Polymer Hot Information on the Latest Week's Articles (June 2021)

June 7, 2021

Reviews

Low-Dielectric Polymers Derived From Biomass
Jiaren Hou, Linxuan Fang, Gang Huang, Menglu Dai, Fengping Liu, Caiyun Wang, Minghui Li, Heng Zhang, Jing Sun,* and Qiang Fang*
ACS Applied Polymer Materials, Articles ASAP (Review), Publication Date (Web): June 2, 2021
https://doi.org/10.1021/acsapm.1c00043
・バイオマス化合物が 5G 関連ポリマー材料に応用範囲拡大、最終硬化物にはエポキシやマレイミド健在

High-Resolution Imaging of Unstained Polymer Materials
Xi Jiang* and Nitash P. Balsara*
ACS Applied Polymer Materials, Articles ASAP (Review), Publication Date (Web): June 1, 2021
https://doi.org/10.1021/acsapm.1c00217
・無染色でポリマー材料を高分解能観察できる手法として溶液中や基板上の分子を Cryo-TEM/STEM 観察

Additive Manufacturing of Conducting Polymers: Recent Advances, Challenges, and Opportunities
Miryam Criado-Gonzalez, Antonio Dominguez-Alfaro, Naroa Lopez-Larrea, Nuria Alegret, and David Mecerreyes*
ACS Applied Polymer Materials, Articles ASAP (Review), Publication Date (Web): June 1, 2021
https://doi.org/10.1021/acsapm.1c00252
・共役ポリマー材料のバイオエレクトロニクス展開、3D 加工や印刷によるセンサー/チップ/デバイス応用

Polymers under nanoconfinement: where are we now in understanding local property changes?
Connie B. Roth
Chem. Soc. Rev., 2021, Advance Article, The article was first published on 04 Jun 2021
https://doi.org/10.1039/D1CS00054C
・界面近傍のポリマーの Tg や緩和に関する研究の現状を具体的な実験データを図示してわかりやすく整理

Dually cross-linked single networks: structures and applications
Maksim Rodin, Jie Li * and Dirk Kuckling
Chem. Soc. Rev., 2021, Advance Article, The article was first published on 01 Jun 2021
https://doi.org/10.1039/D0CS01585G
・共有結合性と非共有結合性の 2 種類の架橋構造を組み込んだハイドロゲルの刺激応答性や機能性の開拓

Click chemistry for the synthesis of biobased polymers and networks derived from vegetable oils
Khantutta-Kim Tremblay-Parrado,* Clara García-Astrain and Luc Avérous
Green Chem., 2021, Advance Article, The article was first published on 25 May 2021
https://doi.org/10.1039/D1GC00445J
・大豆油などの植物油を原料に用いてクリック反応を利用したポリマー(ネットワーク)の合成例を列挙

Selective Swelling and Functionalization of Integral Asymmetric Isoporous Block Copolymer Membranes
Md. Mushfequr Rahma
Macromol. Rapid Commun., 2100235, Version of Record online:31 May 2021
https://doi.org/10.1002/marc.202100235
・ブロック共重合体のミクロ相分離を利用した規則的な多孔構造をもつっポリマー膜の透過分離他の機能

Differential dynamic microscopy for the characterization of polymer systems
Roberto Cerbino, Fabio Giavazzi, Matthew E. Helgeson
J. Polym. Sci., Version of Record online: 03 June 2021
https://doi.org/10.1002/pol.20210217
・光散乱の情報を得られる光学顕微鏡システムの微分動的顕微鏡(DDM)を使ってゲルやコロイドを分析

Single-crystal-to-single-crystal Transformations for the Preparation of Small Molecules, 1D and 2D Polymers Single Crystals
Fan Hu, Xinwen Bi, Xinsheng Chen, Qingyan Pan,* and Yingjie Zhao
Chem. Lett., Vol.50, No.5 1015-1029 (2021); Web Released: February 19, 2021
https://doi.org/10.1246/cl.200931
・[2+2]/[4+4]/[4+2]環化付加・ジエン/ジアセチレン重合・クリック環状付加による 1D/2D ポリマー合成

Polymer Synthesis

Mechanistic Investigation of ε-Thiono-Caprolactone Radical Polymerization: An Interesting Tool to Insert Weak Bonds into Poly(vinyl esters)
Christopher M. Plummer, Noémie Gil, Pierre-Emmanuel Dufils, D. James Wilson, Catherine Lefay, Didier Gigmes, and Yohann Guillaneuf*
ACS Applied Polymer Materials, Articles ASAP (Article), Publication Date (Web): June 2, 2021
https://doi.org/10.1021/acsapm.1c00569
・チオカルボニル型のラクトンの開環ラジカル重合を利用してポリ酢酸ビニルの主鎖に切断可能な導入

Challenges in Synthesis and Analysis of Asymmetrically Grafted Cellulose Nanocrystals via Atom Transfer Radical Polymerization
Gwendoline Delepierre, Katja Heise, Kiia Malinen, Tetyana Koso, Leena Pitkänen, Emily D. Cranston, Ilkka Kilpeläinen, Mauri A. Kostiainen, Eero Kontturi, Christoph Weder, Justin O. Zoppe, and Alistair W. T. King*
Biomacromolecules, Articles ASAP (Article), Publication Date (Web): June 1, 2021
https://doi.org/10.1021/acs.biomac.1c00392
・CNF セルロース鎖の還元末端だけに選択的に ATRP の開始剤を修飾して CNF の先端だけにグラフト化

Parameter Estimation and Kinetic Monte Carlo Simulation of Styrene and n-Butyl Acrylate Copolymerization through ATRP
Artur S. C. Rego and Amanda L. T. Brandaõ *
Industrial & Engineering Chemistry Research, Articles ASAP, Publication Date (Web): June 1, 2021
https://doi.org/10.1021/acs.iecr.1c00943
・St/BA の ATRP による共重合反応をモンテカルロ・シミュレーションだがパラメーターが多く仮定も多い

Synthesis and Preparation of Cross-linked Films with Ester-Free Poly(trimethylene carbonate) Bearing Aromatic Urea Moiety
Lee Yae Tan, Nalinthip Chanthaset,* Shinsuke Nanto, Ryoichi Soba, Masakazu Nagasawa, Hiroshi Ohno, Hiroharu Ajiro*
Macromolecules, Articles ASAP (Article), Publication Date (Web): June 2, 2021
https://doi.org/10.1021/acs.macromol.1c00339
・生体分解性のトリメチレンカーボネートポリマー側鎖を修飾してポリマー機能化と物性制御の範囲拡張

Depolymerization of P(PDMS11MA) Bottlebrushes via Atom Transfer Radical Polymerization with Activator Regeneration
Michael R. Martinez, Sajjad Dadashi-Silab, Francesca Lorandi, Yuqi Zhao, and Krzysztof Matyjaszewski*
Macromolecules, Articles ASAP (Article), Publication Date (Web): June 1, 2021
https://doi.org/10.1021/acs.macromol.1c00415
・ポリジメチルシロキサンメタクリレートの ATRP で合成したブラシポリマーの解重合と触媒再生の検討

