Douglas G Hayes

List of Publications by Year in descending order

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122 papers	3,562 citations	172386 29 h-index	155592 55 g-index
126 all docs	126 docs citations	126 times ranked	3678 citing authors

#	Article	IF	Citations
1	Comparative genome analysis of lignin biosynthesis gene families across the plant kingdom. BMC Bioinformatics, 2009, 10, S3.	1.2	190
2	Introduction of primary antioxidant activity to chitosan for application as a multifunctional food packaging material. Food Hydrocolloids, 2013, 33, 207-214.	5.6	190
3	Policy considerations for limiting unintended residual plastic in agricultural soils. Environmental Science and Policy, 2017, 69, 81-84.	2.4	181
4	In situ degradation of biodegradable plastic mulch films in compost and agricultural soils. Science of the Total Environment, 2020, 727, 138668.	3.9	159
5	Esterification reactions of lipase in reverse micelles. Biotechnology and Bioengineering, 1990, 35, 793-801.	1.7	135
6	Efficient Reduction of Chitosan Molecular Weight by High-Intensity Ultrasound: Underlying Mechanism and Effect of Process Parameters. Journal of Agricultural and Food Chemistry, 2008, 56, 5112-5119.	2.4	124
7	Compatible Ionic liquidâ€cellulases system for hydrolysis of lignocellulosic biomass. Biotechnology and Bioengineering, 2011, 108, 1042-1048.	1.7	113
8	Mechanical formation of micro- and nano-plastic materials for environmental studies in agricultural ecosystems. Science of the Total Environment, 2019, 685, 1097-1106.	3.9	108
9	Release of micro- and nanoparticles from biodegradable plastic during in situ composting. Science of the Total Environment, 2019, 675, 686-693.	3.9	94
10	1-Monoglyceride production from lipase-catalyzed esterification of glycerol and fatty acid in reverse micelles. Biotechnology and Bioengineering, 1991, 38, 507-517.	1.7	91
11	Effect of diverse weathering conditions on the physicochemical properties of biodegradable plastic mulches. Polymer Testing, 2017, 62, 454-467.	2.3	83
12	Suitability of Biodegradable Plastic Mulches for Organic and Sustainable Agricultural Production Systems. Hortscience: A Publication of the American Society for Hortcultural Science, 2017, 52, 10-15.	0.5	79
13	Fast classification and compositional analysis of cornstover fractions using Fourier transform near-infrared techniques. Bioresource Technology, 2008, 99, 7323-7332.	4.8	71
14	The triglyceride composition, structure, and presence of estolides in the oils ofLesquerella and related species. JAOCS, Journal of the American Oil Chemists' Society, 1995, 72, 559-569.	0.8	70
15	Enzyme-Catalyzed modification of oilseed materials to produce eco-friendly products. JAOCS, Journal of the American Oil Chemists' Society, 2004, 81, 1077-1103.	0.8	68
16	Interaction of Lumbricus terrestris with macroscopic polyethylene and biodegradable plastic mulch. Science of the Total Environment, 2018, 635, 1600-1608.	3.9	68
17	Activation of lignocellulosic biomass by ionic liquid for biorefinery fractionation. Bioresource Technology, 2012, 104, 701-707.	4.8	64
18	Transparent Dispersions of Milk-Fat-Based Nanostructured Lipid Carriers for Delivery of Î²-Carotene. Journal of Agricultural and Food Chemistry, 2013, 61, 9435-9443.	2.4	63

