

Derek G Gray

List of Publications by Year in descending order

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103
papers

16,332
citations

28274

55
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29157

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107
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107
docs citations

107
times ranked

11410
citing authors

#	ARTICLE	IF	CITATIONS
1	Nanocelluloses: A New Family of Nature-Based Materials. <i>Angewandte Chemie - International Edition</i> , 2011, 50, 5438-5466.	13.8	3,550
2	Effect of Reaction Conditions on the Properties and Behavior of Wood Cellulose Nanocrystal Suspensions. <i>Biomacromolecules</i> , 2005, 6, 1048-1054.	5.4	1,369
3	Effect of microcrystallite preparation conditions on the formation of colloid crystals of cellulose. <i>Cellulose</i> , 1998, 5, 19-32.	4.9	895
4	Effects of Ionic Strength on the Isotropic-Chiral Nematic Phase Transition of Suspensions of Cellulose Crystallites. <i>Langmuir</i> , 1996, 12, 2076-2082.	3.5	672
5	Adsorption of n-alkanes at zero surface coverage on cellulose paper and wood fibers. <i>Journal of Colloid and Interface Science</i> , 1980, 77, 353-362.	9.4	545
6	Cationic surface functionalization of cellulose nanocrystals. <i>Soft Matter</i> , 2008, 4, 2238-2244.	2.7	494
7	Bactericidal Paper Impregnated with Silver Nanoparticles for Point-of-Use Water Treatment. <i>Environmental Science & Technology</i> , 2011, 45, 1992-1998.	10.0	461
8	Chiral nematic suspensions of cellulose crystallites; phase separation and magnetic field orientation. <i>Liquid Crystals</i> , 1994, 16, 127-134.	2.2	416
9	Liquid Crystalline Structure In Aqueous Hydroxypropyl Cellulose Solutions. <i>Molecular Crystals and Liquid Crystals</i> , 1976, 34, 97-103.	0.8	362
10	Morphological and Optical Characterization of Polyelectrolyte Multilayers Incorporating Nanocrystalline Cellulose. <i>Biomacromolecules</i> , 2006, 7, 2522-2530.	5.4	339
11	Ordered Phase Formation in Concentrated Hydroxypropylcellulose Solutions. <i>Macromolecules</i> , 1980, 13, 69-73.	4.8	325
12	Effect of Counterions on Ordered Phase Formation in Suspensions of Charged Rodlike Cellulose Crystallites. <i>Langmuir</i> , 1997, 13, 2404-2409.	3.5	258
13	Estimation of the surface sulfur content of cellulose nanocrystals prepared by sulfuric acid hydrolysis. <i>Cellulose</i> , 2013, 20, 785-794.	4.9	226
14	Surface Grafting of Cellulose Nanocrystals with Poly(ethylene oxide) in Aqueous Media. <i>Langmuir</i> , 2010, 26, 13450-13456.	3.5	219
15	SEM imaging of chiral nematic films cast from cellulose nanocrystal suspensions. <i>Cellulose</i> , 2012, 19, 1599-1605.	4.9	212
16	Dispersion of cellulose nanocrystals in polar organic solvents. <i>Cellulose</i> , 2007, 14, 109-113.	4.9	196
17	Cellulose Crystallites. <i>Chemistry - A European Journal</i> , 2001, 7, 1831-1836.	3.3	192
18	Reinforcement with cellulose nanocrystals of poly(vinyl alcohol) hydrogels prepared by cyclic freezing and thawing. <i>Soft Matter</i> , 2011, 7, 2373.	2.7	189