Side-chain functionalized supramolecular helical brush copolymers
Ru Deng, Chengyuan Wang, Margarita Milton, Danni Tang, Andrew D. Hollingsworth and Marcus Weck
Polym. Chem., 2021, Advance Article, The article was first published on 02 Jun 2021
https://doi.org/10.1039/D1PY00373A
・らせん構造をとっているポリイソシアニドの側鎖に官能基を導入しておいて後から機能団をさらに付与

Polymerizability of exomethylene monomers based on adamantyl frameworks
Raita Goseki, Shogo Miyai, Satoshi Uchida and Takashi Ishizone
Polym. Chem., 2021, Advance Article, The article was first published on 02 Jun 2021
https://doi.org/10.1039/D1PY00500F
・エキソメチレン基とジエニル基を導入したアダマンタンのアニオン/カチオン/ラジカル重合性を評価

Smart Microgels from Unconventional Acrylamides
Yvonne Hannappel, Lars Wiehemeier, Maxim Dirksen, Tilman Kottke, and Thomas Hellweg
Macromol. Chem. Phys., 2100067, Version of Record online:29 May 2021
https://doi.org/10.1002/macp.202100067
・様々な N-置換アクリルアミド/メタクリルアミド共重合体のミクロゲルを作製して構造と物性を評価

Polymerization-induced self-assembly of amino-acid-based nano-objects by reversible addition–fragmentation chain-transfer dispersion polymerization
Kazunori Masuko, Chiharu Kumano, Ryo Sugawara, Kazuhiro Nakabayashi, Hideharu Mori
J. Polym. Sci., Version of Record online: 01 June 2021
https://doi.org/10.1002/pol.20210292

・アミノ酸構造を含むアクリルアミドモノマーを RAFT-PISA 分散重合してポリマー微粒子形態と機能制御

Hydroxyethylresorcinol- and hydroxyethylhydroquinone-containing poly (ethylene terephthalate) copolymers Ryan J. Mondschein, Jon Hostetler, Clay B. Arrington, Timothy E. Long
Polymer, 228, 123890 (2021), Available online 21 May 2021
https://doi.org/10.1016/j.polym
・ヒドロキシエチルレゾシノール/ヒドロキシエチルヒドロキノンを含むポリエステルを溶融重縮合で合成

Bio-based Materials

Ring-Opening Metathesis Polymerization of δ-Pinene: Well-Defined Polyolefins from Pine Sap
Mark R. Yarolimek, Heather R. Bookbinder, Brianna M. Coia, and Justin G. Kennemur*
ACS Macro Lett. 2021, 10, 760-766, Articles ASAP (Letter), Publication Date (Web): June 1, 2021
https://doi.org/10.1021/acsmacrolett.1c00284
・α-ピネンを異性化して二重結合の位置を変えてから ROMP でポリマー化、ポリオレフィンの新しい道標

Synthesis and characterization of paramylon propionate-graft- poly(lactic acid) and paramylon propionate-graft-poly(ε-caprolactone)
Jin Ho Seok, Yukiko Enomoto, Tadahisa Iwata*
Polymer, in press, Journal Pre-proof, Available online 3 June 2021
https://doi.org/10.1016/j.polymer.2021.123922
・天然多糖のパラミロンをエステル化した誘導体へ PLA や PCL をグラフト化することによる材料機能化

Biomedical Polymers

Design Principles of Lipid-like Ionic Liquids for Gene Delivery
David J. Siegel, Grace I. Anderson, Lauren M. Paul, Philipp J. Seibert, Patrick C. Hillesheim, Yinghong Sheng, Matthias Zeller, Andreas Taubert, Peter Werner, Christian Balischewski, Scott F. Michael,* and Arsalan Mirjafari*
ACS Applied Bio Materials, Articles ASAP (Letter), Publication Date (Web): June 2, 2021
https://doi.org/10.1021/acsabm.1c00252
・遺伝子デリバリー用の脂質構造を模倣したイオン液体化合物を開発、分子特性/集合構造/細胞導入確認

Poly(tertiary amide acrylate) Copolymers Inspired by Poly(2- oxazoline)s: Their Blood Compatibility and Hydration States
Shichen Liu, Shingo Kobayashi,* Toshiki Sonoda, and Masaru Tanaka*
Biomacromolecules, Articles ASAP (Article), Publication Date (Web): June 3, 2021
https://doi.org/10.1021/acs.biomac.1c00411
・生体適合性のポリオキソザリン構造を模倣したアクリル酸エステルを合成して抗血栓性と水和状態評価

Tunable Cross-Linking and Adhesion of Gelatin Hydrogels via Bioorthogonal Click Chemistry
Nicola Contessi Negrini, Ana Angelova Volponi, Paul T. Sharpe, and Adam D. Celiz*
ACS Biomaterials Science & Engineering, Articles ASAP (Article), Publication Date (Web): June 4, 2021
https://doi.org/10.1021/acsbiomaterials.1c00136
・ゼラチンゲル+テトラジン/ノルボルネン系クリック反応架橋で接着/培養/多能性幹細胞/生体応答を検討

Polymer Materials

Tough Bioinspired Composites That Self-Report Damage
Tommaso Magrini, Derek Kiebala, Dominique Grimm, Anna Nelson, Stephen Schrettl,* Florian Bouville,* Christoph Weder,* and André R. Studart*
ACS Applied Materials & Interfaces, Articles ASAP (Article), Publication Date (Web): June 2, 2021
https://doi.org/10.1021/acsami.1c05964
・スピロピランの応力集中発光を真珠層型ガラスとネットワークポリマーの積層型材料に組み込んで評価

Transport of Anions across the Dialytic Membrane Induced by Complexation toward Dendritic Receptors
Petra Curínová, Maximilian Winkler, Alena Krupková, Ivana Císarová, Jan Budka, Chang Nga Wun, Vratislav Blechta, Marek Maly, Lucie Cervenková Šťastná, Jan Sykora,* and TomášStrasák*
ACS Omega, Articles ASAP (Article), Publication Date (Web): June 3, 2021
https://doi.org/10.1021/acsomega.1c02142
・末端にアニオン補足官能基をもつデンドリマーを用いて低分子アニオンの半透膜を介しての輸送を促進

Polymer Structure & Physics

Structure and Dynamics of Star Polymer Films from Coarse-Grained Molecular Simulations
Wengang Zhang,* Jack F. Douglas,* Alexandros Chremos, and Francis W. Starr*

Macromolecules, Articles ASAP (Article), Publication Date (Web): June 4, 2021
https://doi.org/10.1021/acs.macromol.1c00504
・鎖長や本数が異なるスターポリマーフィルムの分子ダイナミクスを薄膜フィルムの各ポジションで評価

