J Carson Meredith

List of Publications by Year
in descending order

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Version: 2024-02-01

117 papers	5,121 citations	109264 35 h-index	95218 68 g-index
122 all docs	122 docs citations	122 times ranked	6646 citing authors

#	Article	IF	Citations
1	Encapsulation of cellulose nanocrystals into acrylic latex particles via miniemulsion polymerization. Polymer, 2022, 240, 124488.	1.8	7
2	The Solution is the Solution: Data-Driven Elucidation of Solution-to-Device Feature Transfer for Ï€-Conjugated Polymer Semiconductors. ACS Applied Materials & Interfaces, 2022, 14, 3613-3620.	4.0	16
3	Minimizing Oxygen Permeability in Chitin/Cellulose Nanomaterial Coatings by Tuning Chitin Deacetylation. ACS Sustainable Chemistry and Engineering, 2022, 10, 124-133.	3.2	13
4	Composition Gradient High-Throughput Polymer Libraries Enabled by Passive Mixing and Elevated Temperature Operability. Chemistry of Materials, 2022, 34, 6659-6670.	3.2	3
5	Enabling zero added-coalescent waterborne acrylic coatings with cellulose nanocrystals. Progress in Organic Coatings, 2021, 150, 105969.	1.9	14
6	Synergistic Reinforcement of Composite Hydrogels with Nanofiber Mixtures of Cellulose Nanocrystals and Chitin Nanofibers. Biomacromolecules, 2021, 22, 340-352.	2.6	10
7	Photostability of Ambient-Processed, Conjugated Polymer Electrochromic Devices Encapsulated by Bioderived Barrier Films. ACS Sustainable Chemistry and Engineering, 2021, 9, 2937-2945.	3.2	11
8	Continuous stabilization of polyacrylonitrile (PAN) - carbon nanotube (CNT) fibers by Joule heating. Chemical Engineering Science, 2021, 236, 116495.	1.9	7
9	Stabilization of polyacrylonitrile fibers with carbon nanotubes. Polymer Degradation and Stability, 2021, 188, 109567.	2.7	3
10	Structureâ€"Property Relationship in Capillary Foams. Langmuir, 2021, 37, 10510-10520.	1.6	5
11	Acryloyl-modified cellulose nanocrystals: effects of substitution on crystallinity and copolymerization with acrylic monomers. Cellulose, 2021, 28, 10875-10889.	2.4	5
12	Increasing efficiency of the homogenization process for production of chitin nanofibers for barrier film applications. Carbohydrate Polymers, 2021, 274, 118658.	5.1	10
13	Controlling Barrier and Mechanical Properties of Cellulose Nanocrystals by Blending with Chitin Nanofibers. Biomacromolecules, 2020, 21, 545-555.	2.6	35
14	Acrylic Functionalization of Cellulose Nanocrystals with 2-Isocyanatoethyl Methacrylate and Formation of Composites with Poly(methyl methacrylate). ACS Omega, 2020, 5, 31092-31099.	1.6	9
15	Small Data Machine Learning: Classification and Prediction of Poly(ethylene terephthalate) Stabilizers Using Molecular Descriptors. ACS Applied Polymer Materials, 2020, 2, 5592-5601.	2.0	13
16	Editorial on 2020 biomaterials special issue. Emergent Materials, 2020, 3, 427-428.	3.2	0
17	Chitin- and cellulose-based sustainable barrier materials: a review. Emergent Materials, 2020, 3, 919-936.	3.2	57
18	Multifunctional Bioâ€Nanocomposite Coatings for Perishable Fruits. Advanced Materials, 2020, 32, e1908291.	11.1	97