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19	Effect of Simulated Weathering on Physicochemical Properties and Inherent Biodegradation of PLA/PHA Nonwoven Mulches. Journal of Polymers and the Environment, 2014, 22, 417-429.	2.4	61
20	Formation of polyol-fatty acid esters by lipases in reverse micellar media. Biotechnology and Bioengineering, 1992, 40, 110-118.	1.7	60
21	Soil Microbial Communities Associated With Biodegradable Plastic Mulch Films. Frontiers in Microbiology, 2020, 11, 587074.	1.5	57
22	Lipase-catalyzed synthesis and properties of estolides and their esters. JAOCS, Journal of the American Oil Chemists' Society, 1995, 72, 1309-1316.	0.8	54
23	Urea complexation for the rapid, ecologically responsible fractionation of fatty acids from seed oil. JAOCS, Journal of the American Oil Chemists' Society, 1998, 75, 1403-1409.	0.8	51
24	The catalytic activity of lipases toward hydroxy fatty acids-A review. JAOCS, Journal of the American Oil Chemists' Society, 1996, 73, 543-549.	0.8	49
25	Soil Degradation of Polylactic Acid/Polyhydroxyalkanoate-Based Nonwoven Mulches. Journal of Polymers and the Environment, 2015, 23, 302-315.	2.4	47
26	Lipaseâ€Catalyzed Synthesis of Saccharideâ€“Fatty Acid Esters Using Suspensions of Saccharide Crystals in Solventâ€Free Media. JAOCS, Journal of the American Oil Chemists' Society, 2010, 87, 281-293.	0.8	44
27	Sucrose monolaurate improves the efficacy of sodium hypochlorite against Escherichia coli O157:H7 on spinach. International Journal of Food Microbiology, 2011, 145, 64-68.	2.1	44
28	Biobased Surfactants: Overview and Industrial State of the Art. , 2019, , 3-38.		36
29	Lipase-catalyzed synthesis of polyhydric alcohol-poly(ricinoleic acid) ester star polymers. Journal of Applied Polymer Science, 2006, 101, 1646-1656.	1.3	35
30	Ethylene Glycol and a Fatty Acid Have a Profound Impact on the Behavior of Water-in-Oil Microemulsions Formed by the Surfactant Aerosol-OT. Langmuir, 1995, 11, 4695-4702.	1.6	32
31	Biodegradable Plastic Mulch Films for Sustainable Specialty Crop Production. , 2019, , 183-213.		32
32	Effect of Environmental Weathering on Biodegradation of Biodegradable Plastic Mulch Films under Ambient Soil and Composting Conditions. Journal of Polymers and the Environment, 2021, 29, 2916-2931.	2.4	31
33	Lipase-catalyzed synthesis of lesquerolic acid wax and diol esters and their properties. JAOCS, Journal of the American Oil Chemists' Society, 1996, 73, 1385-1392.	0.8	28
34	Solvent-Free Lipase-Catalyzed Synthesis of Technical-Grade Sugar Esters and Evaluation of Their Physicochemical and Bioactive Properties. Catalysts, 2016, 6, 78.	1.6	28
35	Impact of Agricultural Weathering on Physicochemical Properties of Biodegradable Plastic Mulch Films: Comparison of Two Diverse Climates Over Four Successive Years. Journal of Polymers and the Environment, 2021, 29, 1-16.	2.4	28
36	Recovery of hydroxy fatty acids from lesquerella oil with lipases. JAOCS, Journal of the American Oil Chemists' Society, 1992, 69, 982-985.	0.8	26

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37	Increased rate of lipase-catalyzed saccharide-fatty acid esterification by control of reaction medium. JAOCS, Journal of the American Oil Chemists' Society, 1999, 76, 1495-1500.	0.8	26
38	Mechanism of protein extraction from the solid state by water-in-oil microemulsions. , 1997, 53, 583-593.		25
39	Designs of Bioreactor Systems for Solventâ€Free Lipaseâ€Catalyzed Synthesis of Fructoseâ€“Oleic Acid Esters. JAOCS, Journal of the American Oil Chemists' Society, 2009, 86, 521-529.	0.8	25
40	Effect of interactions between glycosylated protein and tannic acid on the physicochemical stability of Pickering emulsions. LWT - Food Science and Technology, 2021, 152, 112383.	2.5	25
41	Optimization of the Solventâ€Free Lipaseâ€Catalyzed Synthesis of Fructoseâ€Oleic Acid Ester Through Programming of Water Removal. JAOCS, Journal of the American Oil Chemists' Society, 2011, 88, 1351-1359.	0.8	24
42	Protein extraction into the bicontinuous microemulsion phase of a Water/SDS/pentanol/dodecane winsor-III system: Effect on nanostructure and protein conformation. Colloids and Surfaces B: Biointerfaces, 2017, 160, 144-153.	2.5	24
43	A detailed triglyceride analysis ofLesquerella fendleri oil: Column chromatographic fractionation followed by supercritical fluid chromatography. JAOCS, Journal of the American Oil Chemists' Society, 1996, 73, 267-269.	0.8	23
44	Synthesis of pH-Degradable Nonionic Surfactants and Their Applications in Microemulsions. Langmuir, 2001, 17, 6816-6821.	1.6	23
45	Biodegradable Agricultural Mulches Derived from Biopolymers. ACS Symposium Series, 2012, , 201-223.	0.5	23
46	Dynamic morphologies of microscale droplet interface bilayers. Soft Matter, 2014, 10, 2530.	1.2	23
47	Feed batch addition of saccharide during saccharide-fatty acid esterification catalyzed by immobilized lipase: Time course, water activity, and kinetic model. JAOCS, Journal of the American Oil Chemists' Society, 2005, 82, 487-493.	0.8	22
48	Nanoscopic dynamics of bicontinous microemulsions: effect of membrane associated protein. Soft Matter, 2017, 13, 4871-4880.	1.2	22
49	Electron Transfer in Microemulsion-Based Electrolytes. ACS Applied Materials & Interfaces, 2020, 12, 40213-40219.	4.0	22
50	Lipaseâ€Catalyzed Synthesis of Saccharideâ€Fatty Acid Esters Utilizing Solventâ€Free Suspensions: Effect of Acyl Donors and Acceptors, and Enzyme Activity Retention. JAOCS, Journal of the American Oil Chemists' Society, 2012, 89, 455-463.	0.8	21
51	Solubilization of enzymes in water-in-oil microemulsions and their rapid and efficient release through use of a pH-degradable surfactant. Biotechnology Letters, 2007, 29, 767-771.	1.1	20
52	Protein extraction by Winsorâ€III microemulsion systems. Biotechnology Progress, 2011, 27, 1091-1100.	1.3	20
53	Modification of oligo-Ricinoleic Acid and Its Derivatives with 10-Undecenoic Acid via Lipase-Catalyzed Esterification. Polymers, 2012, 4, 1037-1055.	2.0	20
54	Effects of Particle Size of Sucrose Suspensions and Preâ€incubation of Enzymes on Lipaseâ€Catalyzed Synthesis of Sucrose Oleic Acid Esters. JAOCS, Journal of the American Oil Chemists' Society, 2014, 91, 1891-1901.	0.8	20