Role of Architecture on Thermorheological Properties of Poly(alkyl methacrylate)-Based Polymers
Bas G. P. van Ravensteijn, Raghida Bou Zerdan, Craig J. Hawker, and Matthew E. Helgeson*
Macromolecules, Articles ASAP (Article), Publication Date (Web): June 3, 2021
https://doi.org/10.1021/acs.macromol.1c00149
・ポリメタクリル酸アルキルエステル(C1/C18)共重合体のオイル中での共同を SANS/DLS/レオロジー評価

Yielding Behavior of Bottlebrush and Linear Block Copolymers
Renxuan Xie, Sanjoy Mukherjee, Adam E. Levi, Jeffrey L. Self, Hengbin Wang, Michael L. Chabinyc, Christopher M. Bates
Macromolecules, Articles ASAP (Article), Publication Date (Web): June 3, 2021
https://doi.org/10.1021/acs.macromol.1c00557
・直鎖ブロックとボトルブラシポリマーの BCC とヘキサゴナルシリンダーの降伏点変形時の構造変化追跡

Nonturbid Fast Temperature-Responsive Hydrogels with Homogeneous Three-Dimensional Networks by Two Types of Star Polymer Synthesis Methods
DoWoo Kwon, Yuto Jochi, Yuumi Okaya, Takahiro Seki, Kotaro Satoh,* Masami Kamigaito, Taiki Hoshino,* Kenji Urayama, and Yukikazu Takeoka*
Macromolecules, Articles ASAP (Article), Publication Date (Web): June 1, 2021
https://doi.org/10.1021/acs.macromol.1c00446
・2 種類の方法で作製したスターポリマーから均一構造ネットワークポリマーを合成してゲル物性まで評価

Adhesion & Surface Science

High-Strength Hydrogel Adhesive Formed via Multiple Interactions for Persistent Adhesion under Saline
Min Liang, Xin Ge, Jidong Dai, Pengfei Ren, Dandan Wei, Li Xu, Qianli Zhang, Chunpeng He, Zuhong Lu, Tianzhu Zhang*
ACS Applied Bio Materials, Articles ASAP (Article), Publication Date (Web): June 1, 2021
https://doi.org/10.1021/acsabm.1c00293
・AAm/メタクリル酸オクタデシル共重合体と SDS/アルギン酸 Na を組みわあせて海水中で接着可能なゲル

Understanding Design Rules for Optimizing the Interface between Immobilized Enzymes and Random Copolymer Brushes
Héctor Sánchez-Morán, James S. Weltz, Daniel K. Schwartz,* and Joel L. Kaar*
ACS Applied Materials & Interfaces, Articles ASAP, Publication Date (Web): June 3, 2021
https://doi.org/10.1021/acsami.1c02443
・PEG メタクリレート/スルホベタインメタクリレートランダムポリマーブラシ表面での酵素との相互作用

Flexibility-Patterned Liquid-Repelling Surfaces
Songtao Hu, Xiaobao Cao, Tom Reddyhoff, Xi Shi,* Zhike Peng,* Andrew J. deMello, and Daniele Dini
ACS Applied Materials & Interfaces, Articles ASAP, Publication Date (Web): June 3, 2021
https://doi.org/10.1021/acsami.1c05243
・柔らかいシリコーンポリマーを用いて液体をはじく表面を作製してはじきの静的/動的挙動をそれぞれ解析

Stimulation Modulates Adhesion and Mechanics of Hydrogel Adhesives
Zhen Yang, Xingwei Yang, Rong Long,* and Jianyu Li*
Langmuir, Articles ASAP (Article), Publication Date (Web): June 3, 2021
https://doi.org/10.1021/acs.langmuir.1c00696
・刺激応答性ハイドロゲルを接着の on-off に利用するための物性変化や亀裂進展の制御に関する研究

Cooperative Multivalent Weak and Strong Interfacial Interactions Enhance the Adhesion of Mussel-Inspired Adhesives
Amal Narayanan, Sukhmanjot Kaur, Nityanshu Kumar, Mesfin Tsige, Abraham Joy,* and Ali Dhinojwala*
Macromolecules, Articles ASAP (Article), Publication Date (Web): June 3, 2021
https://doi.org/10.1021/acs.macromol.1c00742
・生物模倣の接着システムに異なるアミノ酸残基を導入して DOPA の芳香環とヒドロキシ基の役割を評価

Crystal Engineering & Liquid Crystals

Strongly Entangled Triplet Acyl−Alkyl Radical Pairs in Crystals of Photostable Diphenylmethyl Adamantyl Ketones
Jin H. Park, Vince M. Hipwell, Edris A. Rivera, and Miguel A. Garcia-Garibay*
Journal of the American Chemical Society, Articles ASAP (Article), Publication Date (Web): June 3, 2021

https://doi.org/10.1021/jacs.1c03026
・著者らが研究しているジフェニルメチルアダマンチルケトンの光ラジカル解離の結晶中での挙動詳細

June 14, 2021

Reviews

Seeking Illumination: The Path to Chemiluminescent 1,2-Dioxetanes for Quantitative Measurements and In Vivo Imaging
Uroob Haris, Husain N. Kagalwala, Yujin Lisa Kim, and Alexander R. Lippert*
Accounts of Chemical Research, Articles ASAP (Article), Publication Date (Web): June 10, 2021
https://doi.org/10.1021/acs.accounts.1c00185
・本総説では触れていないが、1,2-ジオキセタン構造のラジカル解/発光システムはポリマー材料でも利用可

Aptamer-Targeted Photodynamic Platforms for Tumor Therapy
Jincong Yan, Tian Gao, Zhongzhong Lu, Jingbo Yin, Ye Zhang,* and Renjun Pei*
ACS Applied Materials & Interfaces, Articles ASAP (Review), Publication Date (Web): June 10, 2021
https://doi.org/10.1021/acsami.1c06818
・アプタマーを用いる光力学療法の光増感剤/ナノキャリアなどの相乗的な診断治療プラットホームを提案

Nonspecific Binding-Fundamental Concepts and Consequences for Biosensing Applications
Andreas Frutiger, Alexander Tanno, Stephanie Hwu, Raphael F. Tiefenauer, János Vörös,* and Nako Nakatsuka*
Chemical Reviews, Articles ASAP (Review), Publication Date (Web): June 9, 2021
https://doi.org/10.1021/acs.chemrev.1c00044
・これまで 50 年間の生体分子間の非特異的相互作用非特異的の研究を総括して理論面と現実の結果を議論

Chitosan-based nanocomposites for medical applications
Selvakumar Murugesan, Thomas Scheibel
J. Polym. Sci., Version of Record online: 08 June 2021
https://doi.org/10.1002/pol.20210251
・キトサンナノ複合体(粒子/カプセル/スキャフォールド/ファイバー/メッシュなど)のバイオメディカル応用