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19	Rheology of capillary foams. Soft Matter, 2020, 16, 6725-6732.	1.2	11
20	Bioâ€Nanocomposite Coatings: Multifunctional Bioâ€Nanocomposite Coatings for Perishable Fruits (Adv.) Tj ETQq0 0 0 rgBT /Overlock	11.1	3
21	High Throughput Screening of Mechanical Properties and Scratch Resistance of Tricomponent Polyurethane Coatings. ACS Applied Polymer Materials, 2019, 1, 3064-3073.	2.0	7
22	Cloud condensation nuclei activity of six pollenkitts and the influence of their surface activity. Atmospheric Chemistry and Physics, 2019, 19, 4741-4761.	1.9	21
23	Surface Structure Patterning for Fabricating Non-fluorinated Superhydrophobic Cellulosic Membranes. ACS Applied Polymer Materials, 2019, 1, 1220-1229.	2.0	16
24	Humidity-tolerant rate-dependent capillary viscous adhesion of bee-collected pollen fluids. Nature Communications, 2019, 10, 1379.	5.8	20
25	Mechanical reinforcement and thermal properties of PVA tricomponent nanocomposites with chitin nanofibers and cellulose nanocrystals. Composites Part A: Applied Science and Manufacturing, 2019, 116, 147-157.	3.8	59
26	Influence of Topography on Adhesion and Bioadhesion. Advances in Polymer Science, 2018, , 19-50.	0.4	3
27	The dynamics of rising oil-coated bubbles: experiments and simulations. Soft Matter, 2018, 14, 2724-2734.	1.2	15
28	The atypically high modulus of pollen exine. Journal of the Royal Society Interface, 2018, 15, 20180533.	1.5	18
29	Pollen fillers for reinforcing and strengthening of epoxy composites. Emergent Materials, 2018, 1, 95-103.	3.2	27
30	Spray-Coated Multilayer Cellulose Nanocrystalâ€"Chitin Nanofiber Films for Barrier Applications. ACS Sustainable Chemistry and Engineering, 2018, 6, 10637-10644.	3.2	102
31	Interfacial Activity of Nonamphiphilic Particles in Fluidâ€"Fluid Interfaces. Langmuir, 2017, 33, 4511-4519.	1.6	41
32	Adhesion Enhancements and Surface-Enhanced Raman Scattering Activity of Ag and Ag@SiO₂ Nanoparticle Decorated Ragweed Pollen Microparticle Sensor. ACS Applied Materials & Interfaces, 2017, 9, 24804-24811.	4.0	20
33	Capillary Foams: Formation Stages and Effects of System Parameters. Industrial & Engineering Chemistry Research, 2017, 56, 9533-9540.	1.8	13
34	Tunable multimodal adhesion of 3D, nanocrystalline CoFe 2 O 4 pollen replicas. Bioinspiration and Biomimetics, 2017, 12, 066009.	1.5	10
35	Rheological behavior of highly loaded cellulose nanocrystal/poly(vinyl alcohol) composite suspensions. Cellulose, 2016, 23, 3001-3012.	2.4	28
36	Bubble Meets Droplet: Particleâ€Assisted Reconfiguration of Wetting Morphologies in Colloidal Multiphase Systems. Small, 2016, 12, 3309-3319.	5.2	23

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37	Poly(ethylene oxide) bionanocomposites reinforced with chitin nanofiber networks. Polymer, 2016, 84, 267-274.	1.8	30
38	Pressure sensitive microparticle adhesion through biomimicry of the pollenâ€“stigma interaction. Soft Matter, 2016, 12, 2965-2975.	1.2	18
39	Site-Selective Modification of Cellulose Nanocrystals with Isophorone Diisocyanate and Formation of Polyurethane-CNC Composites. ACS Applied Materials & Interfaces, 2016, 8, 1458-1467.	4.0	108
40	Effect of water absorption on pollen adhesion. Journal of Colloid and Interface Science, 2015, 442, 133-139.	5.0	38
41	Capillary Foams: Stabilization and Functionalization of Porous Liquids and Solids. Langmuir, 2015, 31, 2669-2676.	1.6	37
42	Exploiting colloidal interfaces to increase dispersion, performance, and pot-life in cellulose nanocrystal/waterborne epoxy composites. Polymer, 2015, 68, 111-121.	1.8	38
43	Three-dimensional magnetite replicas of pollen particles with tailorable and predictable multimodal adhesion. Journal of Materials Chemistry C, 2015, 3, 632-643.	2.7	17
44	Bioenabled Core/Shell Microparticles with Tailored Multimodal Adhesion and Optical Reflectivity. Chemistry of Materials, 2015, 27, 7321-7330.	3.2	11
45	Facile Route to Produce Chitin Nanofibers as Precursors for Flexible and Transparent Gas Barrier Materials. Biomacromolecules, 2014, 15, 4614-4620.	2.6	70
46	Stabilization of Liquid Foams through the Synergistic Action of Particles and an Immiscible Liquid. Angewandte Chemie - International Edition, 2014, 53, 13385-13389.	7.2	21
47	Morphological Factors Involved in Adhesion of Acid-Cleaned Diatom Silica. Silicon, 2014, 6, 95-107.	1.8	7
48	Surface treated pollen performance as a renewable reinforcing filler for poly(vinyl acetate). Journal of Materials Chemistry A, 2014, 2, 17031-17040.	5.2	18
49	Assembly of Chitin Nanofibers into Porous Biomimetic Structures via Freeze Drying. ACS Macro Letters, 2014, 3, 185-190.	2.3	75
50	Pollenkitt Wetting Mechanism Enables Species-Specific Tunable Pollen Adhesion. Langmuir, 2013, 29, 3012-3023.	1.6	69
51	Conversion of Pollen Particles into Three-Dimensional Ceramic Replicas Tailored for Multimodal Adhesion. Chemistry of Materials, 2013, 25, 4529-4536.	3.2	41
52	Mechanical and thermal properties of waterborne epoxy composites containing cellulose nanocrystals. Polymer, 2013, 54, 6589-6598.	1.8	175
53	MOF stability and gas adsorption as a function of exposure to water, humid air, SO2, and NO2. Microporous and Mesoporous Materials, 2013, 173, 86-91.	2.2	94
54	Adhesion Improvements of Nanocellulose Composite Interfaces. Plastics Engineering, 2013, 69, 32-37.	0.1	5

