C Grant Willson

List of Publications by Year
in descending order

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123	8,942	43	90
papers	citations	h-index	g-index

61984

45317

125	125	125	7770
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Unusual Thermal Properties of Certain Poly(3,5-disubstituted styrene)s. Macromolecules, 2020, 53, 5504-5511.	4.8	2
2	Spatial Control of the Self-assembled Block Copolymer Domain Orientation and Alignment on Photopatterned Surfaces. ACS Applied Materials & Interfaces, 2020, 12, 23399-23409.	8.0	7
3	Synthesis of Unzipping Polyester and a Study of its Photochemistry. Journal of the American Chemical Society, 2019, 141, 14736-14741.	13.7	16
4	Strategies for Increasing the Rate of Defect Annihilation in the Directed Self-Assembly of High-Ï‡ Block Copolymers. ACS Applied Materials & Interfaces, 2019, 11, 48419-48427.	8.0	11
5	Defect mitigation in sub-20nm patterning with high-chi, silicon-containing block copolymers. , 2019, , .		2
6	Characterizing the Interface Scaling of High Ï‡ Block Copolymers near the Orderâ€“Disorder Transition. Macromolecules, 2018, 51, 173-180.	4.8	34
7	Our First and Next Decades at ACS Nano. ACS Nano, 2017, 11, 7553-7555.	14.6	0
8	Influence of topographically patterned angled guidelines on directed self-assembly of block copolymers. Physical Review E, 2017, 96, 052501.	2.1	3
9	Directed Self-Assembly and Pattern Transfer of Five Nanometer Block Copolymer Lamellae. ACS Nano, 2017, 11, 7656-7665.	14.6	103
10	A Hybrid Chemo-/Grapho-Epitaxial Alignment Strategy for Defect Reduction in Sub-10 nm Directed Self-Assembly of Silicon-Containing Block Copolymers. Chemistry of Materials, 2016, 28, 8951-8961.	6.7	28
11	Nanoscience and Nanotechnology Impacting Diverse Fields of Science, Engineering, and Medicine. ACS Nano, 2016, 10, 10615-10617.	14.6	22
12	Synthesis and Characterization of Si-containing Block Co-polymers with Resolution beyond 10 nm. Journal of Photopolymer Science and Technology = [Fotoporima Konwakai Shi], 2016, 29, 701-704.	0.3	4
13	Pattern Transfer of Sub-10 nm Features via Tin-Containing Block Copolymers. ACS Macro Letters, 2016, 5, 391-395.	4.8	22
14	Interactions between plasma and block copolymers used in directed self-assembly patterning. Proceedings of SPIE, 2016, , .	0.8	8
15	Nano Day: Celebrating the Next Decade of Nanoscience and Nanotechnology. ACS Nano, 2016, 10, 9093-9103.	14.6	77
16	Quantifying the Interface Energy of Block Copolymer Top Coats. ACS Macro Letters, 2016, 5, 1306-1311.	4.8	12
17	Designing Intrablock Attractions To Increase the Ï‡ Parameter of a Symmetric Diblock Copolymer. Macromolecules, 2016, 49, 8332-8340.	4.8	29
18	Structure, Stability, and Reorganization of 0.5 <i>L</i>₀ Topography in Block Copolymer Thin Films. ACS Nano, 2016, 10, 10152-10160.	14.6	38