Polymer Synthesis

Mechanistic Insights into Oxygen Tolerance of Graphitic Carbon Nitride-Mediated Heterogeneous Photoinduced Electron Transfer-Reversible Addition Fragmentation Chain Transfer Polymerization
Erika Paola Fonseca Parra, Bilel Chouchene, Jean-Luc Six, Raphaël Schneider, and Khalid Ferji*
ACS Applied Polymer Materials, Articles ASAP (Article), Publication Date (Web): June 8, 2021
https://doi.org/10.1021/acsapm.1c00586
・MMA の PET-RAFT 重合を尿素ベース含窒素グラファイト利用して酸素除去なしで 405nm 光照射重合制御

Hyperbranched and Hyperstar Polybutadienes via Anionic Self-Condensing Vinyl Copolymerization
Ramon Novoa-Carballal, Sergey Nosov, Sandrine Pfaff, Holger Schmalz, and Axel H. E. Müller*
Macromolecules, Articles ASAP (Article), Publication Date (Web): June 7, 2021
https://doi.org/10.1021/acs.macromol.1c00537
・DVB/BD のアニオン重合で多分岐ポリマーを先に合成してからさらにメタクリル酸エステル鎖を延長

Toward an Efficient Process for the Cu(0)-Mediated Synthesis and Chain Extension of Poly(methyl acrylate) Macroinitiator Using PMDETA as Ligand
Morgan J. Cooze, Nathaniel R. Barr, and Robin A. Hutchinson*
Macromol. Chem. Phys. 2021, 2100120, Version of Record online:10 June 2021
https://doi.org/10.1002/macp.202100120
・セミバッチ系でのアクリル酸メチルの ATRP の反応制御を触媒を高価なものから汎用のものへ代替検討

Bio-based Materials

Nanostructured Multiphase Condensation of Complex Coacervates in Polymerization-Induced Electrostatic Self-Assembly
Chao Li, Ye Wang, Xiyu Wang, Zhanwei Gao, Lei Ma, Xinhua Lu, and Yuanli Cai*
ACS Macro Lett. 2021, 10, 780-785, Articles ASAP (Letter), Publication Date (Web): June 9, 2021
https://doi.org/10.1021/acsmacrolett.1c00308
・静電効果による PISA で誘起される液液分離(LLPS-PIESA)で高分子鎖集合体の形態・形状を制御

Polymer Materials

Nanoporous PVDF Hollow Fiber Employed Piezo−Tribo Nanogenerator for Effective Acoustic Harvesting
Zhaohan Yu, Ming Chen, Yunming Wang,* Jiaqi Zheng, Yongkang Zhang, Huamin Zhou, and Dequn Li
ACS Applied Materials & Interfaces, Articles ASAP, Publication Date (Web): June 7, 2021
https://doi.org/10.1021/acsami.1c04489
・ナノポーラス PVDF 中空ファイバーと PDMS バルブを利用して音を電気信号に効果的変換、センサー応用

Thermal Healing of Copolyacrylate Elastomer Based on Catalyst-Free Transketalization
Dan Zhao, Jiayu Peng, Guodong Jian, Chang Liu, Hongxiang Chen,* Yu Zhou, and Yang Zhou
Macromol. Chem. Phys., 2021, 2100042, Version of Record online:10 June 2021
https://doi.org/10.1002/macp.202100042
・ケタール構造を架橋点に導入したポリアクリレートネットワークのエラストマー挙動

Polymer Structure & Physics

Molecular Combing of Various Poly(n-Alkyl Acrylate) Chains on Mica by the Dipping Method
Akihiro Ohmatsuzawa, Moriya Kikuchi, Seigou Kawaguchi, and Jiro Kumaki*
Langmuir, Articles ASAP (Article), Publication Date (Web): June 10, 2021
https://doi.org/10.1021/acs.langmuir.1c0105
・DIP 法でポリアクリル酸エステルを伸び切り鎖状態で基板上に吸着させながら引き上げた後で AFM 観察

Decoupled Polymer Dynamics in Weakly Attractive Poly(methyl methacrylate)/Silica Nanocomposites
Wenzhi Cui, Wei You, Zhaoyan Sun, and Wei Yu*
Macromolecules, Articles ASAP (Article), Publication Date (Web): June 7, 2021
https://doi.org/10.1021/acs.macromol.1c00264
・PMMA シリカナノ複合体の界面近傍の PMMA 鎖の分子ダイナミクスを議論、新しい展望は開けるか？

Adhesion & Surface Science

Light-Activated Adhesion and Debonding of Underwater Pressure-Sensitive Adhesives Yen-Ming Tseng, Amal Narayanan, Kaushik Mishra, Xinhao Liu, and Abraham Joy*
ACS Applied Materials & Interfaces, Articles ASAP, Publication Date (Web): June 10, 2021
https://doi.org/10.1021/acsami.1c04348
・水中でも粘着力が生じて接着可能で光照射によって粘着力が 80%低下するウレタン型の PSA の開発

Amphiphilic Nitroxide-Bearing Siloxane-Based Block Copolymer Coatings for Enhanced Marine Fouling Release
Amanda Leonardi, Aria C. Zhang, Nilay Düzen, Nick Aldred, John A. Finlay, Jessica L. Clarke, Anthony S. Clare, Rachel A. Segalman, and Christopher K. Ober*
ACS Applied Materials & Interfaces, Articles ASAP, Publication Date (Web): June 9, 2021
https://doi.org/10.1021/acsami.1c05266
・PS とポリシロキサンのブロック共重合体側鎖に TEMPO と PEG 鎖を組み込んで生体物質の付着抑制効果

Controlling the Morphology of Dynamic Thia-Michael Networks to Target Pressure-Sensitive and Hot Melt Adhesives
Katie M. Herbert, Neil D. Dolinski, Nicholas R. Boynton, Julia G. Murphy, Charlie A. Lindberg, S. J. Sibener, Stuart J. Rowan*
ACS Applied Materials & Interfaces, Articles ASAP, Publication Date (Web): June 4, 2021
https://doi.org/10.1021/acsami.1c05813
・室温で可逆的なチオールのマイケル付加による架橋構造含むネットワークの PSA/ホットメルト系接着剤

Single-Lap Joints Bonded with Epoxy Nanocomposite Adhesives: Effect of Organoclay Reinforcement on Adhesion and Fatigue Behaviors
Chien-Wei Chu, Yucheng Zhang, Kakeru Obayashi, Ken Kojio,* and Atsushi Takahara*
ACS Applied Polymer Materials, Articles ASAP (Article), Publication Date (Web): June 9, 2021
https://doi.org/10.1021/acsapm.1c00347
・有機変性モンモリロナイトフィラーを含むエポキシ接着剤のシングルラップせん断接着強度と破断機構

Analyses of the Adhesion Interphase of Isotactic Polypropylene Using Hot-Melt Polyolefin Adhesives
Takuya Matsumoto, Yosuke Shimizu, and Takashi Nishino*
Macromolecules, Articles ASAP (Article), Publication Date (Web): June 8, 2021
https://doi.org/10.1021/acs.macromol.1c00647
・イソタクチック PP とエチレン/オクテンゴム境界の中間相(Interphase)構造をラマン/AFM/X 線 CT で解析