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55	Spatially Resolved Solid-State ¹H NMR for Evaluation of Gradient-Composition Polymeric Libraries. ACS Combinatorial Science, 2012, 14, 415-424.	3.8	5
56	High-Throughput Screening of Metalâ€“Organic Frameworks for CO₂ Separation. ACS Combinatorial Science, 2012, 14, 263-267.	3.8	106
57	Composite proton exchange membranes from zirconiumâ€based solid acids and PVDF/acrylic polyelectrolyte blends. Journal of Applied Polymer Science, 2012, 124, E241.	1.3	8
58	Non-DLVO Silica Interaction Forces in NMPâ€“Water Mixtures. II. An Asymmetric System. Langmuir, 2011, 27, 10000-10006.	1.6	13
59	Non-DLVO Silica Interaction Forces in NMPâ€“Water Mixtures. I. A Symmetric System. Langmuir, 2011, 27, 6897-6904.	1.6	14
60	Dye-labeled polystyrene latex microspheres prepared via a combined swelling-diffusion technique. Journal of Colloid and Interface Science, 2011, 363, 137-144.	5.0	49
61	Pollen: A Novel, Biorenewable Filler for Polymer Composites. Macromolecular Materials and Engineering, 2011, 296, 1055-1062.	1.7	11
62	Osteoblast Adhesion and Proliferation on Poly(3â€octylthiophene) Thin Films. Macromolecular Bioscience, 2010, 10, 258-264.	2.1	7
63	Effect of Poly(3â€octylthiophene) Doping on the Attachment and Proliferation of Osteoblasts. Macromolecular Bioscience, 2010, 10, 1536-1543.	2.1	4
64	Effect of nanowhisker-modified zeolites on mechanical and thermal properties of poly(vinyl acetate) composites with pure-silica MFI. Polymer, 2010, 51, 5744-5755.	1.8	14
65	Measuring the Influence of Solution Chemistry on the Adhesion of Au Nanoparticles to Mica Using Colloid Probe Atomic Force Microscopy. Langmuir, 2010, 26, 13995-14003.	1.6	27
66	High-Throughput Characterization of Novel PVDF/Acrylic Polyelectrolyte Semi-Interpenetrated Network Proton Exchange Membranes. Macromolecules, 2010, 43, 7625-7636.	2.2	36
67	Local cell metrics: a novel method for analysis of cell-cell interactions. BMC Bioinformatics, 2009, 10, 350.	1.2	6
68	High-throughput screening of ionic conductivity in polymer membranes. Electrochimica Acta, 2009, 54, 3899-3909.	2.6	15
69	Highly Scattering, Surface-Enhanced Raman Scattering-Active, Metal Nanoparticle-Coated Polymers Prepared via Combined Swellingâˆ'Heteroaggregation. Chemistry of Materials, 2009, 21, 5654-5663.	3.2	55
70	Characterization of Ragweed Pollen Adhesion to Polyamides and Polystyrene Using Atomic Force Microscopy. Environmental Science & Technology, 2009, 43, 4308-4313.	4.6	41
71	Facile Preparation of Highly-Scattering Metal Nanoparticle-Coated Polymer Microbeads and Their Surface Plasmon Resonance. Journal of the American Chemical Society, 2009, 131, 5048-5049.	6.6	109
72	Role of Lewis Basicity and van der Waals Forces in Adhesion of Silica MFI Zeolites (010) with Polyimides. Langmuir, 2009, 25, 9101-9107.	1.6	20

