

Gary J Lye

List of Publications by Year in descending order

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98
papers

3,003
citations

159358

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182168

51
g-index

98
all docs

98
docs citations

98
times ranked

2407
citing authors

#	ARTICLE	IF	CITATIONS
1	Application of in situ product-removal techniques to biocatalytic processes. Trends in Biotechnology, 1999, 17, 395-402.	4.9	194
2	One-pot synthesis of amino-alcohols using a de-novo transketolase and α -alanine: Pyruvate transaminase pathway in Escherichia coli. Biotechnology and Bioengineering, 2007, 96, 559-569.	1.7	132
3	Accelerated design of bioconversion processes using automated microscale processing techniques. Trends in Biotechnology, 2003, 21, 29-37.	4.9	129
4	Microscale bioprocess optimisation. Current Opinion in Biotechnology, 2006, 17, 611-618.	3.3	129
5	Fluid mixing in shaken bioreactors: Implications for scale-up predictions from microlitre-scale microbial and mammalian cell cultures. Chemical Engineering Science, 2006, 61, 2939-2949.	1.9	124
6	Directed evolution of biocatalytic processes. New Biotechnology, 2005, 22, 11-19.	2.7	107
7	Reactor Operation and Scale-Up of Whole Cell Baeyer-Villiger Catalyzed Lactone Synthesis. Biotechnology Progress, 2002, 18, 1039-1046.	1.3	88
8	Quantification of power consumption and oxygen transfer characteristics of a stirred miniature bioreactor for predictive fermentation scale-up. Biotechnology and Bioengineering, 2008, 100, 1144-1155.	1.7	88
9	Scale-up of Escherichia coli growth and recombinant protein expression conditions from microwell to laboratory and pilot scale based on matched k_L and a . Biotechnology and Bioengineering, 2008, 99, 1128-1139.	1.7	85
10	A Multidisciplinary Approach Toward the Rapid and Preparative-Scale Biocatalytic Synthesis of Chiral Amino Alcohols: A Concise Transketolase- α -Transaminase-Mediated Synthesis of (2S,3S)-2-Aminopentane-1,3-diol. Organic Process Research and Development, 2010, 14, 99-107.	1.3	80
11	Microwell engineering characterization for mammalian cell culture process development. Biotechnology and Bioengineering, 2010, 105, 260-275.	1.7	79
12	Modelling surface aeration rates in shaken microtitre plates using dimensionless groups. Chemical Engineering Science, 2005, 60, 2741-2750.	1.9	73
13	Enzymatic ketone reductions with co-factor recycling: Improved reactions with ionic liquid co-solvents. Journal of Molecular Catalysis B: Enzymatic, 2008, 55, 19-29.	1.8	72
14	Non- α -hydroxylated aldehydes with evolved transketolase enzymes. Organic and Biomolecular Chemistry, 2010, 8, 1301.	1.5	68
15	Engineering characterisation of a single well from 24-well and 96-well microtitre plates. Biochemical Engineering Journal, 2008, 40, 138-149.	1.8	65
16	Design and characterisation of a miniature stirred bioreactor system for parallel microbial fermentations. Biochemical Engineering Journal, 2008, 39, 164-176.	1.8	61
17	The use of microscale processing technologies for quantification of biocatalytic Baeyer-Villiger oxidation kinetics. Biotechnology and Bioengineering, 2002, 80, 42-49.	1.7	60
18	The impact of manual processing on the expansion and directed differentiation of embryonic stem cells. Biotechnology and Bioengineering, 2008, 99, 1216-1229.	1.7	58