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55	Improvement of Enzyme Activity and Stability for Reverse Micellar-Encapsulated Lipases in the Presence of Short-Chain and Polar Alcohols. Biocatalysis, 1994, 11, 223-231.	0.9	19
56	Urea-based fractionation of seed oil samples containing fatty acids and acylglycerols of polyunsaturated and hydroxy fatty acids. JAOCS, Journal of the American Oil Chemists' Society, 2000, 77, 207-213.	0.8	19
57	Analysis of the time course of degradation for fully biobased nonwoven agricultural mulches in compost-enriched soil. Textile Reseach Journal, 2016, 86, 1343-1355.	1.1	19
58	Effect of temperature programming on the performance of urea inclusion compound-based free fatty acid fractionation. JAOCS, Journal of the American Oil Chemists' Society, 2006, 83, 253-259.	0.8	18
59	Effect of Protein Incorporation on the Nanostructure of the Bicontinuous Microemulsion Phase of Winsor-III Systems: A Small-Angle Neutron Scattering Study. Langmuir, 2015, 31, 1901-1910.	1.6	18
60	Effects of soil particles and convective transport on dispersion and aggregation of nanoplastics via small-angle neutron scattering (SANS) and ultra SANS (USANS). PLoS ONE, 2020, 15, e0235893.	1.1	18
61	1,3-specific lipolysis ofLesquerella fendleri oil by immobilized and reverse-micellar encapsulated enzymes. JAOCS, Journal of the American Oil Chemists' Society, 1993, 70, 1121-1127.	0.8	17
62	The isolation of hydroxy acids from lesquerella oil lipolysate by a saponification/extraction technique. JAOCS, Journal of the American Oil Chemists' Society, 1996, 73, 1113-1119.	0.8	16
63	Expulsion of proteins from water-in-oil microemulsions by treatment with cosurfactant. , 1998, 59, 557-566.		16
64	Partitioning behavior of an acid-cleavable, 1,3-dioxolane alkyl ethoxylate, surfactant in single and binary surfactant mixtures for 2- and 3-phase microemulsion systems according to ethoxylate head group size. Journal of Colloid and Interface Science, 2010, 352, 424-435.	5.0	15
65	Solvent-free lipase-catalysed synthesis of saccharide-fatty acid esters: closed-loop bioreactor system with in situ formation of metastable suspensions. Biocatalysis and Biotransformation, 2012, 30, 209-216.	1.1	14
66	Intermediate temperature waterâ€“gas shift kinetics for hydrogen production. Reaction Chemistry and Engineering, 2019, 4, 1814-1822.	1.9	14
67	Are micro- and nanoplastics from soil-biodegradable plastic mulches an environmental concern?. Journal of Hazardous Materials Advances, 2021, 4, 100024.	1.2	14
68	End-of-Life Management Options for Agricultural Mulch Films in the United Statesâ€”A Review. Frontiers in Sustainable Food Systems, 0, 6, .	1.8	14
69	The isolation and recovery of fatty acids with Î”5 unsaturation from meadowfoam oil by lipase-catalyzed hydrolysis and esterification. JAOCS, Journal of the American Oil Chemists' Society, 1993, 70, 555-560.	0.8	13
70	Occurrence of estolides in processed Dimorphotheca pluvialis seed oil. Industrial Crops and Products, 1995, 4, 295-301.	2.5	12
71	Fatty Acidsâ€“Based Surfactants and Their Uses. , 2017, , 355-384.		12
72	Bicontinuous microemulsions as a biomembrane mimetic system for melittin. Biochimica Et Biophysica Acta - Biomembranes, 2018, 1860, 624-632.	1.4	12