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73	Advances in combinatorial and high-throughput screening of biofunctional polymers for gene delivery, tissue engineering and anti-fouling coatings. Journal of Materials Chemistry, 2009, 19, 34-45.	6.7	32
74	Local Histogram Analysis: Detecting Cell-Microstructure Interactions on Combinatorial Biomaterial Libraries. Combinatorial Chemistry and High Throughput Screening, 2009, 12, 626-633.	0.6	6
75	Quantification of E. coli adhesion to polyamides and polystyrene with atomic force microscopy. Colloids and Surfaces B: Biointerfaces, 2008, 65, 308-312.	2.5	18
76	Osmotic pressure and chemical potential of silica nanoparticles in aqueous poly(ethyleneoxide) solution. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2008, 317, 129-135.	2.3	14
77	Optimization of Microdomain Structure to Control Osteoblast Attachment on Poly(ethylene) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf	0.3	1
78	Mechanical and Thermal Properties of Poly(urethane urea) Nanocomposites Prepared with Diamine-Modified Laponite. Journal of Nanomaterials, 2008, 2008, 1-9.	1.5	4
79	Quantitative High-Throughput Screening of Osteoblast Attachment, Spreading, and Proliferation on Demixed Polymer Blend Micropatterns. Biomacromolecules, 2007, 8, 1907-1917.	2.6	44
80	Measurement of polyamide and polystyrene adhesion with coated-tip atomic force microscopy. Journal of Colloid and Interface Science, 2007, 314, 52-62.	5.0	23
81	Simulation of Interaction Forces between Nanoparticles:â€‰ End-Grafted Polymer Modifiers. Journal of Chemical Theory and Computation, 2006, 2, 1624-1631.	2.3	30
82	The use of temperatureâ€"composition combinatorial libraries to study the effects of biodegradable polymer blend surfaces on vascular cells. Biomaterials, 2005, 26, 4557-4567.	5.7	37
83	Combinatorial screening of organic electronic materials: thin film stability. Measurement Science and Technology, 2005, 16, 128-136.	1.4	18
84	Knowledge Discovery Applications in High-Throughput Polymer Characterization. Materials Research Society Symposia Proceedings, 2005, 894, 1.	0.1	0
85	Simulation of Interaction Forces between Nanoparticles in the Presence of Lennardâˆ'Jones Polymers:Â Freely Adsorbing Homopolymer Modifiers. Langmuir, 2005, 21, 487-497.	1.6	19
86	High-throughput mechanical characterization of free-standing polymer films. Review of Scientific Instruments, 2005, 76, 062214.	0.6	35
87	Attractive Nanocolloidâˆ'Polymer Mixtures:Â Comparison of a Modified Perturbed Lennard-Jones Equation of State to Monte Carlo Simulation. Macromolecules, 2005, 38, 167-173.	2.2	2
88	Instability and Dewetting of Conducting-Insulating Polymer Thin-Film Bilayers. Macromolecular Rapid Communications, 2004, 25, 275-279.	2.0	14
89	The effect of scaffold degradation rate on three-dimensional cell growth and angiogenesis. Biomaterials, 2004, 25, 5735-5742.	5.7	686
90	High-Throughput Discovery of Structureâˆ'Mechanical Property Relationships for Segmented Poly(urethaneâˆ'urea)s. Macromolecules, 2004, 37, 2186-2195.	2.2	81