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19	High-throughput measurement of protein stability in microtiter plates. <i>Biotechnology and Bioengineering</i> , 2005, 89, 599-607.	1.7	52
20	pH control in microwell fermentations of <i>S. erythraea</i> CA340: influence on biomass growth kinetics and erythromycin biosynthesis. <i>Biochemical Engineering Journal</i> , 2003, 16, 299-310.	1.8	49
21	Flux and transmission characteristics of a vibrating microfiltration system operated at high biomass loading. <i>Journal of Membrane Science</i> , 2004, 228, 89-101.	4.1	45
22	A systematic approach to the large-scale production of protein crystals. <i>Enzyme and Microbial Technology</i> , 2000, 26, 582-592.	1.6	44
23	Better Biocatalytic Processes Faster: A New Tools for the Implementation of Biocatalysis in Organic Synthesis. <i>Organic Process Research and Development</i> , 2002, 6, 434-440.	1.3	41
24	An integrated biorefinery concept for conversion of sugar beet pulp into value-added chemicals and pharmaceutical intermediates. <i>Faraday Discussions</i> , 2017, 202, 415-431.	1.6	41
25	Fed-batch operation of an industrial cell culture process in shaken microwells. <i>Biotechnology Letters</i> , 2010, 32, 73-78.	1.1	37
26	Modelling and optimisation of the one-pot, multi-enzymatic synthesis of chiral amino-alcohols based on microscale kinetic parameter determination. <i>Chemical Engineering Science</i> , 2015, 122, 360-372.	1.9	37
27	Transketolase catalysed upgrading of D-arabinose: the one-step stereoselective synthesis of D-gluco-heptulose. <i>Green Chemistry</i> , 2016, 18, 3158-3165.	4.6	35
28	Microscale process evaluation of recombinant biocatalyst libraries: application to Baeyer-Villiger monooxygenase catalysed lactone synthesis. <i>Bioprocess and Biosystems Engineering</i> , 2005, 28, 83-93.	1.7	33
29	Framework for the Rapid Optimization of Soluble Protein Expression in <i>Escherichia coli</i> Combining Microscale Experiments and Statistical Experimental Design. <i>Biotechnology Progress</i> , 2007, 23, 785-793.	1.3	33
30	Lipase catalysed resolution of the Lotrafiban intermediate 2,3,4,5-tetrahydro-4-methyl-3-oxo-1H-1,4-benzodiazepine-2-acetic acid methyl ester in ionic liquids: comparison to the industrial t-butanol process. <i>Green Chemistry</i> , 2004, 6, 475.	4.6	32
31	Design and characterization of a microfluidic packed bed system for protein breakthrough and dynamic binding capacity determination. <i>Biotechnology Progress</i> , 2009, 25, 277-285.	1.3	30
32	Microfluidic multi-input reactor for biocatalytic synthesis using transketolase. <i>Journal of Molecular Catalysis B: Enzymatic</i> , 2013, 95, 111-117.	1.8	30
33	Centrifugal partition chromatography in a biorefinery context: Separation of monosaccharides from hydrolysed sugar beet pulp. <i>Journal of Chromatography A</i> , 2015, 1411, 84-91.	1.8	29
34	Production and Characterisation of Cross-Linked Enzyme Crystals (CLECs®) for Application as Process Scale Biocatalysts. <i>Biocatalysis and Biotransformation</i> , 2000, 18, 151-175.	1.1	27
35	The bioreduction of a β -tetralone to its corresponding alcohol by the yeast <i>Trichosporon capitatum</i> MY1890 and bacterium <i>Rhodococcus erythropolis</i> MA7213 in a range of ionic liquids. <i>Biocatalysis and Biotransformation</i> , 2007, 25, 443-452.	1.1	23
36	Lowering oxygen tension enhances the differentiation of mouse embryonic stem cells into neuronal cells. <i>Biotechnology Progress</i> , 2009, 25, 1480-1488.	1.3	23