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19	Photopatterning of Block Copolymer Thin Films. ACS Macro Letters, 2016, 5, 460-465.	4.8	23
20	Experimental and Modeling Study of Domain Orientation in Confined Block Copolymer Thin Films. Macromolecules, 2016, 49, 308-316.	4.8	34
21	Directly patternable benzocyclobutene and methacrylate silsesquioxanes for microelectronics packaging. Journal of the Ceramic Society of Japan, 2015, 123, 800-804.	1.1	2
22	Interfacial Layers with Photoswitching Surface Energy for Block Copolymer Alignment and Directed Self-Assembly. Journal of Photopolymer Science and Technology = [Fotoporima Konwakai Shi], 2015, 28, 611-615.	0.3	4
23	Double-Patterned Sidewall Directed Self-Assembly and Pattern Transfer of Sub-10 nm PTMSS-<i>b</i>-PMOST. ACS Applied Materials & Interfaces, 2015, 7, 13476-13483.	8.0	60
24	Directed Self-Assembly of Silicon-Containing Block Copolymer Thin Films. ACS Applied Materials & Interfaces, 2015, 7, 3323-3328.	8.0	68
25	Chemically Amplified, Positive Tone, Polynorbornene Dielectric for Microelectronics Packaging. ECS Journal of Solid State Science and Technology, 2015, 4, N3001-N3007.	1.8	4
26	Synthesis and Characterization of a Two Stage, Nonlinear Photobase Generator. Journal of Organic Chemistry, 2015, 80, 7530-7535.	3.2	19
27	Design of highâ€Ï‡ block copolymers for lithography. Journal of Polymer Science Part A, 2015, 53, 344-352.	2.3	136
28	Directed self assembly of block copolymers using chemical patterns with sidewall guiding lines, backfilled with random copolymer brushes. Soft Matter, 2015, 11, 9107-9114.	2.7	17
29	Mesoscale modeling: a study of particle generation and line-edge roughness. Journal of Micro/Nanolithography, MEMS, and MOEMS, 2014, 13, 013012.	0.9	6
30	Block Copolymer Lithography. Macromolecules, 2014, 47, 2-12.	4.8	537
31	Ordering poly(trimethylsilyl styreneâ€<i>block</i>â€<scp><i>D</i>,<i>L</i></scp>â€lactide) block copolymers in thin films by solvent annealing using a mixture of domainâ€selective solvents. Journal of Polymer Science, Part B: Polymer Physics, 2014, 52, 36-45.	2.1	25
32	Progress Report on the Generation of Polyfunctional Microscale Particles for Programmed Self-Assembly. Chemistry of Materials, 2014, 26, 1457-1462.	6.7	4
33	Interfacial Design for Block Copolymer Thin Films. Chemistry of Materials, 2014, 26, 1471-1479.	6.7	108
34	Photopatternable Interfaces for Block Copolymer Lithography. ACS Macro Letters, 2014, 3, 824-828.	4.8	28
35	Synthesis of Amphiphilic Naturally-Derived Oligosaccharide-block-Wax Oligomers and Their Self-Assembly. ACS Macro Letters, 2014, 3, 839-844.	4.8	9
36	A Study of Tin-containing Block Copolymers. Journal of Photopolymer Science and Technology = [Fotoporima Konwakai Shi], 2014, 27, 445-448.	0.3	5

#	ARTICLE	IF	CITATIONS
37	Photochemical Reactions for Replicating and Aligning Block Copolymer Thin Film Patterns. Journal of Photopolymer Science and Technology = [Fotoporima Konwakai Shi], 2014, 27, 435-440.	0.3	5
38	Consequences of Surface Neutralization in Diblock Copolymer Thin Films. ACS Nano, 2013, 7, 9905-9919.	14.6	59
39	Synthesis and thinâ€film orientation of poly(styreneâ€<i>block</i>â€trimethylsilylisoprene). Journal of Polymer Science Part A, 2013, 51, 290-297.	2.3	16
40	High-throughput sequencing of the paired human immunoglobulin heavy and light chain repertoire. Nature Biotechnology, 2013, 31, 166-169.	17.5	401
41	Light-Activated Replication of Block Copolymer Fingerprint Patterns. Macromolecules, 2013, 46, 4510-4519.	4.8	15
42	Ultraviolet curable branched siloxanes as low-k dielectrics for imprint lithography. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2013, 31, .	1.2	16
43	Polarity-switching Top Coats for Silicon-containing Block Copolymer Orientation Control. Journal of Photopolymer Science and Technology = [Fotoporima Konwakai Shi], 2013, 26, 223-224.	0.3	4
44	Block Copolymer Orientation Control Using a Top-Coat Surface Treatment. Journal of Photopolymer Science and Technology = [Fotoporima Konwakai Shi], 2012, 25, 125-130.	0.3	15
45	Thin Film Self-Assembly of Poly(trimethylsilylstyrene-<i>b</i>-<scp>d</scp>,<scp>l</scp>-lactide) with Sub-10 nm Domains. Macromolecules, 2012, 45, 8722-8728.	4.8	120
46	Polarity-Switching Top Coats Enable Orientation of Subâ€“10-nm Block Copolymer Domains. Science, 2012, 338, 775-779.	12.6	354
47	Oligosaccharide/Silicon-Containing Block Copolymers with 5 nm Features for Lithographic Applications. ACS Nano, 2012, 6, 3424-3433.	14.6	194
48	Polymeric Cross-Linked Surface Treatments for Controlling Block Copolymer Orientation in Thin Films. Langmuir, 2011, 27, 2000-2006.	3.5	53
49	Nanoimprint Lithography Materials Development for Semiconductor Device Fabrication. Annual Review of Materials Research, 2009, 39, 155-180.	9.3	132
50	Polymer dissolution model: an energy adaptation of the critical ionization theory. , 2009, , .		7
51	Penultimate effect in radical copolymerization of 2â€trifluoromethylacrylates. Journal of Polymer Science Part A, 2008, 46, 1559-1565.	2.3	6
52	Degradable Cross-Linkers and Strippable Imaging Materials for Step-and-Flash Imprint Lithography. Macromolecules, 2008, 41, 719-726.	4.8	124
53	Non-chemically amplified resists for 193 nm lithography. Proceedings of SPIE, 2008, , .	0.8	5
54	Modeling of Self-Assembly Dynamics of Photolithographically Patterned MUFFINS Biosensor Arrays. Materials Research Society Symposia Proceedings, 2007, 1002, 1.	0.1	1

