

Douglas G Hayes

List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

114
papers

2,576
citations

28
h-index

46
g-index

126
ext. papers

3,044
ext. citations

3.8
avg. IF

5.3
L-index

#	Paper	IF	Citations
114	Introduction of primary antioxidant activity to chitosan for application as a multifunctional food packaging material. <i>Food Hydrocolloids</i> , 2013 , 33, 207-214	10.6	151
113	Comparative genome analysis of lignin biosynthesis gene families across the plant kingdom. <i>BMC Bioinformatics</i> , 2009 , 10 Suppl 11, S3	3.6	146
112	Esterification reactions of lipase in reverse micelles. <i>Biotechnology and Bioengineering</i> , 1990 , 35, 793-804	4.9	131
111	Efficient reduction of chitosan molecular weight by high-intensity ultrasound: underlying mechanism and effect of process parameters. <i>Journal of Agricultural and Food Chemistry</i> , 2008 , 56, 5112-5119	5.7	113
110	Compatible ionic liquid-cellulases system for hydrolysis of lignocellulosic biomass. <i>Biotechnology and Bioengineering</i> , 2011 , 108, 1042-8	4.9	101
109	Policy considerations for limiting unintended residual plastic in agricultural soils. <i>Environmental Science and Policy</i> , 2017 , 69, 81-84	6.2	99
108	1-Monoglyceride production from lipase-catalyzed esterification of glycerol and fatty acid in reverse micelles. <i>Biotechnology and Bioengineering</i> , 1991 , 38, 507-17	4.9	85
107	Fast classification and compositional analysis of cornstover fractions using Fourier transform near-infrared techniques. <i>Bioresource Technology</i> , 2008 , 99, 7323-32	11	66
106	Enzyme-Catalyzed modification of oilseed materials to produce eco-friendly products. <i>JAOCS, Journal of the American Oil Chemists Society</i> , 2004 , 81, 1077-1103	1.8	61
105	The triglyceride composition, structure, and presence of estolides in the oils of <i>Lesquerella</i> and related species. <i>JAOCS, Journal of the American Oil Chemists Society</i> , 1995 , 72, 559-569	1.8	60
104	Activation of lignocellulosic biomass by ionic liquid for biorefinery fractionation. <i>Bioresource Technology</i> , 2012 , 104, 701-7	11	57
103	Formation of polyol-fatty acid esters by lipases in reverse micellar media. <i>Biotechnology and Bioengineering</i> , 1992 , 40, 110-8	4.9	57
102	Transparent dispersions of milk-fat-based nanostructured lipid carriers for delivery of β -carotene. <i>Journal of Agricultural and Food Chemistry</i> , 2013 , 61, 9435-43	5.7	56
101	In situ degradation of biodegradable plastic mulch films in compost and agricultural soils. <i>Science of the Total Environment</i> , 2020 , 727, 138668	10.2	51
100	Effect of diverse weathering conditions on the physicochemical properties of biodegradable plastic mulches. <i>Polymer Testing</i> , 2017 , 62, 454-467	4.5	50
99	Mechanical formation of micro- and nano-plastic materials for environmental studies in agricultural ecosystems. <i>Science of the Total Environment</i> , 2019 , 685, 1097-1106	10.2	46
98	Effect of Simulated Weathering on Physicochemical Properties and Inherent Biodegradation of PLA/PHA Nonwoven Mulches. <i>Journal of Polymers and the Environment</i> , 2014 , 22, 417-429	4.5	45