#	ARTICLE	IF	CITATIONS
19	Title is missing!. Cellulose, 1997, 4, 209-220.	4.9	187
20	Atomic force microscopy of cellulose microfibrils: comparison with transmission electron microscopy. Polymer, 1992, 33, 4639-4642.	3.8	178
21	Formation of Chiral Nematic Films from Cellulose Nanocrystal Suspensions Is a Two-Stage Process. Langmuir, 2014, 30, 9256-9260.	3.5	178
22	Characterization of hydrogen bonding in cellulose-synthetic polymer blend systems with regioselectively substituted methylcellulose. Macromolecules, 1994, 27, 210-215.	4.8	177
23	Smooth model cellulose I surfaces from nanocrystal suspensions. Cellulose, 2003, 10, 299-306.	4.9	176
24	Adsorption, spreading pressure, and london force interactions of hydrocarbons on cellulose and wood fiber surfaces. Journal of Colloid and Interface Science, 1979, 71, 93-106.	9.4	156
25	Cellulose Crystallites: A New and Robust Liquid Crystalline Medium for the Measurement of Residual Dipolar Couplings. Journal of the American Chemical Society, 2000, 122, 5224-5225.	13.7	150
26	Birefringence in spin-coated films containing cellulose nanocrystals. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2008, 325, 44-51.	4.7	147
27	Optical properties of hydroxypropyl cellulose liquid crystals. I. Cholesteric pitch and polymer concentration. Macromolecules, 1984, 17, 1512-1520.	4.8	143
28	Cholesteric liquid crystalline phases based on (acetoxypopyl)cellulose. Macromolecules, 1981, 14, 715-719.	4.8	141
29	Parabolic Focal Conics in Self-Assembled Solid Films of Cellulose Nanocrystals. Langmuir, 2005, 21, 5555-5561.	3.5	125
30	Surface Charge Influence on the Phase Separation and Viscosity of Cellulose Nanocrystals. Langmuir, 2018, 34, 3925-3933.	3.5	120
31	Formation of cellulose-based electrostatic layer-by-layer films in a magnetic field. Science and Technology of Advanced Materials, 2006, 7, 319-321.	6.1	117
32	Transcrystallization of polypropylene at cellulose nanocrystal surfaces. Cellulose, 2008, 15, 297-301.	4.9	113
33	Recent Advances in Chiral Nematic Structure and Iridescent Color of Cellulose Nanocrystal Films. Nanomaterials, 2016, 6, 213.	4.1	102
34	Induced Circular Dichroism of Isotropic and Magnetically-Oriented Chiral Nematic Suspensions of Cellulose Crystallites. Langmuir, 1997, 13, 3029-3034.	3.5	100
35	Structural and Mechanical Properties of Polyelectrolyte Multilayer Films Studied by AFM. Macromolecules, 2003, 36, 8819-8824.	4.8	100
36	Droplets of cellulose nanocrystal suspensions on drying give iridescent 3-D "coffee-stain" rings. Cellulose, 2015, 22, 1103-1107.	4.9	99

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37	Chiral Nematic Structure of Cellulose Nanocrystal Suspensions and Films; Polarized Light and Atomic Force Microscopy. <i>Materials</i> , 2015, 8, 7873-7888.	2.9	91
38	Influence of Dextran on the Phase Behavior of Suspensions of Cellulose Nanocrystals. <i>Macromolecules</i> , 2002, 35, 7400-7406.	4.8	89
39	Chiral nematic phase formation by aqueous suspensions of cellulose nanocrystals prepared by oxidation with ammonium persulfate. <i>Cellulose</i> , 2014, 21, 2567-2577.	4.9	88
40	The adsorption of hydrocarbons on cellophane. <i>Journal of Colloid and Interface Science</i> , 1981, 82, 318-325.	9.4	86
41	Solid cholesteric films cast from aqueous (hydroxypropyl)cellulose. <i>Macromolecules</i> , 1987, 20, 33-38.	4.8	86
42	The surface tension of aqueous hydroxypropyl cellulose solutions. <i>Journal of Colloid and Interface Science</i> , 1978, 67, 255-265.	9.4	84
43	Contact Angle Measurements on Smooth Nanocrystalline Cellulose (I) Thin Films. <i>Journal of Adhesion Science and Technology</i> , 2011, 25, 699-708.	2.6	83
44	The propanoate ester of (2-hydroxypropyl)cellulose: a thermotropic cholesteric polymer that reflects visible light at ambient temperatures. <i>Macromolecules</i> , 1982, 15, 1262-1264.	4.8	81
45	The preparation of O-methyl- and O-ethyl-celluloses having controlled distribution of substituents. <i>Carbohydrate Research</i> , 1991, 220, 173-183.	2.3	81
46	Gas chromatographic measurements of polymer structure and interactions. <i>Progress in Polymer Science</i> , 1977, 5, 1-60.	24.7	80
47	Friction and forces between cellulose model surfaces: A comparison. <i>Journal of Colloid and Interface Science</i> , 2006, 303, 117-123.	9.4	79
48	Cellulose Nanocrystals Incorporating Fluorescent Methylcoumarin Groups. <i>ACS Sustainable Chemistry and Engineering</i> , 2013, 1, 1160-1164.	6.7	78
49	Induced Circular Dichroism of Chiral Nematic Cellulose Films. <i>Cellulose</i> , 2001, 8, 5-12.	4.9	76
50	Chemical characteristics of cellulosic liquid crystals. <i>Faraday Discussions of the Chemical Society</i> , 1985, 79, 257.	2.2	70
51	Homogeneous alkylation of cellulose in lithium chloride/dimethyl sulfoxide solvent with dimethyl sodium activation. A proposal for the mechanism of cellulose dissolution in LiCl/Me ₂ SO. <i>Carbohydrate Research</i> , 1995, 268, 319-323.	2.3	70
52	A ³ -Coupling catalyzed by robust Au nanoparticles covalently bonded to HS-functionalized cellulose nanocrystalline films. <i>Beilstein Journal of Organic Chemistry</i> , 2013, 9, 1388-1396.	2.2	67
53	Surface Forces Measurements of Spin-Coated Cellulose Thin Films with Different Crystallinity. <i>Langmuir</i> , 2006, 22, 3154-3160.	3.5	66
54	Direct Surface Force Measurements of Polyelectrolyte Multilayer Films Containing Nanocrystalline Cellulose. <i>Langmuir</i> , 2010, 26, 17190-17197.	3.5	59