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91	Nanoscale Colloids in a Freely Adsorbing Polymer Solution:â€‰ A Monte Carlo Simulation Study. Langmuir, 2004, 20, 1501-1510.	1.6	10
92	Guest editorial: Special review section on combinatorial and high-throughput polymer science. Journal of Materials Science, 2003, 38, 4425-4425.	1.7	1
93	High-throughput dynamic impact characterization of polymer films. Materials Research Innovations, 2003, 7, 295-301.	1.0	18
94	Combinatorial characterization of cell interactions with polymer surfaces. Journal of Biomedical Materials Research - Part A, 2003, 66A, 483-490.	2.1	151
95	High-Throughput Screening of Mechanical Properties on Temperature-Gradient Polyurethaneurea Libraries. Macromolecular Rapid Communications, 2003, 24, 118-122.	2.0	28
96	Combinatorial investigation of dewetting: polystyrene thin films on gradient hydrophilic surfaces. Polymer, 2003, 44, 769-772.	1.8	56
97	Adsorption-Induced Conformational Changes in Fibronectin Due to Interactions with Well-Defined Surface Chemistries. Langmuir, 2003, 19, 8033-8040.	1.6	251
98	Image Analysis for High-Throughput Materials Science. , 2003, , 33-56.		2
99	Simulation of nanocolloid chemical potentials in a hard-sphere polymer solution: Expanded ensemble Monte Carlo. Journal of Chemical Physics, 2002, 117, 5443-5451.	1.2	14
100	Combinatorial Methods for Investigations in Polymer Materials Science. MRS Bulletin, 2002, 27, 330-335.	1.7	103
101	Organization of Hybrid Dendrimerâˆ'Inorganic Nanoparticles on Amphiphilic Surfaces. Macromolecules, 2002, 35, 4852-4854.	2.2	35
102	Phase Diagram of a Nearly Isorefractive Polyolefin Blend. Macromolecules, 2002, 35, 1072-1078.	2.2	79
103	Combinatorial methods for polymer materials science: Phase behavior of nanocomposite blend films. Polymer Engineering and Science, 2002, 42, 1836-1840.	1.5	34
104	Combinatorial Polymer Science: Synthesis and Characterization. ACS Symposium Series, 2002, , 23-47.	0.5	4
105	High-throughput characterization of pattern formation in symmetric diblock copolymer films. Journal of Polymer Science, Part B: Polymer Physics, 2001, 39, 2141-2158.	2.4	72
106	Combinatorial Study of Surface Pattern Formation in Thin Block Copolymer Films. Physical Review Letters, 2001, 87, 015503.	2.9	112
107	LCST phase separation in biodegradable polymer blends: poly(D,L-lactide) and poly(Îµ-caprolactone). Macromolecular Chemistry and Physics, 2000, 201, 733-739.	1.1	109
108	High-Throughput Measurement of Polymer Blend Phase Behavior. Macromolecules, 2000, 33, 5760-5762.	2.2	178

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109	Combinatorial Materials Science for Polymer Thin-Film Dewetting. Macromolecules, 2000, 33, 9747-9756.	2.2	217
110	Density Dependence of Homopolymer Adsorption and Colloidal Interaction Forces in a Supercritical Solvent:Â Monte Carlo Simulation. Langmuir, 1999, 15, 8037-8044.	1.6	16
111	Theory of Polymer Adsorption and Colloid Stabilization in Supercritical Fluids. 2. Copolymer and End-Grafted Stabilizers. Macromolecules, 1998, 31, 5518-5528.	2.2	55
112	Theory of Polymer Adsorption and Colloid Stabilization in Supercritical Fluids. 1. Homopolymer Stabilizers. Macromolecules, 1998, 31, 5507-5517.	2.2	29
113	Simulation of structure and interaction forces for surfaces coated with grafted chains in a compressible solvent. Journal of Chemical Physics, 1998, 109, 6424-6434.	1.2	41
114	Relationship between polymer chain conformation and phase boundaries in a supercritical fluid. Journal of Chemical Physics, 1997, 107, 10782-10792.	1.2	85
115	Spectroscopy: the fourth vertex on the molecular thermodynamics tetrahedron. Fluid Phase Equilibria, 1996, 116, 385-394.	1.4	10
116	Quantitative Equilibrium Constants between CO2and Lewis Bases from FTIR Spectroscopy. The Journal of Physical Chemistry, 1996, 100, 10837-10848.	2.9	161
117	Non-biomedical applications of materiomics. , 0, , 177-198.		0