97	Lipase-catalyzed synthesis and properties of estolides and their esters. <i>JAACS, Journal of the American Oil Chemists Society</i> , 1995 , 72, 1309-1316	1.8	45
96	Release of micro- and nanoparticles from biodegradable plastic during in situ composting. <i>Science of the Total Environment</i> , 2019 , 675, 686-693	10.2	43
95	Suitability of Biodegradable Plastic Mulches for Organic and Sustainable Agricultural Production Systems. <i>Hortscience: A Publication of the American Society for Horticultural Science</i> , 2017 , 52, 10-15	2.4	42
94	The catalytic activity of lipases toward hydroxy fatty acids—A review. <i>JAACS, Journal of the American Oil Chemists Society</i> , 1996 , 73, 543-549	1.8	42
93	Sucrose monolaurate improves the efficacy of sodium hypochlorite against Escherichia coli O157:H7 on spinach. <i>International Journal of Food Microbiology</i> , 2011 , 145, 64-8	5.8	41
92	Lipase-Catalyzed Synthesis of Saccharide-Fatty Acid Esters Using Suspensions of Saccharide Crystals in Solvent-Free Media. <i>JAACS, Journal of the American Oil Chemists Society</i> , 2010 , 87, 281-293	1.8	40
91	Urea complexation for the rapid, ecologically responsible fractionation of fatty acids from seed oil. <i>JAACS, Journal of the American Oil Chemists Society</i> , 1998 , 75, 1403-1409	1.8	38
90	Soil Degradation of Polylactic Acid/Polyhydroxyalkanoate-Based Nonwoven Mulches. <i>Journal of Polymers and the Environment</i> , 2015 , 23, 302-315	4.5	36
89	Interaction of Lumbricus terrestris with macroscopic polyethylene and biodegradable plastic mulch. <i>Science of the Total Environment</i> , 2018 , 635, 1600-1608	10.2	35
88	Lipase-catalyzed synthesis of polyhydric alcohol-poly(ricinoleic acid) ester star polymers. <i>Journal of Applied Polymer Science</i> , 2006 , 101, 1646-1656	2.9	34
87	Ethylene Glycol and a Fatty Acid Have a Profound Impact on the Behavior of Water-in-Oil Microemulsions Formed by the Surfactant Aerosol-OT. <i>Langmuir</i> , 1995 , 11, 4695-4702	4	30
86	Increased rate of lipase-catalyzed saccharide-fatty acid esterification by control of reaction medium. <i>JAACS, Journal of the American Oil Chemists Society</i> , 1999 , 76, 1495-1500	1.8	24
85	Optimization of the Solvent-Free Lipase-Catalyzed Synthesis of Fructose-Oleic Acid Ester Through Programming of Water Removal. <i>JAACS, Journal of the American Oil Chemists Society</i> , 2011 , 88, 1351-1359	1.8	23
84	Lipase-catalyzed synthesis of lesquerolic acid wax and diol esters and their properties. <i>JAACS, Journal of the American Oil Chemists Society</i> , 1996 , 73, 1385-1392	1.8	23
83	Soil Microbial Communities Associated With Biodegradable Plastic Mulch Films. <i>Frontiers in Microbiology</i> , 2020 , 11, 587074	5.7	23
82	Dynamic morphologies of microscale droplet interface bilayers. <i>Soft Matter</i> , 2014 , 10, 2530-8	3.6	22
81	Designs of Bioreactor Systems for Solvent-Free Lipase-Catalyzed Synthesis of Fructose-Oleic Acid Esters. <i>JAACS, Journal of the American Oil Chemists Society</i> , 2009 , 86, 521-529	1.8	22
80	Mechanism of protein extraction from the solid state by water-in-oil microemulsions. <i>Biotechnology and Bioengineering</i> , 1997 , 53, 583-93	4.9	22

