marc Strub, Shoichi Tokunaga, Jean-Marie Lehn,* Emilie Moulin, and Nicolas Giuseppone*

Journal of the American Chemical Society, Articles ASAP (Article), Publication Date (Web): April 9, 2021

<https://doi.org/10.1021/jacs.1c00623>

・環状分子のアミド水素結合によるカラム状超分子ポリマー形成で作製したナノチューブをホール移動に利用

Thermoplastic Silsesquioxane Hybrid Polymers with a Local Ladder-Type Structure

Svenja Pohl, Oliver Janka, Ekkehard Füglein, and Guido Kickelbick*

Macromolecules, Articles ASAP (Article), Publication Date (Web): April 13, 2021

<https://doi.org/10.1021/acs.macromol.1c00310>

・フェニル含有 SQ の一部のみラダー構造導入して熱可塑性のあるハイブリッド合成、熱硬化で透明樹脂化

Hetero-network hydrogels crosslinked with silica nanoparticles for strategic control of thermal responsive property

M. Maria Rahman, Md. Ashraf Alam, Hirotaka Ihara and Makoto Takafuji*

Soft Matter, 2021, Advance Article, The article was first published on 06 Apr 2021

<https://doi.org/10.1039/D1SM00191D>

・LCST 転移温度が異なる 2 種類アクリルアミド共重合体から合成したナノシリカ微粒子ハイブリッドゲル

Encapsulation by Directed PISA: RAFT-Based PolymerVesiculated Pigment for Opacity Enhancement in Paint Films

Duc Nguyen, Vien Huynh, Minh Lam, Algirdas Serelis, Tim Davey, Olga Paravagna, Chris Such, and Brian Hawkett*

Macromol. Rapid Commun., Version of Record online:13 April 2021

<https://doi.org/10.1002/marc.202100008>

・PISA-RAFT 重合で TiO₂ 微粒子を条件に応じて異なる階層構造のポリマー集合体で表面コーティング機能化

Anisotropic and Self-Healing Copolymer with Multiresponsive Capability via Recyclable Alloy-Mediated RDRP

Sk Arif Mohammad, Subrata Dolui, Devendra Kumar, Md. Mehboob Alam, and Sanjib Banerjee*

Macromol. Rapid Commun., Version of Record online:13 April 2021

<https://doi.org/10.1002/marc.202100096>

・温度/pH 応答セグメント含むブロック共重合体末端に光応答性基導入して光架橋/金属イオンナノゲル化

A universal method to easily design tough and stretchable hydrogels

Chisa Norioka, Yuino Inamoto, Chika Hajime, Akifumi Kawamura and Takashi Miyata

NPG Asia Mater. **13**, 34 (2021). Published 09 April 2021

<https://doi.org/10.1038/s41427-021-00302-2>

・ゲル中の分子絡み合い制御すれば DN ゲルと同様の高弾性・強靱性ゲルが AAm で設計可能なことを証明

Bioinspired Soft Microactuators

Pingan Zhu, Rifei Chen, Chunmei Zhou, Michael Aizenberg, Joanna Aizenberg, and Liqiu Wang*

Adv. Mater., Version of Record online:16 April 2021

<https://doi.org/10.1002/adma.202008558>

・自然界を参考にハイドロゲルでアクチュエーターを精密設計してメカニカルな挙動と構造物性を評価

Polymer Structure & Physics

Macroscopic Viscosity of Polymer Solutions from the Nanoscale Analysis

Airit Agasty, Agnieszka Wisniewska, Tomasz Kalwarczyk, Kaloian Koynov, and Robert Holyst*

ACS Applied Polymer Materials, Articles ASAP (Article), Publication Date (Web): April 12, 2021

<https://doi.org/10.1021/acsapm.1c00348>

・微粒子の拡散を利用してポリマー希薄～準濃厚溶液の粘性決定方法を開発して様々な組み合わせ系で実証

Mechanical and Crack Propagating Behavior of Sierpiński Carpet Composites

Ya-Yun Tsai, Yuan Chiang, Jacqueline L. Buford, Meng-Lin Tsai, Hsien-Chun Chen, and Shu-Wei Chang*

ACS Biomaterials Science & Engineering, Articles ASAP (Article), Publication Date (Web): April 11, 2021