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55	Gelation of cellulose nanocrystal suspensions in glycerol. <i>Cellulose</i> , 2012, 19, 687-694.	4.9	59
56	Chiroptical behavior of (acetyl)(ethyl)cellulose liquid-crystalline solutions in chloroform. <i>Macromolecules</i> , 1989, 22, 2086-2090.	4.8	55
57	Fluorescence emission from mechanical pulp sheets. <i>Journal of Photochemistry and Photobiology A: Chemistry</i> , 1993, 73, 59-65.	3.9	53
58	Functionalization of cellulose nanocrystal films via "click" reaction. <i>RSC Advances</i> , 2014, 4, 6965.	3.6	53
59	Interfacial Tension between Isotropic and Anisotropic Phases of a Suspension of Rodlike Particles. <i>Langmuir</i> , 2002, 18, 633-637.	3.5	50
60	Induced Phase Separation in Low-Ionic-Strength Cellulose Nanocrystal Suspensions Containing High-Molecular-Weight Blue Dextrans. <i>Langmuir</i> , 2006, 22, 8690-8695.	3.5	44
61	Hybrid fluorescent nanoparticles from quantum dots coupled to cellulose nanocrystals. <i>Cellulose</i> , 2017, 24, 1287-1293.	4.9	43
62	Liquid crystalline phase transition of a semiflexible polymer: acetoxypopyl cellulose. <i>Macromolecules</i> , 1985, 18, 1753-1759.	4.8	42
63	Preparation and chiroptical properties of tritylated cellulose derivatives. <i>Macromolecules</i> , 1990, 23, 1452-1457.	4.8	42
64	Cholesteric order in gels and films of regenerated cellulose. <i>Biopolymers</i> , 1988, 27, 1363-1374.	2.4	41
65	Cholesteric properties of cellulose acetate and triacetate in trifluoroacetic acid. <i>Macromolecules</i> , 1988, 21, 2914-2917.	4.8	41
66	Facile method for the preparation of tri-O-(alkyl)cellulose. <i>Journal of Applied Polymer Science</i> , 1992, 45, 417-423.	2.6	41
67	AFM of adsorbed polyelectrolytes on cellulose I surfaces spin-coated on silicon wafers. <i>Cellulose</i> , 2005, 12, 127-134.	4.9	41
68	Circular reflectivity from the cholesteric liquid crystalline phase of (2-ethoxypropyl)cellulose. <i>Macromolecules</i> , 1988, 21, 1251-1255.	4.8	40
69	Optical properties of (acetoxypopyl)cellulose mesophases: factors influencing the cholesteric pitch. <i>Polymer</i> , 1985, 26, 1435-1442.	3.8	39
70	Adsorption of n-alkanes on carbon fibers at zero surface coverage. <i>Langmuir</i> , 1988, 4, 743-748.	3.5	39
71	Preparation and liquid-crystalline properties of (acetyl)(ethyl)cellulose. <i>Macromolecules</i> , 1989, 22, 2082-2086.	4.8	39
72	Title is missing!. <i>Die Makromolekulare Chemie</i> , 1983, 184, 1727-1740.	1.1	36