79	Feed batch addition of saccharide during saccharide-fatty acid esterification catalyzed by immobilized lipase: Time course, water activity, and kinetic model. <i>JAOCs, Journal of the American Oil Chemists Society</i> , 2005 , 82, 487-493	1.8	21
78	Synthesis of pH-Degradable Nonionic Surfactants and Their Applications in Microemulsions. <i>Langmuir</i> , 2001 , 17, 6816-6821	4	21
77	Recovery of hydroxy fatty acids from lesquerella oil with lipases. <i>JAOCs, Journal of the American Oil Chemists Society</i> , 1992 , 69, 982-985	1.8	21
76	Solvent-Free Lipase-Catalyzed Synthesis of Technical-Grade Sugar Esters and Evaluation of Their Physicochemical and Bioactive Properties. <i>Catalysts</i> , 2016 , 6, 78	4	21
75	Protein extraction into the bicontinuous microemulsion phase of a Water/SDS/pentanol/dodecane Winsor-III system: Effect on nanostructure and protein conformation. <i>Colloids and Surfaces B: Biointerfaces</i> , 2017 , 160, 144-153	6	20
74	Modification of oligo-Ricinoleic Acid and Its Derivatives with 10-Undecenoic Acid via Lipase-Catalyzed Esterification. <i>Polymers</i> , 2012 , 4, 1037-1055	4.5	20
73	Protein extraction by Winsor-III microemulsion systems. <i>Biotechnology Progress</i> , 2011 , 27, 1091-100	2.8	19
72	Biobased Surfactants: Overview and Industrial State of the Art 2019 , 3-38		18
71	Lipase-Catalyzed Synthesis of Saccharide-Fatty Acid Esters Utilizing Solvent-Free Suspensions: Effect of Acyl Donors and Acceptors, and Enzyme Activity Retention. <i>JAOCs, Journal of the American Oil Chemists Society</i> , 2012 , 89, 455-463	1.8	18
70	Solubilization of enzymes in water-in-oil microemulsions and their rapid and efficient release through use of a pH-degradable surfactant. <i>Biotechnology Letters</i> , 2007 , 29, 767-71	3	18
69	A detailed triglyceride analysis of Lesquerella fendleri oil: Column chromatographic fractionation followed by supercritical fluid chromatography. <i>JAOCs, Journal of the American Oil Chemists Society</i> , 1996 , 73, 267-269	1.8	18
68	Improvement of Enzyme Activity and Stability for Reverse Micellar-Encapsulated Lipases in the Presence of Short-Chain and Polar Alcohols. <i>Biocatalysis</i> , 1994 , 11, 223-231		18
67	Biodegradable Agricultural Mulches Derived from Biopolymers. <i>ACS Symposium Series</i> , 2012 , 201-223	0.4	17
66	Nanosopic dynamics of bicontinuous microemulsions: effect of membrane associated protein. <i>Soft Matter</i> , 2017 , 13, 4871-4880	3.6	16
65	Urea-based fractionation of seed oil samples containing fatty acids and acylglycerols of polyunsaturated and hydroxy fatty acids. <i>JAOCs, Journal of the American Oil Chemists Society</i> , 2000 , 77, 207-213	1.8	16
64	Effect of protein incorporation on the nanostructure of the bicontinuous microemulsion phase of Winsor-III systems: a small-angle neutron scattering study. <i>Langmuir</i> , 2015 , 31, 1901-10	4	15
63	Effects of Particle Size of Sucrose Suspensions and Pre-incubation of Enzymes on Lipase-Catalyzed Synthesis of Sucrose Oleic Acid Esters. <i>JAOCs, Journal of the American Oil Chemists Society</i> , 2014 , 91, 1891-1901	1.8	15
62	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. <i>Journal of Colloid and Interface Science</i> , 2010 , 352, 424-35	9.3	15

61	1,3-specific lipolysis of Lesquerella fendleri oil by immobilized and reverse-micellar encapsulated enzymes. <i>JAOCS, Journal of the American Oil Chemists Society</i> , 1993 , 70, 1121-1127	1.8	15
60	Biodegradable Plastic Mulch Films for Sustainable Specialty Crop Production 2019 , 183-213		14
59	Solvent-free lipase-catalysed synthesis of saccharide-fatty acid esters: closed-loop bioreactor system with in situ formation of metastable suspensions. <i>Biocatalysis and Biotransformation</i> , 2012 , 30, 209-216	2.5	14
58	Effect of temperature programming on the performance of urea inclusion compound-based free fatty acid fractionation. <i>JAOCS, Journal of the American Oil Chemists Society</i> , 2006 , 83, 253-259	1.8	14
57	Expulsion of proteins from water-in-oil microemulsions by treatment with cosurfactant. <i>Biotechnology and Bioengineering</i> , 1998 , 59, 557-66	4.9	13
56	Occurrence of estolides in processed <i>Dimorphotheca pluvialis</i> seed oil. <i>Industrial Crops and Products</i> , 1995 , 4, 295-301	5.9	12
55	Analysis of the time course of degradation for fully biobased nonwoven agricultural mulches in compost-enriched soil. <i>Textile Research Journal</i> , 2016 , 86, 1343-1355	1.7	11
54	The isolation of hydroxy acids from lesquerella oil lipolysate by a saponification/extraction technique. <i>JAOCS, Journal of the American Oil Chemists Society</i> , 1996 , 73, 1113-1119	1.8	11
53	Impact of Agricultural Weathering on Physicochemical Properties of Biodegradable Plastic Mulch Films: Comparison of Two Diverse Climates Over Four Successive Years. <i>Journal of Polymers and the Environment</i> , 2021 , 29, 1-16	4.5	11
52	Bicontinuous microemulsions as a biomembrane mimetic system for melittin. <i>Biochimica Et Biophysica Acta - Biomembranes</i> , 2018 , 1860, 624-632	3.8	11
51	Intermediate temperature water-gas shift kinetics for hydrogen production. <i>Reaction Chemistry and Engineering</i> , 2019 , 4, 1814-1822	4.9	10
50	Desorption of Fructose from a Packed Column to an Oleic Acid/Fructose Oleate Mixture for Employment in a Bioreactor System. <i>JAOCS, Journal of the American Oil Chemists Society</i> , 2008 , 85, 1033-1040	1.8	9
49	The isolation and recovery of fatty acids with Δ^5 unsaturation from meadowfoam oil by lipase-catalyzed hydrolysis and esterification. <i>JAOCS, Journal of the American Oil Chemists Society</i> , 1993 , 70, 555-560	1.8	9
48	Characterization of Microemulsion Systems Formed by a Mixed 1,3-Dioxolane Ethoxylate/Octyl Glucoside Surfactant System. <i>Journal of Surfactants and Detergents</i> , 2009 , 12, 277-283	1.9	8
47	Three-component microemulsions formed using pH-degradable 1,3-dioxolane alkyl ethoxylate surfactants. <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> , 2007 , 301, 394-403	5.1	8
46	TRIANGULAR PHASE DIAGRAMS TO PREDICT THE FRACTIONATION OF FREE FATTY ACID MIXTURES VIA UREA COMPLEX FORMATION. <i>Separation Science and Technology</i> , 2001 , 36, 45-58	2.5	8
45	Supercritical fluid chromatographic analysis of new crop seed oils and their reactions. <i>JAOCS, Journal of the American Oil Chemists Society</i> , 1996 , 73, 1691-1697	1.8	8
44	Electron Transfer in Microemulsion-Based Electrolytes. <i>ACS Applied Materials & Interfaces</i> , 2020 , 12, 40213-40219	9.5	8