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55	Materials for step and flash imprint lithography (S-FILÂ®). Journal of Materials Chemistry, 2007, 17, 3575.	6.7	78
56	Thermal analysis for step and flash imprint lithography during UV curing process. Microelectronic Engineering, 2006, 83, 213-217.	2.4	17
57	Feature Multiplexingâ€"Improving the Efficiency of Microarray Devices. Angewandte Chemie - International Edition, 2006, 45, 3338-3341.	13.8	4
58	Kinetic parameters for step and flash imprint lithography photopolymerization. AICHE Journal, 2006, 52, 777-784.	3.6	34
59	Implementation of an imprint damascene process for interconnect fabrication. Journal of Vacuum Science & Technology B, 2006, 24, 1283.	1.3	77
60	Study of the kinetics of step and flash imprint lithography photopolymerization. AICHE Journal, 2005, 51, 2547-2555.	3.6	36
61	New Approaches to Nanofabrication: Molding, Printing, and Other Techniques. ChemInform, 2005, 36, no.	0.0	4
62	Step & flash imprint lithography. Materials Today, 2005, 8, 34-42.	14.2	111
63	Imprint Materials for Nanoscale Devices. MRS Bulletin, 2005, 30, 947-951.	3.5	58
64	New Approaches to Nanofabrication:â€‰ Molding, Printing, and Other Techniques. Chemical Reviews, 2005, 105, 1171-1196.	47.7	1,853
65	Mesoscale Monte Carlo Simulation of Photoresist Processing. Journal of the Electrochemical Society, 2004, 151, G155.	2.9	17
66	Formation of deprotected fuzzy blobs in chemically amplified resists. Journal of Polymer Science, Part B: Polymer Physics, 2004, 42, 3063-3069.	2.1	7
67	Ramifications of lubrication theory on imprint lithography. Microelectronic Engineering, 2004, 75, 321-329.	2.4	70
68	Hydrogel Biosensor Array Platform Indexed by Shape. Chemistry of Materials, 2004, 16, 5574-5580.	6.7	73
69	Synthesis and Reactivity of 3-Diazo-4-oxocoumarins for Photolithographic Applications. Chemistry of Materials, 2004, 16, 1763-1769.	6.7	6
70	Synthesis and Properties of Diazopiperidiones for Use in Nonchemically Amplified Deep UV Photoresists. Chemistry of Materials, 2004, 16, 1770-1774.	6.7	20
71	Metal-Catalyzed Addition Polymers for 157 nm Resist Applications. Synthesis and Polymerization of Partially Fluorinated, Ester-Functionalized Tricyclo[4.2.1.02,5]non-7-enes. Macromolecules, 2003, 36, 1534-1542.	4.8	53
72	Deprotection volume characteristics and line-edge morphology in chemcially amplified resists. , 2003, , .		1