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73	Electron microscopic evidence for cholesteric structure in films of cellulose and cellulose acetate. <i>Biopolymers</i> , 1988, 27, 1999-2004.	2.4	36
74	Triphase Equilibria in Cellulose Nanocrystal Suspensions Containing Neutral and Charged Macromolecules. <i>Macromolecules</i> , 2007, 40, 3429-3436.	4.8	36
75	CdSe/ZnS QDs Embedded in Cellulose Triacetate Films with Hydrophilic Surfaces. <i>Chemistry of Materials</i> , 2007, 19, 4270-4276.	6.7	33
76	Order and gelation of cellulose nanocrystal suspensions: an overview of some issues. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2018, 376, 20170038.	3.4	33
77	Surface characterization of poly(ethylene terephthalate) film by inverse gas chromatography. <i>Journal of Applied Polymer Science</i> , 1982, 27, 71-78.	2.6	31
78	Gas Chromatographic and Static Measurements of Solute Activity for a Polymeric Liquid-Crystalline Phase. <i>Macromolecules</i> , 1979, 12, 562-566.	4.8	30
79	Protein alignment using cellulose nanocrystals: practical considerations and range of application. <i>Journal of Biomolecular NMR</i> , 2010, 47, 195-204.	2.8	30
80	Induced phase separation in cellulose nanocrystal suspensions containing ionic dye species. <i>Cellulose</i> , 2006, 13, 629-635.	4.9	26
81	Critical comparison of methods for surface coverage by extractives and lignin in pulps by X-ray photoelectron spectroscopy (XPS). <i>Holzforschung</i> , 2006, 60, 149-155.	1.9	26
82	Composition of lignocellulosic surfaces: comments on the interpretation of XPS spectra. <i>Cellulose</i> , 2010, 17, 117-124.	4.9	25
83	Viscosity measurements of dilute aqueous suspensions of cellulose nanocrystals using a rolling ball viscometer. <i>Cellulose</i> , 2012, 19, 1557-1565.	4.9	25
84	Liquid crystal formation from the benzoic acid ester of hydroxypropylcellulose. <i>Die Makromolekulare Chemie Rapid Communications</i> , 1982, 3, 449-455.	1.1	24
85	Isolation and handedness of helical coiled cellulosic thickenings from plant petiole tracheary elements. <i>Cellulose</i> , 2014, 21, 3181-3191.	4.9	23
86	Induced CD provides evidence for helical solution conformation in cellulosic chains. <i>Biopolymers</i> , 1988, 27, 479-491.	2.4	22
87	Incorporation into paper of cellulose triacetate films containing semiconductor nanoparticles. <i>Cellulose</i> , 2009, 16, 319-326.	4.9	22
88	Electrospinning of fluorescent fibers from CdSe/ZnS quantum dots in cellulose triacetate. <i>Journal of Applied Polymer Science</i> , 2011, 119, 803-810.	2.6	22
89	Twist-Bend Stage in the Relaxation of Sheared Chiral Nematic Suspensions of Cellulose Nanocrystals. <i>ACS Omega</i> , 2016, 1, 212-219.	3.5	21
90	A Method To Preserve the Chiral Nematic Order of Lyotropic Ethylcellulose and (Acetyl)(ethyl)cellulose Mesophases in Solid Films. <i>Chemistry of Materials</i> , 1998, 10, 1720-1726.	6.7	20

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91	Chiroptical filters from aqueous (hydroxypropyl) cellulose liquid crystals. Journal of Applied Polymer Science, 1989, 37, 2517-2527.	2.6	18
92	Cellulose nanocrystal research; A personal perspective. Carbohydrate Polymers, 2020, 250, 116888.	10.2	16
93	In Situ Preparation of Silver Nanoparticles in Paper by Reduction with Alkaline Glucose Solutions. ACS Omega, 2018, 3, 9449-9452.	3.5	15
94	Chiral Characteristics of Thin Wood Sections. Holzforschung, 1997, 51, 1-5.	1.9	13
95	Properties of Carbon Fiber Surfaces. ACS Symposium Series, 1989, , 168-184.	0.5	9
96	A matrix method for modelling liquid crystal textures. Liquid Crystals, 1993, 13, 23-30.	2.2	7
97	Polyelectrolyte Multilayer Films Containing Cellulose: A Review. ACS Symposium Series, 2010, , 95-114.	0.5	7
98	Model Cellulose I Surfaces: A Review. ACS Symposium Series, 2010, , 75-93.	0.5	5
99	Isolation and utilization of cellulosic elements from the plant cell wall. Botany, 2020, 98, 77-80.	1.0	4
100	Optical rotatory dispersion from liquid crystalline solutions and films of hydroxypropylcellulose. Liquid Crystals, 1989, 6, 717-726.	2.2	3
101	High-resolution solid-state ¹³ C NMR study of ethylcellulose films. Journal of Polymer Science, Part B: Polymer Physics, 1993, 31, 671-676.	2.1	3
102	Surface Properties of Cellulose and Wood Fibers. ACS Symposium Series, 1982, , 421-434.	0.5	2
103	Preface to the International Chemical Congress of Pacific Basin Societies (Pacifichem2005). Science and Technology of Advanced Materials, 2006, 7, 303-304.	6.1	0