<https://doi.org/10.1021/acsbomaterials.0c01595>

生態系フラクタル構造をヒントに 2D フラクタル“シェルピンスキーのカーペット”構造クラック伸展を解析

Effect of Dispersity on the Conformation of Spherical Polymer Brushes

Tzu-Han Li, Vivek Yadav, Jacinta C. Conrad,* and Megan L. Robertson*

ACS Macro Lett. 2021, 10, 518–524 (Letter), Publication Date (Web): April 13, 2021

<https://doi.org/10.1021/acsmacrolett.0c00898>

・微粒子表面の曲面上での濃厚～準濃厚ポリマーブラシの鎖コンフォメーション(鎖伸張程度)評価モデル化

Suppressed Chain Entanglement Induced by Thickness of Ultrathin Polystyrene Films

Fengliang Wang, Zhenwei Jiang, Xuanyu Lin, Cuiyun Zhang, Keiji Tanaka,* Biao Zuo, Wei Zhang, and Xinping Wang*

Macromolecules, Articles ASAP (Article), Publication Date (Web): April 16, 2021

<https://doi.org/10.1021/acs.macromol.1c00224>

・薄膜でのポリマー鎖の絡み合い抑制効果を定量解析、 R_g (2乗平均回転半径)の3.3倍が閾値となること指摘

Suppression of the Self-Nucleation Effect of Semicrystalline Polymers by Confinement

Ming Wang, Jing Li, Guangyu Shi, Guoming Liu,* Alejandro J. Müller, and Dujin Wang

Macromolecules, Articles ASAP (Article), Publication Date (Web): April 15, 2021

<https://doi.org/10.1021/acs.macromol.1c00485>

・酸化アルミニウムナノ孔テンプレート中の束縛環境下における結晶性ポリマー核形成抑制を DSC 再解析

Revisiting Nonlinear Flow Behavior of Rouse Chain: Roles of FENE, Friction-Reduction, and Brownian Force Intensity Variation

Hiroshi Watanabe,* Yumi Matsumiya, and Takeshi Sato

Macromolecules, Articles ASAP (Article), Publication Date (Web): April 14, 2021

<https://doi.org/10.1021/acs.macromol.1c00013>

・高速流動条件下の Rouse 鎖の非平衡ダイナミクスに関して複数観点から従来データ整理/再解析/モデル化

Effect of Chain Polydispersity on the Elasticity of Disordered Polymer Networks

Valerio Sorichetti,* Andrea Ninarello,* José M. Ruiz-Franco, Virginie Hugouvieux, Walter Kob, Emanuela Zaccarelli, and Lorenzo Rovigatti*

Macromolecules, Articles ASAP (Article), Publication Date (Web): April 14, 2021

<https://doi.org/10.1021/acs.macromol.1c00176>

・ネットワークポリマーのせん断弾性率への編目均一性の影響を数学的モデルとシミュレーションから議論

Relaxation behavior of sandwich-structured fluorinated graphene/poly (vinylidene fluoride-hexafluoropropylene) composites by dielectric relaxation spectroscopy

Xiaojia Zhao*, Chaoqun Li, Fangqian Yin, Tingchun Zhu, Guirong Peng

Polymer, Volume 224, 123729, issue on 14 May 2021, 123729

・強誘電性ポリマー/グラファイト複合材料の誘電緩和解析、実数部・虚数部解析/Cole-Cole プロットその他

Adhesion & Interface Science

How to Efficiently Prepare Transparent Lubricant-Infused Surfaces: Inspired by Candle Soot

Zhihao Li and Zhiguang Guo*

Langmuir, Articles ASAP (Article), Publication Date (Web): April 16, 2021

<https://doi.org/10.1021/acs.langmuir.1c00062>

・表面 PDMS コーティングを燃焼後に残る煤(SiO_2 多孔体)薄膜に潤滑剤を含浸して透明で超撥水表面を作製

Control of Polymer Brush Morphology, Rheology, and Protein Repulsion by Hydrogen Bond Complexation

John Andersson, Gustav Ferrand-Drake del Castillo, Pierluigi Bilotto, Fredrik Höök, Markus Valtiner, and Andreas Dahlin*