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37	Design and parallelisation of a miniature photobioreactor platform for microalgal culture evaluation and optimisation. <i>Biochemical Engineering Journal</i> , 2015, 103, 93-102.	1.8	22
38	Ultra scale-down approaches to enhance the creation of bioprocesses at scale: impacts of process shear stress and early recovery stages. <i>Current Opinion in Chemical Engineering</i> , 2016, 14, 150-157.	3.8	22
39	One-pot, two-step transaminase and transketolase synthesis of l-gluco-heptulose from l-arabinose. <i>Enzyme and Microbial Technology</i> , 2018, 116, 16-22.	1.6	22
40	Reproducible culture and differentiation of mouse embryonic stem cells using an automated microwell platform. <i>Biochemical Engineering Journal</i> , 2013, 77, 246-257.	1.8	21
41	The protein fraction from wheat-based dried distiller's grain with solubles (DDGS): extraction and valorization. <i>New Biotechnology</i> , 2015, 32, 606-611.	2.4	21
42	Ethylene glycol and glycolic acid production from xylonic acid by <i>Enterobacter cloacae</i> . <i>Microbial Cell Factories</i> , 2020, 19, 89.	1.9	21
43	Optimisation and evaluation of a generic microplate-based HPLC screen for transketolase activity. <i>Biotechnology Letters</i> , 2007, 29, 1759-1770.	1.1	20
44	Non-linear kinetic modelling of reversible bioconversions: Application to the transaminase catalyzed synthesis of chiral amino-alcohols. <i>Biochemical Engineering Journal</i> , 2013, 73, 38-48.	1.8	20
45	Centrifugal partition chromatography in a biorefinery context: Optimisation and scale-up of monosaccharide fractionation from hydrolysed sugar beet pulp. <i>Journal of Chromatography A</i> , 2017, 1497, 56-63.	1.8	19
46	Mechanical Stability of Immobilized Biocatalysts (CLECs) in Dilute Agitated Suspensions. <i>Biotechnology Progress</i> , 2002, 18, 43-50.	1.3	18
47	A toolbox approach for the rapid evaluation of multi-step enzymatic syntheses comprising a <i>mix and match</i> <i>E. coli</i> expression system with microscale experimentation. <i>Biocatalysis and Biotransformation</i> , 2011, 29, 192-203.	1.1	18
48	Microscale methods to rapidly evaluate bioprocess options for increasing bioconversion yields: application to the <i>l</i> -transaminase synthesis of chiral amines. <i>Bioprocess and Biosystems Engineering</i> , 2014, 37, 931-941.	1.7	18
49	An ultra scale-down method to investigate monoclonal antibody processing during tangential flow filtration using ultrafiltration membranes. <i>Biotechnology and Bioengineering</i> , 2019, 116, 581-590.	1.7	18
50	Use of Operating Windows in the Assessment of Integrated Robotic Systems for the Measurement of Bioprocess Kinetics. <i>Biotechnology Progress</i> , 2005, 21, 283-291.	1.3	17
51	Quantification and prediction of jet macro-mixing times in static microwell plates. <i>Chemical Engineering Science</i> , 2006, 61, 4860-4870.	1.9	17
52	Continuous enzymatic hydrolysis of sugar beet pectin and l-arabinose recovery within an integrated biorefinery. <i>Bioresource Technology</i> , 2018, 269, 195-202.	4.8	17
53	Evaluation of CV2025 <i>l</i> -transaminase for the bioconversion of lignin breakdown products into value-added chemicals: synthesis of vanillylamine from vanillin. <i>Biocatalysis and Biotransformation</i> , 2014, 32, 302-313.	1.1	16
54	Mathematical model of a three phase partitioning bioreactor for conversion of ketones using whole cells. <i>Chemical Engineering Journal</i> , 2015, 260, 765-775.	6.6	16