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73	The Evolution of Materials for the Photolithographic Process. Journal of Photopolymer Science and Technology = [Fotoporima Konwakai Shi], 2003, 16, 621-627.	0.3	26
74	The Photopolymer Science and Technology Award. Journal of Photopolymer Science and Technology = [Fotoporima Konwakai Shi], 2003, 16, 3-4.	0.3	0
75	Direct Measurement of the Reaction Front in Chemically Amplified Photoresists. Science, 2002, 297, 372-375.	12.6	77
76	Mesoscale simulation of positive tone chemically amplified photoresists. , 2002, , .		5
77	Metal-Catalyzed Vinyl Addition Polymers for 157 nm Resist Applications. 2. Fluorinated Norbornenes:Â Synthesis, Polymerization, and Initial Imaging Results. Macromolecules, 2002, 35, 6539-6549.	4.8	59
78	Microlithographic Assessment of a Novel Family of Transparent and Etch-Resistant Chemically Amplified 193-nm Resists Based on Cyclopolymers. Chemistry of Materials, 2001, 13, 4147-4153.	6.7	39
79	Rational design of bleachable nonchemically amplified DUV photoactive compounds. , 2001, , .		1
80	Understanding molecular-level effects during post-exposure processing. , 2001, , .		27
81	Characterization and modeling of volumetric and mechanical properties for step and flash imprint lithography photopolymers. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2001, 19, 2685.	1.6	62
82	Patterning nonflat substrates with a low pressure, room temperature, imprint lithography process. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2001, 19, 2162.	1.6	57
83	157 nm Resist Materials: A Progress Report.. Journal of Photopolymer Science and Technology = [Fotoporima Konwakai Shi], 2000, 13, 657-664.	0.3	43
84	Organic imaging materials: a view of the future. Journal of Physical Organic Chemistry, 2000, 13, 767-774.	1.9	27
85	157 nm resist materials: Progress report. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2000, 18, 3396.	1.6	30
86	<title>Step and flash imprint lithography for sub-100-nm patterning</title>. , 2000, , .		66
87	Study of acid transport using IR spectroscopy and SEM. , 2000, , .		24
88	THE FUTURE OF APPLIED POLYMER SCIENCE. , 2000, , 591-633.		1
89	Molecular model of phenolic polymer dissolution in photolithography. Journal of Polymer Science, Part B: Polymer Physics, 1999, 37, 2103-2113.	2.1	27
90	Step and flash imprint lithography: a new approach to high-resolution patterning. , 1999, 3676, 379.		487

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91	Mechanism of Phenolic Polymer Dissolution:Â Importance of Acidâˆ'Base Equilibria. Macromolecules, 1999, 32, 5337-5343.	4.8	52
92	Photoresists with Reduced Environmental Impact:Â Water-Soluble Resists Based on Photo-Cross-Linking of a Sugar-Containing Polymethacrylate. Macromolecules, 1999, 32, 86-94.	4.8	32
93	Design of Photoresists with Reduced Environmental Impact. 1. Water-Soluble Resists Based on Photo-Cross-Linking of Poly(vinyl alcohol). Chemistry of Materials, 1999, 11, 719-725.	6.7	36
94	Alicyclic Polymers for 193 nm Resist Applications:Â Synthesis and Characterization. Chemistry of Materials, 1998, 10, 3319-3327.	6.7	63
95	Design and Preliminary Studies of Environmentally Enhanced Water-Castable, Water-Developable Positive Tone Resists: Model and Feasibility Studies. ACS Symposium Series, 1998, , 262-275.	0.5	2
96	Alicyclic Polymers for 193 nm Resist Applications:Â Lithographic Evaluation. Chemistry of Materials, 1998, 10, 3328-3333.	6.7	49
97	The Influence of Structure on Dissolution Inhibition for Novolac-Based Photoresists: Adaption of the Probabilistic Approach. ACS Symposium Series, 1998, , 292-305.	0.5	2
98	The Mechanism of Phenolic Polymer Dissolution:â€‰ A New Perspective. Macromolecules, 1997, 30, 4656-4664.	4.8	117
99	Photogenerated Base in Resist and Imaging Materials:Â Design of Functional Polymers Susceptible to Base Catalyzed Decarboxylation. Chemistry of Materials, 1997, 9, 2887-2893.	6.7	18
100	Photogeneration of Amines from Î±-Keto Carbamates:Â Photochemical Studies. Journal of the American Chemical Society, 1996, 118, 12925-12937.	13.7	96
101	Chemical Amplification in High-Resolution Imaging Systems. Accounts of Chemical Research, 1994, 27, 151-158.	15.6	244
102	Airborne contamination of a chemically amplified resist. 1. Identification of problem. Chemistry of Materials, 1993, 5, 348-356.	6.7	57
103	<title>Resist materials design: base-catalyzed chemical amplification</title>. , 1993, , .		1
104	Design of polymeric imaging materials based on electrophilic aromatic substitution: model studies. Macromolecules, 1991, 24, 1741-1745.	4.8	15
105	Plasma developable photoresist systems based on chemical amplification. Chemistry of Materials, 1991, 3, 435-442.	6.7	38
106	Chemically amplified imaging materials based on electrophilic aromatic substitution: poly[4-(acetoxymethyl)styrene-co-4-hydroxystyrene]. Macromolecules, 1991, 24, 1746-1754.	4.8	38
107	<title>Airborne chemical contamination of a chemically amplified resist</title>. , 1991, 1466, 2.		82
108	Ferroelectric liquid crystalline polysiloxanes with high spontaneous polarization and possible applications in nonlinear optics. Advanced Materials, 1990, 2, 539-543.	21.0	86