Langmuir, Articles ASAP (Article), Publication Date (Web): April 14, 2021

<https://doi.org/10.1021/acs.langmuir.1c00271>

・金表面の PEG 鎖濃厚ブラシとポリメタクリル酸の相互作用の pH 依存性と PEG 鎖コンフォメーション変化

Crystal Engineering & Liquid Crystals

Highly Efficient Preparation of Single-Layer Two-Dimensional Polymer Obtained from Single-Crystal to Single-Crystal Synthesis

Fan Hu, Wenbo Hao, David Mücke, Qingyan Pan, Zhibo Li,* Haoyuan Qi,* and Yingjie Zhao*

Journal of the American Chemical Society, Articles ASAP (Communication), Publication Date (Web): April 13, 2021

<https://doi.org/10.1021/jacs.1c00907>

・[2+2]光環化反応の単結晶-単結晶反応(重合)で単層(分子レベル)の横方向数 μm サイズ 2D ポリマー合成成功

Fluorine as a robust balancer for tuning the reactivity of topo-photoreactions of chalcones and the photomechanical effects of molecular crystals

Yuanhong Shu, Kaiqi Ye, Yuan Yue, Jingbo Sun, Haoran Wang, Jiangbin Zhong, Xiqiao Yang, Hongqiang Gao and Ran Lu*

CrystEngComm, 2021, Advance Article, The article was first published on 26 Mar 2021

<https://doi.org/10.1039/D1CE00086A>

・芳香環フッ素置換特性利用したカルコン[2+2]光 2 量反応の結晶構造(分子パッキング)と固相反応性制御

From Chaos to Control: Programmable Crack Patterning with Molecular Order in Polymer Substrates

Hyun Kim,* Mustafa K. Abdelrahman, Joonmyung Choi, Hongdeok Kim, Jimin Maeng, Suitu Wang, Mahjabeen Javed, Laura K. Rivera-Tarazona, Habeom Lee, Seung Hwan Ko, and Taylor H. Ware*

Adv. Mater., Version of Record online:15 April 2021

<https://doi.org/10.1002/adma.202008434>

・液晶分子配向利用してネットワークポリマー材料のクラック発生と伸展を制御、一般的な応用の可否は？

General Chemistry & Others

Liquid-induced topological transformations of cellular microstructures

Shucong Li, Bolei Deng, Alison Grinthal, Alyssa Schneider-Yamamura, Jinliang Kang, Reese S. Martens, Cathy T. Zhang, Jian Li, Siqin Yu, Katia Bertoldi & Joanna Aizenberg

Nature, Vol 592, 386 (2021), issue 15 April 2021, Published online: 14 April 2021

<https://doi.org/10.1038/s41586-021-03404-7>

(日本語解説) 材料科学：セル状微細構造の液体誘起トポロジー変換; <https://www.natureasia.com/ja-jp/nature/592/7854/s41586-021-03404-7>/材料科学：トポロジーを変えるポリマーネットワークのファスナー <https://www.natureasia.com/ja-jp/nature/highlights/107342>

On April 26, 2021

Reviews

Bioinspired Applications of Porphyrin Derivatives

Jong Min Park, Kyeong-Im Hong, Hosoo Lee, and Woo-Dong Jang*

Accounts of Chemical Research, Articles ASAP (Article), Publication Date (Web): April 23, 2021

<https://doi.org/10.1021/acs.accounts.1c00114>

・ポルフィリン誘導体の人工光合成/電子移動酸化還元/生体機能から太陽電池/集合体、 dendrimer 多し

Stimuli-Induced Reversible Proton Transfer for Stimuli-Responsive Materials and Devices

Yuyang Wang, Yu-Mo Zhang,* and Sean Xiao-An Zhang*

Accounts of Chemical Research, Articles ASAP (Article), Publication Date (Web): April 21, 2021

<https://doi.org/10.1021/acs.accounts.1c00061>

・光電子デバイスで利用される外部刺激応答型機能性低分子化合物の色調変換/蛍光発光/電子ペーパー応用

Strain-Induced Birefringence of Amorphous Polymers and Molecular Design of Optical Polymers

Tadashi Inoue*

ACS Applied Polymer Materials, Articles ASAP (Review), Publication Date (Web): April 22, 2021