Interfacial Liquid−Liquid Phase Separation-Driven Polymerization-Induced Electrostatic Self-Assembly
Ye Wang, Chao Li, Lei Ma, Xiyu Wang, Kai Wang, Xinhua Lu, and Yuanli Cai*

Macromolecules, Articles ASAP (Article), Publication Date (Web): June 8, 2021
https://doi.org/10.1021/acs.macromol.1c00756　ACS Macro Lett. 2021, 10, 780 とほぼ同じ内容、これってあり？

June 21, 2021

Reviews

Review on lignin modifications toward natural UV protection ingredient for lignin-based sunscreens (From the themed collection: Green Chemistry Reviews)
My Ha Tran, Dieu-Phuong Phan and Eun Yeol Lee*
Green Chem., 2021, Advance Article, The article was first published on 11 Jun 2021
https://doi.org/10.1039/D1GC01139A
・リグニンはベンゼン環やケトンを含むため UV をブロックする特性が期待できることに着目した総説

Polymeric waste valorization at a crossroads: ten ways to bridge the research on model and complex/real feedstock
Idoia Hita, S. Mani Sarathy and Pedro Castaño
Green Chem., 2021, Advance Article, The article was first published on 20 May 2021
https://doi.org/10.1039/D1GC00845E
・高分子廃棄物利用に関するモデル的な研究と実際的な研究の橋渡しのための 10 種類の取り組み方法提案

Poly(ether imide)s with tailored end groups
Ke Cao, Zhen Xu, Dong Guo, Guoliang Liu
J. Polym. Sci., Version of Record online:15 June 2021
https://doi.org/10.1002/pol.20210313
・耐熱性のポリエーテルイミドの末端基を種々変更した場合の熱安定性その他の物性に与える影響を検討

Recent Progress in Polymer Cubosomes and Hexosomes
Hui Chen and Min-Hui Li*
Macromol. Rapid Commun., 2100194, Version of Record online:18 June 2021
https://doi.org/10.1002/marc.202100194
・Cubosomes は共連続キュービック液晶相、Hexosome は逆ヘキサゴナル液晶相をもつ集合体微粒子のこと

4D printing: Fundamentals, materials, applications and challenges
Aamir Ahmed, Sandeep Arya, Vinay Gupta, Hidemitsu Furukawa, Ajit Khosl
Polymer, Volume 228, 123926, Available online 6 June 2021
https://doi.org/10.1016/j.polymer.2021.123926
・4D プリンティングの基礎と用いられる材料を解説し、ソフトロボティクスなどへの応用での課題も整理

Polymer Synthesis

Direct Access to Polysaccharide-Based Vesicles with a Tunable Membrane Thickness in a Large Concentration Window via Polymerization-Induced Self-Assembly
Djallal Ikkene, Ana Andreea Arteni, Malika Ouldali, Gregory Francius, Annie Brûlet, Jean-Luc Six, and Khalid Ferji*
Biomacromolecules, Articles ASAP (Article), Publication Date (Web): June 17, 2021
https://doi.org/10.1021/acs.biomac.1c00569
・多糖の側鎖に RAFT 基を導入しておいて HPMA のグラフト重合によって PISA 誘導して粒子形態制御

Recyclable Polymers with Boronic Ester Dynamic Bonds Prepared by Miniemulsion Polymerization
Saeid Tajbakhsh, Faezeh Hajiali, and Milan Maric*
ACS Applied Polymer Materials, Articles ASAP (Article), Publication Date (Web): June 16, 2021
https://doi.org/10.1021/acsapm.1c00368
・ボロン酸エステル構造を含む 2 官能性モノマーを含むミニエマルション重合系で動的架橋構造ポリマー

Synthesis of Temperature-Responsive Polymers Containing Piperidine Carboxamide and N,N-diethylcarbamoly Piperidine Moiety via RAFT Polymerization
Yoshikatsu Akiyama
Macromol. Rapid Commun., 2100208, Version of Record online:18 June 2021
https://doi.org/10.1002/marc.202100208
・側鎖 N-置換基中にアミド基を含むポリアクリルアミドを RAFT 重合で合成して水中での UCST 挙動を解析

Statistical and Block Copolymers of Ethylene and Vinyl Acetate via Reversible Addition-Fragmentation Chain Transfer Polymerization

Arne Wolpers, Florian Baffie, Vincent Monteil,* and Franck D'Agosto*
Macromol. Rapid Commun., 2100270, Version of Record online:18 June 2021
https://doi.org/10.1002/marc.202100270
・RAFT 重合でエチレンと VAc のランダム共重合体を合成して VA-b-PE/EVA-b-EVA/PVAc-b-EVA など作製

A Novel Photoinduced Ligation Approach for Cross-Linking Polymerization, Polymer Chain-End Functionalization, and Surface Modification Using Benzoyl Azides
Azra Kocaarslan, Gorkem Yılmaz, Gokhan Topcu, Levent Demirel, and Yusuf Yagcı*
Macromol. Rapid Commun., 2100166, Version of Record online:17 June 2021
https://doi.org/10.1002/marc.202100166
・架橋/鎖末端機能化/無機微粒子表面修飾などに利用可能な光化学的な結合生成を活用したポリマー合成

Photolabile Well-Defined Polystyrene Grafted on Silica Nanoparticle via Nitroxide-Mediated Polymerization (NMP)
Hien The Ho, Trang N. T. Phan, Marine Bonnevide, Nicolas Malicki, Marc Couty, Jacques Jestin,* and Didier Gigmes*
Macromol. Rapid Commun., 2100181, Version of Record online:17 June 2021
https://doi.org/10.1002/marc.202100181
・o-ニトロベンジル基を含む官能基化 SI-NMP でシリカナノ微粒子表面に光で解離可能な PS グラフト鎖導入

RAFT Synthesis of Reactive Multifunctional Triblock-Copolymers for Polyplex Formation
Nicolas Ritt, Amal Ayaou, and Rudolf Zentel*
Macromol. Chem. Phys., 2100122, Version of Record online:16 June 2021
https://doi.org/10.1002/macp.202100122
・RAFT 重合で合成した反応性トリブロック共重合体からカチオン性ポリマー/DNA 複合体(polyplex)を設計

Expanding the library of nitrogen enriched polybenzoxazine thermosets prepared from side-chain type benzoxazines functionalized with polyethylenimine
Pratibha Sharma , Leena Nebhani*
European Polymer Journal, Volume 155, 110542, Available online 28 May 2021
https://doi.org/10.1016/j.eurpolymj.2021.110542
・側鎖にベンズオキサジンを含むポリエチレンイミンの 5～15%の窒素を含む熱硬化性樹脂の合成と物性