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109	Novel secondâ€order nonlinear optical polymers via chemical crossâ€linkingâ€induced vitrification under electric field. Journal of Applied Physics, 1989, 66, 3241-3247.	2.5	247
110	Nonswelling Negative Resists Incorporating Chemical Amplification. ACS Symposium Series, 1989, , 74-85.	0.5	7
111	New Design for Self-Developing Imaging Systems Based on Thermally Labile Polyformals. ACS Symposium Series, 1989, , 100-112.	0.5	10
112	Novel derivatives of poly(4-hydroxystyrene) with easily removable tertiary, allylic, or benzylic ethers. Polymer Bulletin, 1988, 20, 427-434.	3.3	9
113	Thermally Depolymerizable Polycarbonates V. Acid Catalyzed Thermolysis of Allylic and Benzylic Polycarbonates: A New Route to Resist Imaging. Polymer Journal, 1987, 19, 31-49.	2.7	60
114	Photoinitiated Crossâ€Linking and Image Formation in Thin Polymer Films Containing a Transition Metal Compound. Journal of the Electrochemical Society, 1987, 134, 2280-2285.	2.9	60
115	Poly(vinyl-t-butyl carbonate) synthesis and thermolysis to poly(vinyl alcohol). Polymer Bulletin, 1987, 17, 1-6.	3.3	15
116	Title is missing!. Die Makromolekulare Chemie Rapid Communications, 1986, 7, 121-126.	1.1	23
117	Approaches to the Design of Radiationâ€Sensitive Polymeric Imaging Systems with Improved Sensitivity and Resolution. Journal of the Electrochemical Society, 1986, 133, 181-187.	2.9	163
118	Resist materials. Microelectronic Engineering, 1985, 3, 277-278.	2.4	2
119	Poly[p-(formyloxy)styrene]: synthesis and radiation-induced decarbonylation. Macromolecules, 1985, 18, 317-321.	4.8	65
120	Poly(methyl Î±-trifluoromethylacrylate) as a positive electron beam resist. Polymer Engineering and Science, 1983, 23, 1000-1003.	3.1	14
121	Chemical amplification in the design of dry developing resist materials. Polymer Engineering and Science, 1983, 23, 1012-1018.	3.1	475
122	Synthesis of poly(p-hydroxy-Î±-methylstyrene) by cationic polymerization and chemical modification. Macromolecules, 1983, 16, 510-517.	4.8	86
123	Polymerization of methyl Î±-(trifluoromethyl)acrylate and .alpha.-trifluoromethylacrylonitrile and copolymerization of these monomers with methyl methacrylate. Macromolecules, 1982, 15, 915-920.	4.8	61