<https://doi.org/10.1021/acsapm.1c00149>

・光学ポリマー材料光弾性複屈折に関する基礎から汎用ポリマーの各パラメータやポリマー分子設計も言及

Polymeric Particulates of Controlled Rigidity for Biomedical Applications

Veronika Kozlovskaya, Maksim Dolmat, and Eugenia Kharlampieva*

ACS Applied Polymer Materials, Articles ASAP (Review), Publication Date (Web): April 22, 2021

<https://doi.org/10.1021/acsapm.1c00157>

・ポリマー微粒子バイオメディカル応用の機械強度や変形応答を整理して細胞取込みや組織集積に関連付け

Polymer-Based Coatings with Integrated Antifouling and Bactericidal Properties for Targeted Biomedical Applications

Debirupa Mitra, En-Tang Kang, and Koon Gee Neoh*

ACS Applied Polymer Materials, Articles ASAP (Review), Publication Date (Web): April 20, 2021

<https://doi.org/10.1021/acsapm.1c00125>

- ・ 抗菌/抗バクテリア用表面コーティングポリマーの構造/機能分類から各種機能発現のための材料設計まで

Methods of Generating Dielectrophoretic Force for Microfluidic Manipulation of Bioparticles

Elyahb A. Kwizera, Mingrui Sun, Alisa M. White, Jianrong Li, and Xiaoming He*

ACS Biomaterials Science & Engineering, Articles ASAP (Review), Publication Date (Web): April 19, 2021

<https://doi.org/10.1021/acsbomaterials.1c00083>

- ・ バイオプラスチック微粒子の電気泳動を化学工学に解析してマイクロ流路や分離システムなどバイオ応用

Latest Trends on the Future of Three-Dimensional Separations in Chromatography

Noor Abdulhussain,* Suhas Nawada, and Peter Schoenmakers

Chemical Reviews, Articles ASAP (Review), Publication Date (Web): April 20, 2021

<https://doi.org/10.1021/acs.chemrev.0c01244>

- ・ 高性能分離 3D クロマトグラフィ、GC と HPLC や超臨界流体クロマトグラフィ連結、ポリマー応用はまだ

Recent advances in nanocavities and their applications

Min-Soo Hwang, Jae-Hyuck Choi, Kwang-Yong Jeong, Kyoung-Ho Kim, Ha-Reem Kim, Jae-Pil So, Hoo-Cheol Lee, Jungkil Kim, Soon-Hong Kwon, Hong-Gyu Park

Chem. Commun., 2021, Advance Article; The article was first published on 14 Apr 2021

<https://doi.org/10.1039/D1CC01084K>

- ・ ナノキャビティプラズモン/ナノワイヤ利用からデバイス/フォトリソ/量子コンピュータ将来応用まで

Porous block copolymer separation membranes for 21st century sanitation and hygiene

Leiming Guo, Yong Wang and Martin Steinhart

Chem. Soc. Rev., 2021, Advance Article; The article was first published on 23 Apr 2021

<https://doi.org/10.1039/D0CS00500B>

- ・ ブロック共重合体自己集合から形成されるナノ多孔膜の水処理応用のサブ 100nm サイズの多孔の重要性

Covalent organic frameworks (COFs) for electrochemical applications

Xiaojia Zhao, Pradip Pachfule and Arne Thomas

Chem. Soc. Rev., 2021, Advance Article; The article was first published on 21 Apr 2021

<https://doi.org/10.1039/D0CS01569E>

- ・ 機能性 COF 電気化学的な応用、分子配列制御/細孔制御/焼結で電池/キャパシタ/2 次電池/燃料電池に応用

Polymer Synthesis

One Reagent with Two Functions: Simultaneous Living Radical Polymerization and Chain-End Substitution for Tailoring Polymer Dispersity

Chen-Gang Wang, Amerlyn Ming Liing Chong, and Atsushi Goto* Cite

ACS Macro Lett. 2021, 10, 584–590; *ACS Macro Letters*, Articles ASAP (Letter), Publication Date (Web): April 23, 2021

<https://doi.org/10.1021/acsmacrolett.1c00179>

- ・ リビングラジカル重合の RCMP で末端に N_3Na を導入して分子量分布制御と末端機能化の両方を同時達成

Self-Strengthening of Cross-Linked Elastomers via the Use of Dynamic Covalent Macrocyclic Mechanophores

Jumpei Kida, Daisuke Aoki,* and Hideyuki Otsuka*

ACS Macro Lett. 2021, 10, 558–563; *ACS Macro Letters*, Articles ASAP (Letter), Publication Date (Web): April 21, 2021