Polymer Materials
Dynamics of Polymerization and Gelation in Epoxy Nanocomposites via X-ray Photon Correlation Spectroscopy
Edward B. Trigg, Lutz Wiegart, Andrei Fluerasu, and Hilmar Koerner*
Macromolecules, Articles ASAP (Article), Publication Date (Web): June 17, 2021
https://doi.org/10.1021/acs.macromol.1c00727
・エポキシ硬化を X 線光子相関分光法(XPCS)で分析結果はバルク材料のレオロジー解析結果とよく一致

PEG-Based Methacrylate Tetrablock Terpolymers: How Does the Architecture Control the Gelation?
Anna P. Constantinou, Kaiwen Zhang, Birsen Somuncuoğlu, Bailin Feng, and Theoni K. Georgiou*
Macromolecules, Articles ASAP (Article), Publication Date (Web): June 16, 2021
https://doi.org/10.1021/acs.macromol.1c00349
・PEG メタクリレートテトラブロック共重合体の親水疎水シークエンスとゲル化・相図との相関を解明

Structural Variation and Chemical Performance-A Study of the Effects of Chemical Structure upon Epoxy Network Chemical Performance
Stephen T. Knox,* Anthony Wright, Colin Cameron, and J. Patrick A. Fairclough*
ACS Applied Polymer Materials, Articles ASAP (Article), Publication Date (Web): June 15, 2021
https://doi.org/10.1021/acsapm.1c00378
・4 種類の市販エポキシ樹脂と 4 種類のジアミン硬化剤の組みあわせてエポキシ硬化物を作製して特性評価

A High Strength but Fast Fracture-Self-Healing Thermoplastic Elastomer
Yu Zhang, Yongjia Yu, Xiaojuan Zhao,* Xin Yang, Ran Yu, Ying Zhang, and Wei Huang
Macromol. Rapid Commun., 2100135, Version of Record online:17 June 2021
https://doi.org/10.1002/marc.202100135
・2 種類の動的架橋構造を含む自己修復可能なポリウレタン尿素エラストマーの設計、ミクロ相分離なし

Exploring the optical and dielectric properties of bifunctional and trifunctional epoxy polymers
Haythem Jdidi, Najla Fourati, Chouki Zerrouki,* , Laurent Ibos, Magali Fois, Alain Guinault, Wissal Jilani, Samir Guermazi, Hajer Guermazi
Polymer, Volume 228, 123882, Available online 21 May 2021.

https://doi.org/10.1016/j.polymer.2021.123882
・同じアミン硬化剤を用いて２種類のエポキシ樹脂から得られる硬化物の構造/光学特性/機械/誘電特性

Bio-based Materials

Enzyme-catalyzed propagation of cello-oligosaccharide chains from bifunctional oligomeric primers for the preparation of block co-oligomers and their crystalline assemblies
Kai Sugiura, Toshiki Sawada, Hiroshi Tanaka, Takeshi Serizawa
Polym J (2021), Published18 June 2021
https://doi.org/10.1038/s41428-021-00513-y
・酵素触媒重合を用いた多糖オリゴマーの合成手法を新規開発して分解性ポリマーのライブラリーを拡張

Biomedical Polymers

Designing advanced functional polymers for medicine (Editorial)[25 編の論文を集めたバーチャルな特集]
Bas van Bochove, Dirk W. Grijpma. Andreas Lendlein, Jukka V. Seppälä (eds)
European Polymer Journal, Volume 155, 110573
https://doi.org/10.1016/j.eurpolymj.2021.110573

Polymer Structure & Physics

Length Effects of Short Alkyl Side Chains on Phase-Separated Structure and Dynamics of Hydrophobic Association Hydrogels
Jiageng Pan, Liang Gao,* Weixiang Sun,* Shuting Wang, and Xuetao Shi*
Macromolecules, Articles ASAP (Article), Publication Date (Web): June 17, 2021
https://doi.org/10.1021/acs.macromol.1c00471
・PVA の側鎖の一部をウレタン化して異なる長さのアルキル基の導入で相分離構造制御してさらに物性制御

Synthesis and Stereocomplexation of New Enantiomeric Stereo Periodical Copolymers Poly(L-lactic acid−L-lactic acid−D-lactic acid) and Poly(D-lactic acid−D-lactic acid−L-lactic acid)
Hideto Tsuji,* Masato Yamasaki, and Yuki Arakawa
Macromolecules, Articles ASAP (Article), Publication Date (Web): June 16, 2021
https://doi.org/10.1021/acs.macromol.1c01099
・ポリ乳酸の DL シークエンス制御した周期ポリマーがステレオコンプレックス形成に与える影響を検討

Cross-Linking Effect on Segmental Dynamics of Well-Defined Epoxy Resins
Atsuomi Shundo,* Mika Aoki, Satoru Yamamoto, and Keiji Tanaka*
Macromolecules, Articles ASAP (Article), Publication Date (Web): June 15, 2021
https://doi.org/10.1021/acs.macromol.1c00513
・エポキシのアルキルジアミン硬化におけるアルキル鎖の長さの影響を架橋密度/Tg/不均一性などから議論

Highly Ordered Nanoscale Film Morphologies of Block Copolymers Governed by Nonlinear Topologies
Brian J. Ree, Yusuke Satoh, Takuya Isono, and Toshifumi Satoh*
ACS Macro Lett. 2021, 10, 811−818, Articles ASAP (Letter), Publication Date (Web): June 14, 2021
https://doi.org/10.1021/acsmacrolett.1c00204
・環状と鎖状を組みあわせた AB 型ブロック共重合体のナノ薄膜中での分子配向の GISAXS による構造解析

Thermal stabilities of a molecularly stepped PMMA substrate prepared by thermal nanoimprinting and isolated PMMA chains deposited on it evaluated by high-temperature atomic force microscopy
Ryota Umetsu, Jiro Kumaki
Polym J (2021). Published14 June 2021
https://doi.org/10.1038/s41428-021-00508-9
・サファイア基板上の PMMA 1 本鎖の AFM 観察による物性評価を従来の束縛環境下での結果と比較

Crystal Engineering & Liquid Crystals

Electric-Field-Induced Chirality in Columnar Liquid Crystals
Alberto Concellón, Ru-Qiang Lu, Kosuke Yoshinaga, Hsiu-Fu Hsu, and Timothy M. Swager*
Journal of the American Chemical Society, Articles ASAP (Article), Publication Date (Web): June 11, 2021
https://doi.org/10.1021/jacs.1c05268
・テトラフェニルベンゼン誘導体カラムナー液晶にフッ素とキラル中心導入して電場印加でらせん構造誘起

Infrared crystallography for framework and linker orientation in metal–organic framework films
Bettina Baumgartner, Ken Ikigaki, Kenji Okada* and Masahide Takahashi*
Chem. Sci., 2021, Advance Article, The article was first published on 18 Jun 2021

https://doi.org/10.1039/D1SC02370E
・MOF 薄膜のリンカーの配向を偏光 FTIR 法で詳細に解析する際に測定用ホルダーを 3D プリンターで自作