43	Control of membrane permeability in air-stable droplet interface bilayers. <i>Langmuir</i> , 2015 , 31, 4224-31	4	7
42	Fatty Acids Based Surfactants and Their Uses 2017 , 355-384		7
41	Effects of soil particles and convective transport on dispersion and aggregation of nanoplastics via small-angle neutron scattering (SANS) and ultra SANS (USANS). <i>PLoS ONE</i> , 2020 , 15, e0235893	3.7	7
40	Incorporation of Melittin Enhances Interfacial Fluidity of Bicontinuous Microemulsions. <i>Journal of Physical Chemistry C</i> , 2019 , 123, 11197-11206	3.8	6
39	Sugar Esters 2019 , 325-363		5
38	Physicochemical characterization of water-in-oil microemulsions formed by a binary 1,3-dioxolane alkyl ethoxylate/Aerosol-OT surfactant system. <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> , 2013 , 417, 99-110	5.1	5
37	Effect of Environmental Weathering on Biodegradation of Biodegradable Plastic Mulch Films under Ambient Soil and Composting Conditions. <i>Journal of Polymers and the Environment</i> , 2021 , 29, 2916-2931	4.5	5
36	Biocatalytic Synthesis of Ricinoleic Acid Star Polymers: "Green" Manufacturing of Potentially Valuable Lubricant Additives and Drug Delivery Materials. <i>ACS Symposium Series</i> , 2006 , 126-139	0.4	4
35	Acid Precipitation versus Solvent Extraction: Two Techniques Leading to Different Lactone/Acidic Sphorolipid Ratios. <i>Journal of Surfactants and Detergents</i> , 2019 , 22, 365-371	1.9	4
34	Observation of a structural gradient in Winsor-III microemulsion systems. <i>Soft Matter</i> , 2018 , 14, 5270-5276	3.6	4
33	Effect of interactions between glycosylated protein and tannic acid on the physicochemical stability of Pickering emulsions. <i>LWT - Food Science and Technology</i> , 2021 , 152, 112383	5.4	4
32	Commentary: The Relationship Between Biobased, Biodegradability and Environmentally-Friendliness (or the Absence Thereof). <i>JAOCs, Journal of the American Oil Chemists Society</i> , 2017 , 94, 1329-1331	1.8	3
31	Purification of Free Fatty Acids via Urea Inclusion Compounds. <i>Functional Foods & Nutraceuticals Series</i> , 2005 , 77-88		3
30	Molecular weight-based fractionation of poly-L- and poly-D,L-lactic acid polymers via a simple inclusion compound based process. <i>Separation Science and Technology</i> , 2002 , 37, 769-782	2.5	3
29	Are micro- and nanoplastics from soil-biodegradable plastic mulches an environmental concern?. <i>Journal of Hazardous Materials Advances</i> , 2021 , 4, 100024		3
28	Polymeric Products Derived From Industrial Oils for Paints, Coatings, and Other Applications 2016 , 43-73		3
27	Assessing heat management practices in high tunnels to improve organic production of bell peppers. <i>Scientia Horticulturae</i> , 2019 , 246, 928-941	4.1	3
26	Enhanced end-of-life performance for biodegradable plastic mulch films through improving standards and addressing research gaps. <i>Current Opinion in Chemical Engineering</i> , 2021 , 33, 100695	5.4	3