<https://doi.org/10.1021/acsmacrolett.1c00124>

- ・ 架橋点を解離可能結合とそれを結ぶループで作って応力負荷で解離時に結合組み替えが起こり材料を強化

Manganese-Catalyzed Batch and Continuous Flow Cationic RAFT Polymerization Induced by Visible Light

Jiajia Li, Andrew Kerr, Qiao Song, Jie Yang, Satu Häkkinen, Xiangqiang Pan, Zhengbiao Zhang, Jian Zhu,* and Sébastien Perrier*

ACS Macro Lett. 2021, 10, 570–575; *ACS Macro Letters*, Articles ASAP (Letter), Publication Date (Web): April 21, 2021

<https://doi.org/10.1021/acsmacrolett.1c00180>

- ・ カチオン RAFT 重合の光 on/off 制御開始剤として Ir 錯体に代わる新しい Mn カルボニル臭素錯体を提案

Easily Functionalized and Readable Sequence-Defined Polytriazoles

Xueyan Zhang, Fuqi Gou, Xiaojun Wang, Yong Wang, and Shengtao Ding*

ACS Macro Lett. 2021, 10, 551–557; *ACS Macro Letters*, Articles ASAP (Letter), Publication Date (Web): April 20, 2021

<https://doi.org/10.1021/acsmacrolett.1c00145>

- ・アジドアルキ環化付加(CuAAC)クリック反応による重合でシークエンス制御して AIE 機能ポリマーを合成

Spectroscopic Signatures of MQ-Resins in Silicone Elastomers

April M. Sawvel, Jonathan C. Crowhurst, Harris E. Mason, James S. Oakdale, Samantha Ruelas, Hannah V. Eshelman, and Robert S. Maxwell*

Macromolecules, Articles ASAP (Article), Publication Date (Web): April 23, 2021

<https://doi.org/10.1021/acs.macromol.1c00086>

- ・MQ樹脂(シリコン樹脂の1種、原料官能基数 MDTQ 表示)の繰り返しと架橋構造を固体 NMR 他で解析

Mechanical and Structural Consequences of Associative Dynamic Cross-Linking in Acrylic Diblock Copolymers

Jacob S. A. Ishibashi, Ian C. Pierce, Alice B. Chang, Aristotelis Zografos, Bassil M. El-Zaatari, Yan Fang, Steven J. Weigand, Frank S. Bates, and Julia A. Kalow*

Macromolecules, Articles ASAP (Article), Publication Date (Web): April 20, 2021

<https://doi.org/10.1021/acs.macromol.0c02744>

- ・RAFT 重合で BA と反応性基含有アクリル酸エステルブロック共重合体を合成して TREN で動的架橋形成

Expanding the Scope of Organic Radical Polymers to Polyvinylphosphonates Synthesized via Rare-Earth Metal-Mediated Group-Transfer Polymerization

Thomas M. Pehl, Friederike Adams, Moritz Kränzlein, and Bernhard Rieger*

Macromolecules, Articles ASAP (Article), Publication Date (Web): April 19, 2021

<https://doi.org/10.1021/acs.macromol.1c00217>

- ・ビニルホスホネートのグループトランスファー重合で高分子反応によって側鎖 TEMPO 導入、直接重合も

Mesoporous knitted inverse vulcanised polymers

Samuel Petcher, Bowen Zhang, Tom Hasell

Chem. Commun., 2021, Advance Article; The article was first published on 14 Apr 2021

<https://doi.org/10.1039/D1CC01152A>

- ・回収再生した S8(硫黄)をポリマー主鎖に組み込んで Hg その他重金属除去可能な多孔ポリマー材料を設計

A highly efficient metal-free protocol for the synthesis of linear polydicyclopentadiene

Xuejin Yang, Laura M. Murphy, Fariyah M. Haque, Scott M. Grayson and Andrew J. Boydston

Polym. Chem., 2021, Advance Article; The article was first published on 14 Apr 2021

<https://doi.org/10.1039/D1PY00191D>

- ・ジシクロペンタジエンのメタルフリーROMP 触媒による重合、可溶性直鎖状ポリマー分子量制御して合成

Bio-based & Biomedical Polymers

Catalyst-Free Mechanochemical Recycling of Biobased Epoxy with Cellulose Nanocrystals