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55	Microfluidic Chromatography for Early Stage Evaluation of Biopharmaceutical Binding and Separation Conditions. <i>Separation Science and Technology</i> , 2010, 46, 185-194.	1.3	15
56	Hydrodynamics of PEG-Phosphate Aqueous Two-Phase Systems in a μ -Type Multilayer Countercurrent Chromatograph. <i>Journal of Liquid Chromatography and Related Technologies</i> , 2005, 28, 1311-1332.	0.5	14
57	Modeling the performance of pilot-scale countercurrent chromatography: Scale-up predictions and experimental verification of erythromycin separation. <i>Biotechnology and Bioengineering</i> , 2003, 81, 640-649.	1.7	13
58	The full spectrum of physiological oxygen tensions and step-changes in oxygen tension affects the neural differentiation of mouse embryonic stem cells. <i>Biotechnology Progress</i> , 2011, 27, 1700-1708.	1.3	13
59	1,2-Propanediol production from glycerol via an endogenous pathway of <i>Klebsiella pneumoniae</i> . <i>Applied Microbiology and Biotechnology</i> , 2021, 105, 9003-9016.	1.7	13
60	An efficient approach to bioconversion kinetic model generation based on automated microscale experimentation integrated with model driven experimental design. <i>Chemical Engineering Science</i> , 2009, 64, 403-409.	1.9	12
61	Enhanced recombinant protein synthesis in batch and fed-batch <i>Escherichia coli</i> fermentation based on removal of inhibitory acetate by electrodialysis. <i>Journal of Chemical Technology and Biotechnology</i> , 2009, 84, 1284-1291.	1.6	11
62	Application of bipolar electrodialysis to <i>E. coli</i> fermentation for simultaneous acetate removal and pH control. <i>Biotechnology Letters</i> , 2010, 32, 1053-1057.	1.1	11
63	Characterization of Lentiviral Vector Production Using Microwell Suspension Cultures of HEK293T-Derived Producer Cells. <i>Human Gene Therapy Methods</i> , 2013, 24, 125-139.	2.1	11
64	Ethylene glycol and glycolic acid production by wild-type <i>Escherichia coli</i> . <i>Biotechnology and Applied Biochemistry</i> , 2021, 68, 744-755.	1.4	11
65	2,3-Dihydroxyisovalerate production by <i>Klebsiella pneumoniae</i> . <i>Applied Microbiology and Biotechnology</i> , 2020, 104, 6601-6613.	1.7	11
66	Application of Room-Temperature Ionic Liquids in Biocatalysis: Opportunities and Challenges. <i>ACS Symposium Series</i> , 2002, , 347-359.	0.5	10
67	Fluid dynamic characterization of a laboratory scale rocked bag bioreactor. <i>AIChE Journal</i> , 2017, 63, 4177-4187.	1.8	10
68	The prediction of the operating conditions on the permeate flux and on protein aggregation during membrane processing of monoclonal antibodies. <i>Journal of Membrane Science</i> , 2020, 596, 117606.	4.1	10
69	In-situ product removal to enhance the yield of biocatalytic reactions with competing equilibria: α -glucosidase catalysed synthesis of disaccharides. <i>Journal of Chemical Technology and Biotechnology</i> , 2001, 76, 971-977.	1.6	9
70	High-throughput screening and process optimisation. , 0, , 289-306.		9
71	Evaluation of cell disruption effects on primary recovery of antibody fragments using microscale bioprocessing techniques. <i>Biotechnology Progress</i> , 2010, 26, 1312-1321.	1.3	9
72	An automated microscale platform for evaluation and optimization of oxidative bioconversion processes. <i>Biotechnology Progress</i> , 2012, 28, 392-405.	1.3	9