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73	Enhanced end-of-life performance for biodegradable plastic mulch films through improving standards and addressing research gaps. Current Opinion in Chemical Engineering, 2021, 33, 100695.	3.8	12
74	Incorporation of Melittin Enhances Interfacial Fluidity of Bicontinuous Microemulsions. Journal of Physical Chemistry C, 2019, 123, 11197-11206.	1.5	11
75	Supercritical fluid chromatographic analysis of new crop seed oils and their reactions. JAOCS, Journal of the American Oil Chemists' Society, 1996, 73, 1691-1697.	0.8	10
76	Desorption of Fructose from a Packed Column to an Oleic Acid/Fructose Oleate Mixture for Employment in a Bioreactor System. JAOCS, Journal of the American Oil Chemists' Society, 2008, 85, 1033-1040.	0.8	10
77	TRIANGULAR PHASE DIAGRAMS TO PREDICT THE FRACTIONATION OF FREE FATTY ACID MIXTURES VIA UREA COMPLEX FORMATION. Separation Science and Technology, 2001, 36, 45-58.	1.3	9
78	Three-component microemulsions formed using pH-degradable 1,3-dioxolane alkyl ethoxylate surfactants. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2007, 301, 394-403.	2.3	9
79	Characterization of Microemulsion Systems Formed by a Mixed 1,3â€Dioxolane Ethoxylate/Octyl Glucoside Surfactant System. Journal of Surfactants and Detergents, 2009, 12, 277-283.	1.0	9
80	Sugar Esters. , 2019, , 325-363.		9
81	Control of Membrane Permeability in Air-Stable Droplet Interface Bilayers. Langmuir, 2015, 31, 4224-4231.	1.6	8
82	Decoupling Conductivity and Solubility in Electrolytes Using Microemulsions. Journal of the Electrochemical Society, 2021, 168, 080502.	1.3	7
83	Physicochemical characterization of water-in-oil microemulsions formed by a binary 1,3-dioxolane alkyl ethoxylate/Aerosol-OT surfactant system. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2013, 417, 99-110.	2.3	6
84	Acid Precipitation versus Solvent Extraction: Two Techniques Leading to Different Lactone/Acidic Sophorolipid Ratios. Journal of Surfactants and Detergents, 2019, 22, 365-371.	1.0	6
85	Enhanced Transport of TiO₂ in Unsaturated Sand and Soil after Release from Biodegradable Plastic during Composting. Environmental Science & Technology, 2022, 56, 2398-2406.	4.6	6
86	Microemulsions as Emerging Electrolytes: The Correlation of Structure to Electrochemical Response. ACS Applied Materials & Interfaces, 2022, 14, 20179-20189.	4.0	6
87	Observation of a structural gradient in Winsor-III microemulsion systems. Soft Matter, 2018, 14, 5270-5276.	1.2	5
88	Biocatalytic Synthesis of Ricinoleic Acid Star Polymers: "Green" Manufacturing of Potentially Valuable Lubricant Additives and Drug Delivery Materials. ACS Symposium Series, 2006, , 126-139.	0.5	4
89	Polymeric Products Derived From Industrial Oils for Paints, Coatings, and Other Applications. , 2016, , 43-73.		4
90	Assessing heat management practices in high tunnels to improve organic production of bell peppers. Scientia Horticulturae, 2019, 246, 928-941.	1.7	4