June 28, 2021

Reviews

Structurally Dynamic Hydrogels for Biomedical Applications: Pursuing a Fine Balance between Macroscopic Stability and Microscopic Dynamics
Kunyu Zhang, Qian Feng, Zhiwei Fang, Luo Gu, and Liming Bian
Chem. Rev. 2021, XXXX, Publication Date:June 30, 2021, https://doi.org/10.1021/acs.chemrev.1c00071

Polymer Synthesis

Synthesis and properties of biobased mono-benzoxazine resins from natural renewable pterostilbene
Yin Lu, Kan Zhang
European Polymer Journal, Volume 156, 5 August 2021, 110607

PVC-g-PVP amphiphilic polymer synthesis by ATRP and its membrane separation performance for silicone-containing wastewater
Chao Wang, Xipeng Song, Yawei Liu, Chunhua Zhang
Polymer, Volume 229, 16 August 2021, 123965

Topological Effect on Macromonomer Polymerization
Ning Ren, Chunyang Yu, and Xinyuan Zhu
Macromolecules Article ASAP, DOI: 10.1021/acs.macromol.1c00256

Combination of the Photoinduced Atom Transfer Radical Addition Reaction and Living Cationic Polymerization: A Latent Initiator Strategy toward Tailoring Polymer Molecular Weight Distributions
Mengmeng Zhang, Jiajia Li,* Miao Chen, Xiangqiang Pan, Zhengbiao Zhang, and Jian Zhu
Macromolecules Article ASAP, DOI: 10.1021/acs.macromol.1c00332

Tandem Catalysts Combining Polymer Synthesis, Postpolymerization Modification, and Vitrimer Formation
Guifu Si,§ Meizhou Qi,§ Chen Tan,* and Changle Chen
Macromolecules Article ASAP, DOI: 10.1021/acs.macromol.1c00716

Copolymer Informatics with Multitask Deep Neural Networks
Christopher Kuenneth, William Schertzer, and Rampi Ramprasad
Macromolecules Article ASAP, DOI: 10.1021/acs.macromol.1c00728

Utilizing RAFT Polymerization for the Preparation of Well-Defined Bicontinuous Porous Polymeric Supports: Application to Liquid Chromatography Separation of Biomolecules
Aminreza Khodabandeh, R. Dario Arrua, Stuart C. Thickett, and Emily F. Hilder
ACS Applied Materials & Interfaces Article ASAP, DOI: 10.1021/acsami.1c03542

Sequence Control from Mixtures: Switchable Polymerization Catalysis and Future Materials Applications
Arron C. Deacy,† Georgina L. Gregory,† Gregory S. Sulley, Thomas T. D. Chen, and Charlotte K. Williams*
Journal of the American Chemical Society Article ASAP, DOI: 10.1021/jacs.1c03250

Polymer Materials

Renewable tannic acid based self-healing polyurethane with dynamic phenol-carbamate network: Simultaneously showing robust mechanical properties, reprocessing ability and shape memory
Yang Liu, Zetian Zhang, Junchao Wang, Taoling Xie, Liying Sun, Kaifeng Yang, Zhengjun Li
Polymer, Volume 228, 16 July 2021, 123860

Assembly of Bottlebrush Block Copolymers and Nanoparticles in Ultrathin Films: Effect of Substrate−Copolymer Interaction on the Nanocomposite Morphology
Yaron Aviv, Esra Altay, Javid Rzayev,* and Roy Shenhar
Macromolecules Article ASAP, DOI: 10.1021/acs.macromol.1c00459

Harnessing Fe(III)−Carboxylate Photochemistry for Radical-Initiated Polymerization in Hydrogels
M. H. Jayan S. Karunarathna, Abigail N. Linhart, Giuseppe E. Giammanco, Amie E. Norton, Jackson J. Chory, Jason J.

Keleher,* and Alexis D. Ostrowski
ACS Applied Bio Materials Article ASAP, DOI: 10.1021/acsabm.1c00525

3D Photothermal Cryogels for Solar-Driven Desalination
Siew-Leng Loo,* Lía Vásquez, Muhammad Zahid, Federica Costantino, Athanassia Athanassiou, and Despina Fragouli*
ACS Applied Materials & Interfaces Article ASAP, DOI: 10.1021/acsami.1c05087

Highly Transparent, Stretchable, and Conducting Ionoelastomers Based on Poly(ionic liquid)s
Xiaoqing Ming, Changgeng Zhang, Junjie Cai, He Zhu, Qi Zhang,* and Shiping Zhu
ACS Applied Materials & Interfaces Article ASAP, DOI: 10.1021/acsami.1c05833

Diffusion in Organic Film Stacks Containing Solution-Processed Phosphorescent Poly(dendrimer) Dopants
Jake A. McEwan, Andrew J. Clulow, Andrew Nelson, Anwen M. Krause-Heuer, Ross D. Jansen-van Vuuren, Paul L. Burn,* and Ian R. Gentle
ACS Applied Materials & Interfaces Article ASAP, DOI: 10.1021/acsami.1c05940

Tough, Transparent, and Anti-Freezing Nanocomposite Organohydrogels with Photochromic Properties
Jia Yang, Chen Tang, Huan Sun, Zhao Liu, Zhuangzhuang Liu, Ke Li, Lin Zhu, Gang Qin,* Gengzhi Sun, Yangling Li, and Qiang Chen
ACS Applied Materials & Interfaces Article ASAP, DOI: 10.1021/acsami.1c07563

Riboflavin Surface Modification of Poly(vinyl chloride) for LightTriggered Control of Bacterial Biofilm and Virus Inactivation
Marcelo Munoz,* Antony El-khoury, Cagla Eren Cimenci, Mayte Gonzalez-Gomez, Robert A. Hunter, David Lomboni, Fabio Variola, Benjamin H. Rotstein, Lucas L. R. Vono, Liane M. Rossi, Ana Maria Edwards, and Emilio I. Alarcon
ACS Applied Materials & Interfaces Article ASAP, DOI: 10.1021/acsami.1c08042

Supramolecular Polydimethylsiloxane Elastomer with Enhanced Mechanical Properties and Self-Healing Ability Engineered by Synergetic Dynamic Bonds
Jian Li, Hongyao Niu, Yingfeng Yu, Yulei Gao, Qiang Wu, Fenfen Wang,* and Pingchuan Sun
ACS Applied Polymer Materials Article ASAP, DOI: 10.1021/acsapm.1c00271

Bio-based Materials

Dexamethasone and Fumaric Acid Ester Conjugate Synergistically Inhibits Inflammation and NF-κB in Macrophages
Christopher J. Genito, Meital Eckshtain-Levi, Zayda L. Piedra-Quintero, Sai Archana Krovi, Abriana Kroboth, Rebeca T. Stiepel, Mireia Guerau-de-Arellano, Eric M. Bachelder, and Kristy M. Ainslie
Bioconjugate Chemistry Article ASAP, DOI: 10.1021/acs.bioconjchem.1c00200