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73	Engineering characterisation of a shaken, single-use photobioreactor for early stage microalgae cultivation using <i>Chlorella sorokiniana</i> . <i>Bioresource Technology</i> , 2014, 173, 367-375.	4.8	9
74	Chemo-biocatalytic one-pot two-step conversion of cyclic amine to lactam using whole cell monoamine oxidase. <i>Journal of Chemical Technology and Biotechnology</i> , 2017, 92, 1558-1565.	1.6	9
75	Functionalised tetrahydrofuran fragments from carbohydrates or sugar beet pulp biomass. <i>Green Chemistry</i> , 2019, 21, 2035-2042.	4.6	9
76	Development of a miniature bioreactor model to study the impact of <sc>pH</sc> and <sc>DOT</sc> fluctuations on <sc>CHO</sc> cell culture performance as a tool to understanding heterogeneity effects at largeâ€šscale. <i>Biotechnology Progress</i> , 2022, 38, e3264.	1.3	9
77	Thermal profiling for parallel on-line monitoring of biomass growth in miniature stirred bioreactors. <i>Biotechnology Letters</i> , 2008, 30, 1571-1575.	1.1	8
78	Scaleâ€šdown prediction of industrial scale pleated membrane cartridge performance. <i>Biotechnology and Bioengineering</i> , 2011, 108, 830-838.	1.7	7
79	Novel extremophilic proteases from <i>Pseudomonas aeruginosa</i> M211 and their application in the hydrolysis of dried distiller's grain with solubles. <i>Biotechnology Progress</i> , 2019, 35, e2728.	1.3	7
80	OPTIMIZATION OF THE FRACTIONATION AND RECOVERY OF POLYKETIDE ANTIBIOTICS BY COUNTERCURRENT CHROMATOGRAPHY. <i>Journal of Liquid Chromatography and Related Technologies</i> , 2001, 24, 1841-1861.	0.5	6
81	Antibiotic purification from fermentation broths by counter-current chromatography: analysis of product purity and yield trade-offs. <i>Bioprocess and Biosystems Engineering</i> , 2004, 27, 51-61.	1.7	6
82	A novel microscale crossflow device for the rapid evaluation of microfiltration processes. <i>Journal of Membrane Science</i> , 2014, 452, 284-293.	4.1	6
83	Redirection of the central metabolism of <i>Klebsiella pneumoniae</i> towards dihydroxyacetone production. <i>Microbial Cell Factories</i> , 2021, 20, 123.	1.9	6
84	One-Pot Synthesis and the Integration of Chemical and Biocatalytic Conversions. , 2005, , 419-428.		6
85	The roles of diol dehydratase from pdu operon on glycerol catabolism in <i>Klebsiella pneumoniae</i> . <i>Enzyme and Microbial Technology</i> , 2022, 157, 110021.	1.6	6
86	Potential of sugar beet vinasse as a feedstock for biocatalyst production within an integrated biorefinery context. <i>Journal of Chemical Technology and Biotechnology</i> , 2019, 94, 739-751.	1.6	5
87	Synergistic action of thermophilic pectinases for pectin bioconversion into D-galacturonic acid. <i>Enzyme and Microbial Technology</i> , 2022, , 110071.	1.6	5
88	Blocking the 2,3-butanediol synthesis pathway of <i>Klebsiella pneumoniae</i> resulted in l-valine production. <i>World Journal of Microbiology and Biotechnology</i> , 2022, 38, 81.	1.7	4
89	Evaluation of anthrax vaccine production by <i>Bacillus anthracis</i> Sterne 34F2 in stirred suspension culture using a miniature bioreactor: A useful scale-down tool for studies on fermentations at high containment. <i>Biochemical Engineering Journal</i> , 2010, 50, 139-144.	1.8	3
90	Oxygen-controlled automated neural differentiation of mouse embryonic stem cells. <i>Regenerative Medicine</i> , 2013, 8, 171-182.	0.8	3

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91	Creation of an ultra scale-down bioreactor mimic for rapid development of lignocellulosic enzymatic hydrolysis processes. <i>Journal of Chemical Technology and Biotechnology</i> , 2015, 90, 1983-1990.	1.6	3
92	Production of 2,3-dihydroxyisovalerate by <i>Enterobacter cloacae</i> . <i>Enzyme and Microbial Technology</i> , 2020, 140, 109650.	1.6	3
93	The pyruvate decarboxylase activity of IpdC is a limitation for isobutanol production by <i>Klebsiella pneumoniae</i> . , 2022, 15, 41.		3
94	Feedstocks and analysis: general discussion. <i>Faraday Discussions</i> , 2017, 202, 497-519.	1.6	2
95	Data on a thermostable enzymatic one-pot reaction for the production of a high-value compound from l-arabinose. <i>Data in Brief</i> , 2018, 19, 1341-1354.	0.5	1
96	UCL biochemical engineering. , 1998, 60, 527-533.		0
97	Accelerated Design of Biotransformation Processes Using Automated Microscale Processing Techniques. <i>Chemie-Ingenieur-Technik</i> , 2001, 73, 654-654.	0.4	0
98	Combination of Genome-Scale Models and Bioreactor Dynamics to Optimize the Production of Commodity Chemicals. <i>Frontiers in Molecular Biosciences</i> , 2022, 9, 855735.	1.6	0