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91	Deterioration of Soil-biodegradable Mulch Films during Storage and Its Impact on Specialty Crop Production. HortTechnology, 2021, 31, 798-809.	0.5	4
92	Configurational purity of lesquerolic acid. JAOCS, Journal of the American Oil Chemists' Society, 1995, 72, 1069-1071.	0.8	3
93	Molecular weight-based fractionation of poly-l- and poly-d,l-lactic acid polymers via a simple inclusion compound based process. Separation Science and Technology, 2002, 37, 769-782.	1.3	3
94	Purification of Free Fatty Acids via Urea Inclusion Compounds. Functional Foods & Nutraceuticals Series, 2005, , 77-88.	0.1	3
95	Commentary: The Relationship Between â€œBiobased,â€•â€œBiodegradabilityâ€•and â€œEnvironmentallyâ€Friendliness (or the Absence Thereof). JAOCS, Journal of the American Oil Chemists' Society, 2017, 94, 1329-1331.	0.8	3
96	Modeling Energy Balance and Airflow Characteristics in a Naturally Ventilated High Tunnel. Transactions of the ASABE, 2017, 60, 1683-1697.	1.1	3
97	3â€Hydroxypicolinic Acid as an Effective Matrix for Sophorolipid Structural Elucidation Using Matrixâ€Assisted Laser Desorption Ionization Timeâ€ofâ€Flight Mass Spectrometry. Journal of Surfactants and Detergents, 2020, 23, 565-571.	1.0	3
98	Introduction to Industrial Oil Crops. , 2016, , 1-13.		3
99	Recovery of proteins from water-in-oil microemulsions in highly concentrated form through dilution techniques. Biotechnology Letters, 1996, 10, 699.	0.5	2
100	Lipid Modification in Water-in-Oil Microemulsions. , 2005, , 46-69.		2
101	Evaluation of Degradable Spun-Melt 100% Polylactic Acid Nonwoven Mulch Materials in a Greenhouse Environment. Journal of Engineered Fibers and Fabrics, 2013, 8, 155892501300800.	0.5	2
102	Regioselective Synthesis of Palmâ€Based Sorbitol Esters as Biobased Surfactant by Lipase from Thermomyces lanuginosus in Nonaqueous Media. Journal of Surfactants and Detergents, 2020, 23, 1067-1077.	1.0	2
103	Incorporation of Membrane Proteins Into Bicontinuous Microemulsions Through Winsorâ€III Systemâ€Based Extraction. Journal of Surfactants and Detergents, 2021, 24, 649-660.	1.0	2
104	Melittin exerts opposing effects on short- and long-range dynamics in bicontinuous microemulsions. Journal of Colloid and Interface Science, 2021, 590, 94-102.	5.0	2
105	Pyrethroid-laden textiles for protection from biting insects. , 2011, , 404-433.		1
106	A Tribute to Dr. Milton J. Rosen: An Innovator and Leader in Surfactant Science and Technology. Journal of Surfactants and Detergents, 2021, 24, 523-533.	1.0	1
107	How to Employ Proteins in Nonaqueous Environments. , 2001, , .		1
108	â€œYoung Scientists to Watch,â€•A New AOCS Initiative. JAOCS, Journal of the American Oil Chemists' Society, 2019, 96, 863-863.	0.8	0

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109	Assessing Heat Management Practices in High Tunnels to Improve the Production of Romaine Lettuce. Agriculture (Switzerland), 2019, 9, 203.	1.4	0
110	Warm Wishes to the JSD Community for 2020. Journal of Surfactants and Detergents, 2020, 23, 3-3.	1.0	0
111	New Author Guidelines for <scp>JSD</scp>. Journal of Surfactants and Detergents, 2021, 24, 383-383.	1.0	0
112	Special Issue Honoring Professor Milton Rosen. Journal of Surfactants and Detergents, 2021, 24, 519-521.	1.0	0
113	Zieglerâ€“Natta Catalysis. , 2005, , 3247-3259.		0
114	How peer reviewing has helped my career. Inform, 2019, 30, 38-39.	0.1	0
115	Celebrating the 25th anniversary of Journal of Surfactants and Detergents. Journal of Surfactants and Detergents, 2022, 25, 3-6.	1.0	0
116	Title is missing!. , 2020, 15, e0235893.		0
117	Title is missing!. , 2020, 15, e0235893.		0
118	Title is missing!. , 2020, 15, e0235893.		0
119	Title is missing!. , 2020, 15, e0235893.		0
120	Title is missing!. , 2020, 15, e0235893.		0
121	Title is missing!. , 2020, 15, e0235893.		0
122	Editorial to accompany a Special Virtual Issue to commemorate the 25th Anniversary of <scp>JSD</scp>. Journal of Surfactants and Detergents, 0, , .	1.0	0