Strain Hardening in Highly Acetylated Chitosan Gels
Franco Furlani, Andrea Marfoglia, Eleonora Marsich, Ivan Donati, and Pasquale Sacco
Biomacromolecules 2021, XXXX, Publication Date:June 23, 2021, https://doi.org/10.1021/acs.biomac.1c00293

Biobased Lactones-Exploring Their Free-Radical Polymerization and Polymer Properties
Maryam Mousa, Helena Bergenudd, Anna Larsson Kron, and Eva Malmström
Macromolecules Article ASAP, DOI: 10.1021/acs.macromol.1c00543

Regioregular Polymers from Biobased (R)-1,3-Butylene Carbonate
Christopher A. DeRosa, Anna M. Luke, Kendra Anderson, Theresa M. Reineke, William B. Tolman, Frank S. Bates,* and Marc A. Hillmyer*
Macromolecules Article ASAP, DOI: 10.1021/acs.macromol.1c00828

Biomedical Polymers

Zwitterionic dendrimer – Polymer hybrid copolymers for self-assembling antifouling coatings
Esther Roeven, Luc Scheres, Maarten M.J. Smulders, Han Zuilhof
European Polymer Journal, Volume 156, 5 August 2021, 110578

Thermoresponsive Carbohydrate-b-Polypeptoid Polymer Vesicles with Selective Solute Permeability and Permeable Factors for Solutes
Yota Okuno, Tomoki Nishimura, Yoshihiro Sasaki, and Kazunari Akiyoshi
Biomacromolecules Article ASAP, DOI: 10.1021/acs.biomac.1c00530

Influence of Monomer Structures for Polymeric Multivalent Ligands: Consideration of the Molecular Mobility of Glycopolymers
Masanori Nagao, Masaya Kichize, Yu Hoshino, and Yoshiko Miura
Biomacromolecules 2021, XXXX, Publication Date:June 21, 2021, https://doi.org/10.1021/acs.biomac.1c00553

Silicone Elastomer with Self-Generating Zwitterions for Antifouling Coatings
Peng Hu, Haohang Zeng, Huan Zhou, Cong Zhang, Qingyi Xie,* Chunfeng Ma,* and Guangzhao Zhang
Langmuir Article ASAP, DOI: 10.1021/acs.langmuir.1c00984

Tailoring the Architecture of Cationic Polymer Brush-Modified Carbon Nanotubes for Efficient siRNA Delivery in Cancer Immunotherapy
Danyang Li, Momina Ahmed, Anisah Khan, Lizhou Xu, Adam A. Walters, Belén Ballesteros, and Khuloud T. Al-Jamal
ACS Applied Materials & Interfaces Article ASAP, DOI: 10.1021/acsami.1c02627

Polymer Structure & Physics

Exploring the optical and dielectric properties of bifunctional and trifunctional epoxy polymers
Haythem Jdidi, Najla Fourati, Chouki Zerrouki, Laurent Ibos, Magali Fois, Alain Guinault, Wissal Jilani, Samir Guermazi, Hajer Guermazi
Polymer, Volume 228, 16 July 2021, 123882

Relaxation behaviour and free volume of bio-based Poly(trimethylene terephthalate)-block-poly(caprolactone) copolymers as revealed by Broadband Dielectric and Positron Annihilation Lifetime Spectroscopies
Izabela Irska, Sandra Paszkiewicz, Daria Pawlikowska, Jerzy Dryzek, Amelia Linares, Aurora Nogales, Tiberio A. Ezquerra, Elzbieta Piesowicz
Polymer, Volume 229, 16 August 2021, 123949

Multimolecular Structure Formation with Linear Dendritic Copolymers
Martin Wengenmayr, Ron Dockhorn, and Jens-Uwe Sommer
Macromolecules Article ASAP, DOI: 10.1021/acs.macromol.1c00226

Nanodiffraction Imaging of Polymer Crystals
Shusuke Kanomi, Hironori Marubayashi, Tomohiro Miyata, Kenji Tsuda, and Hiroshi Jinnai*
Macromolecules Article ASAP, DOI: 10.1021/acs.macromol.1c00683

Physical Property Scaling Relationships for Polyelectrolyte Complex Micelles
Alexander E. Marras, Trinity R. Campagna, Jeffrey R. Vieregg,* and Matthew V. Tirrell
Macromolecules Article ASAP, DOI: 10.1021/acs.macromol.1c00743

Planar Orientation and Transparency of Nanoporous-Crystalline Polymer Films
Baku Nagendra, Paola Rizzo, Christophe Daniel, and Gaetano Guerra
Macromolecules Article ASAP, DOI: 10.1021/acs.macromol.1c00925

Universal Self-Healing Poly(dimethylsiloxane) Polymer Crosslinked Predominantly by Physical Entanglements
Da-Peng Wang, Zi-Han Zhao, and Cheng-Hui Li*
ACS Applied Materials & Interfaces Article ASAP, DOI: 10.1021/acsami.1c06521

Heterogeneous Stress Distribution and Hierarchical Structure in the Highly Oriented Nylon 6 Strings Annealed at Various Temperatures to Evaluate the True Crystallite Modulus
Sreenivas Kummara and Kohji Tashiro
Macromolecules Article ASAP, DOI: 10.1021/acs.macromol.1c00142

Adhesion & Surface Science

Reconfigurable Pickering Emulsions with Functionalized Carbon Nanotubes
Quynh P. Ngo, Maggie He, Alberto Concellón, Kosuke Yoshinaga, Shao-Xiong Lennon Luo, Nouf Aljabri, and Timothy M. Swager
Langmuir 2021, XXXX, Publication Date:June 30, 2021, https://doi.org/10.1021/acs.langmuir.1c00904

Quantification of Interactions at the Polymer–Substrate Interface: Implications for Nanoscale Behavior
J. K. Wenderott, Ban Xuan Dong, Jojo A. Amonoo, and Peter F. Green
Macromolecules Article ASAP, DOI: 10.1021/acs.macromol.1c00517

Biomimetic Water-Repelling Surfaces with Robustly Flexible Structures
Songtao Hu, Tom Reddyhoff, Jinbang Li, Xiaobao Cao, Xi Shi,* Zhike Peng,* Andrew J. deMello, and Daniele Dini
ACS Applied Materials & Interfaces Article ASAP, DOI: 10.1021/acsami.1c10157

Crystal Engineering & Liquid Crystals

Polar Liquid Crystalline Polymers Bearing Mesogenic Side Chains with Large Dipole Moment
Shuqi Dai, Jinxing Li, Junichi Kougo, Huanyu Lei, Satoshi Aya,* and Mingjun Huang
Macromolecules Article ASAP, DOI: 10.1021/acs.macromol.1c00864

Chiral Carboxyl-Functionalized Covalent Organic Framework for Enantioselective Adsorption of Amino Acids
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ACS Applied Materials & Interfaces Article ASAP, DOI: 10.1021/acsami.1c09238

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