Liang Yue,* Kai Ke, Mehrad Amirkhosravi, Thomas G. Gray, and Ica Manas-Zloczower*

ACS Applied Bio Materials, Articles ASAP (Article), Publication Date (Web): April 22, 2021

<https://doi.org/10.1021/acsabm.0c01670>

- ・CNC 表面 OH 基とエポキシネットワーク中エステル基とのエステル交換でメカノケミカルハイブリッド化

Degradable Polymers

Near-complete depolymerization of polyesters with nano-dispersed enzymes

Christopher DelRe, Yufeng Jiang, Philjun Kang, Junpyo Kwon, Aaron Hall, Ivan Jayapurna, Zhiyuan Ruan, Le Ma, Kyle Zolkin, Tim Li, Corinne D. Scown, Robert O. Ritchie, Thomas P. Russell & Ting Xu

Nature **592**, 558–563 (2021); 21 April 2021

<https://doi.org/10.1038/s41586-021-03408-3>

(概要紹介)ナノスケール材料：ナノ分散酵素によるポリエステルほぼ完全な解重合

<https://www.natureasia.com/ja-jp/nature/592/7855/s41586-021-03408-3/>

Polymer Materials

Broader-Band and Flexible Antireflective Films with the Window-like Structures Inspired by the Backside of Butterfly Wing Scales

Hanliang Ding, Delei Liu, Bo Li, Wang Ze, Shichao Niu,* Conghao Xu, Zhiwu Han,* and Luquan Ren

ACS Applied Materials & Interfaces, Articles ASAP, Publication Date (Web): April 19, 2021

<https://doi.org/10.1021/acsami.1c01352>

- ・可視光から近赤外まで広い波長領域で反射防止機能発現する表面構造体をバイオテンプレートを利用して設計

Acetic Anhydride Polymerization as a Pathway to Functional Porous Organic Polymers and Their Application in Acid-Base Catalysis

Sylvain Rat,* Angeles Chavez-Sanchez, Mariá Jerigová, Daniel Cruz, and Markus Antonietti*
ACS Applied Polymer Materials, Articles ASAP (Article), Publication Date (Web): April 20, 2021
<https://doi.org/10.1021/acsapm.1c00202>

- ・無水酢酸とアミノ酸から多孔性ポリマーを合成し Knoevenagel 縮合の不均一酸塩基触媒や CO₂ 固定に利用

Latent Curing, Chemorheological, Kinetic, and Thermal Behaviors of Epoxy Resin Matrix for Prepregs

Yeong Jae Kim,# Sung Ho Choi,# Seong Jae Lee,* and Keon-Soo Jang*
Industrial & Engineering Chemistry Research, Articles ASAP, Publication Date (Web): April 23, 2021
<https://doi.org/10.1021/acs.iecr.1c00576>

- ・自動車/宇宙用エポキシプレプリグ硬化条件を解析して貯蔵安定性と加熱による短時間硬化の両立を達成

Thermoresponsive Polycation-Stabilized Nanoparticles through PISA. Control of Particle Morphology with a Salt

Vikram Baddam, Lauri Välinen, and Heikki Tenhu*
Macromolecules, Articles ASAP (Article), Publication Date (Web): April 22, 2021
<https://doi.org/10.1021/acs.macromol.0c02771>

- ・RAFT 重合で合成のカチオン性とアクリルアミド誘導体ポリマーブロック凝集構造を温度と塩濃度で制御

Amphiphilic Random Cyclocopolymers as Versatile Scaffolds for Ring-Functionalized and Self-Assembled Materials

Yoshihiko Kimura, Sahori Imai, Mikihito Takenaka, and Takaya Terashima*
Macromolecules, Articles ASAP (Article), Publication Date (Web): April 22, 2021
<https://doi.org/10.1021/acs.macromol.1c00231>

- ・側鎖にオリゴ EO 環状構造を含む両親媒性ランダム共重合体凝集構造解析と親水疎水バランスによる制御

Ultrathin polymethylmethacrylate interlayers boost performance of hybrid tin halide perovskite solar cells†