25	3-Hydroxypicolinic Acid as an Effective Matrix for Sophorolipid Structural Elucidation Using Matrix-Assisted Laser Desorption Ionization Time-of-Flight Mass Spectrometry. <i>Journal of Surfactants and Detergents</i> , 2020 , 23, 565-571	1.9	2
24	Recovery of proteins from water-in-oil microemulsions in highly concentrated form through dilution techniques. <i>Biotechnology Letters</i> , 1996 , 10, 699		2
23	Regioselective Synthesis of Palm-Based Sorbitol Esters as Biobased Surfactant by Lipase from <i>Thermomyces lanuginosus</i> in Nonaqueous Media. <i>Journal of Surfactants and Detergents</i> , 2020 , 23, 1067-1077	1.9	2
22	Decoupling Conductivity and Solubility in Electrolytes Using Microemulsions. <i>Journal of the Electrochemical Society</i> , 2021 , 168, 080502	3.9	2
21	Bioprocessing Approaches to Synthesize Bio-based Surfactants and Detergents 2012 , 243-266		1
20	Evaluation of Degradable Spun-Melt 100% Polylactic Acid Nonwoven Mulch Materials in a Greenhouse Environment. <i>Journal of Engineered Fibers and Fabrics</i> , 2013 , 8, 155892501300800	0.9	1
19	Pyrethroid-laden textiles for protection from biting insects 2011 , 404-433		1
18	Configurational purity of lesquerolic acid. <i>JAACS, Journal of the American Oil Chemists Society</i> , 1995 , 72, 1069-1071	1.8	1
17	How to Employ Proteins in Nonaqueous Environments 2001 ,		1
16	Introduction to Industrial Oil Crops 2016 , 1-13		1
15	Melittin exerts opposing effects on short- and long-range dynamics in bicontinuous microemulsions. <i>Journal of Colloid and Interface Science</i> , 2021 , 590, 94-102	9.3	1
14	Deterioration of Soil-biodegradable Mulch Films during Storage and Its Impact on Specialty Crop Production. <i>HortTechnology</i> , 2021 , 1-12	1.3	0
13	Incorporation of Membrane Proteins Into Bicontinuous Microemulsions Through Winsor-III System-Based Extraction. <i>Journal of Surfactants and Detergents</i> , 2021 , 24, 649-660	1.9	0
12	Oils and Their Use Beyond the Food Industry 2021 , 119-148		0
11	A Tribute to Dr. Milton J. Rosen: An Innovator and Leader in Surfactant Science and Technology. <i>Journal of Surfactants and Detergents</i> , 2021 , 24, 523-533	1.9	0
10	Modeling Energy Balance and Airflow Characteristics in a Naturally Ventilated High Tunnel. <i>Transactions of the ASABE</i> , 2017 , 60, 1683-1697	0.9	
9	Lipid Modification in Water-in-Oil Microemulsions 2005 , 46-69		
8	Ziegler-Natta Catalysis 2005 , 3247-3259		

- 7 Assessing Heat Management Practices in High Tunnels to Improve the Production of Romaine Lettuce. *Agriculture (Switzerland)*, **2019**, 9, 203 3
- 6 Effects of soil particles and convective transport on dispersion and aggregation of nanoplastics via small-angle neutron scattering (SANS) and ultra SANS (USANS) **2020**, 15, e0235893
- 5 Effects of soil particles and convective transport on dispersion and aggregation of nanoplastics via small-angle neutron scattering (SANS) and ultra SANS (USANS) **2020**, 15, e0235893
- 4 Effects of soil particles and convective transport on dispersion and aggregation of nanoplastics via small-angle neutron scattering (SANS) and ultra SANS (USANS) **2020**, 15, e0235893
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- 2 Effects of soil particles and convective transport on dispersion and aggregation of nanoplastics via small-angle neutron scattering (SANS) and ultra SANS (USANS) **2020**, 15, e0235893
- 1 Effects of soil particles and convective transport on dispersion and aggregation of nanoplastics via small-angle neutron scattering (SANS) and ultra SANS (USANS) **2020**, 15, e0235893