Dong Ding, Luis Lanzetta, Xinxing Liang, Ganghong Min, Marcin Giza, Thomas J. Macdonald, Saif A. Haque
Chem. Commun., 2021, Advance Article, The article was first published on 21 Apr 2021
<https://doi.org/10.1039/D0CC07418G>

- ・Ti ハロゲン系ハイブリッド太陽電池に PMMA 超薄膜を組み込むと発電効率 6.5%から 10%まで効率アップ

Polymer Structure & Physics

Phase-Field Modeling of Multiple Emulsions Via Spinodal Decomposition

Haodong Zhang, Yan Chen Wu, Fei Wang,* Fuhao Guo, and Britta Nestler
Langmuir, Articles ASAP (Article), Publication Date (Web): April 22, 2021
<https://doi.org/10.1021/acs.langmuir.1c00275>

- ・エマルション系 3 成分ポリマー溶液の液-液スピノーダル分解に関する詳しい相分離構造解析データ含む

Hydrogen-Bond Association-Mediated Dynamics and Viscoelastic Properties of Tough Supramolecular Hydrogels

Cong Du, Xin Ning Zhang, Tao Lin Sun, Miao Du, Qiang Zheng, and Zi Liang Wu*
Macromolecules, Articles ASAP (Article), Publication Date (Web): April 23, 2021
<https://doi.org/10.1021/acs.macromol.1c00152>

- ・AAm/メタクリル酸高強度超分子ハイドロゲルの異なる時間スケール動的挙動緩和から絡み合い効果議論

Adhesion & Interface Science

Movable Cross-linking in Adhesives: Superior Stretching and Adhesion Properties via a Supramolecular Sliding Effect

Mo-Beom Yi, Tae-Hyung Lee, Gi-Yeon Han, Hoon Kim, Hyun-Joong Kim,* Youngdo Kim, Han-Sun Ryou, and Dong-Un Jin
ACS Applied Polymer Materials, Articles ASAP (Article), Publication Date (Web): April 22, 2021
<https://doi.org/10.1021/acsapm.1c00240>

- ・スライドリングゲル接着応用で引きはがし強度やせん断引張での接着強度や伸びが幾分向上するが、、、

Catalytic Amine Functionalization and Polymerization of Cyclic Alkenes Creates Adhesive and Self-Healing Materials

Damon J. Gilmour, Tanja Tomkovic, Nirmalendu Kuanr, Mitchell R. Perry, Hans Gildenast, Savvas G. Hatzikiriakos,* and Laurel L. Schafer*
ACS Applied Polymer Materials, Articles ASAP (Letter), Publication Date (Web): April 21, 2021

<https://doi.org/10.1021/acsapm.1c00158>

- ・非共役環状ジエンの不飽和基 1 つをヒドロアミノアルキル化して ROMP 自己修復型接着用ポリマー合成

Protein-Resistant Behavior of Poly(ethylene glycol)-Containing Polymers with Phosphonate/Phosphate Units on Stainless Steel

Surfaces Farzana Kousar, Jenny Malmström, Simon Swift, Jacqueline Ross, Janesha Perera, and Stephen C. Moratti*
ACS Applied Polymer Materials, Articles ASAP (Article), Publication Date (Web): April 19, 2021

<https://doi.org/10.1021/acsapm.1c00304>

- ・ホスフィンやホスホネート基/SUS の相互作用で PEG グラフトポリマーを表面修飾してタンパク吸着抑止

Maximizing Conversion of Surface Click Reactions for Versatile Molecular Modification on Metal Oxide Nanowires

Rimon Yamaguchi, Takuro Hosomi,* Masaya Otani, Kazuki Nagashima, Tsunaki Takahashi, Guozhu Zhang, Masaki Kanai, Hiroshi Masai, Jun Terao, and Takeshi Yanagida*

Langmuir, Articles ASAP (Article), Publication Date (Web): April 23, 2021

<https://doi.org/10.1021/acs.langmuir.1c00106>

- ・ZnO 単結晶表面に導入したアジドのクリック反応で官能基導入時のアルキルスペーサーコンホメーション

Crystal Engineering & Liquid Crystals

Light-Driven Rapid Peeling of Photochromic Diarylethene Single Crystals

Masato Tamaoki, Daichi Kitagawa, and Seiya Kobatake*

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- ・フォトクロミックジアリールエテン単結晶の光照射によって結晶表面の一部が高速で剥離、分子機械応用

以上