Byoung-In Sang

List of Publications by Year
in descending order

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119 papers	4,750 citations	87888 38 h-index	106344 65 g-index
119 all docs	119 docs citations	119 times ranked	6403 citing authors

#	Article	IF	Citations
1	Analysis of the Toxic Mode of Action of Silver Nanoparticles Using Stressâ€Specific Bioluminescent Bacteria. Small, 2008, 4, 746-750.	10.0	374
2	Pretreatment strategies for enhanced biogas production from lignocellulosic biomass. Bioresource Technology, 2020, 301, 122725.	9.6	323
3	Extracellular electron transfer from cathode to microbes: application for biofuel production. Biotechnology for Biofuels, 2016, 9, 11.	6.2	228
4	Supercritical ethanol as an enhanced medium for lignocellulosic biomass liquefaction: Influence of physical process parameters. Energy, 2013, 59, 173-182.	8.8	167
5	Caproiciproducens galactitolivorans gen. nov., sp. nov., a bacterium capable of producing caproic acid from galactitol, isolated from a wastewater treatment plant. International Journal of Systematic and Evolutionary Microbiology, 2015, 65, 4902-4908.	1.7	153
6	The Future of Butyric Acid in Industry. Scientific World Journal, The, 2012, 2012, 1-10.	2.1	146
7	Continuous Butanol Production Using Suspended and Immobilized Clostridium beijerinckii NCIMB 8052 with Supplementary Butyrate. Energy & Fuels, 2008, 22, 3459-3464.	5.1	135
8	Butyrate production enhancement by Clostridium tyrobutyricum using electron mediators and a cathodic electron donor. Biotechnology and Bioengineering, 2012, 109, 2494-2502.	3.3	130
9	Detoxification of model phenolic compounds in lignocellulosic hydrolysates with peroxidase for butanol production from Clostridium beijerinckii. Applied Microbiology and Biotechnology, 2009, 83, 1035-1043.	3.6	123
10	Microbial Fed-batch Production of 1,3-Propanediol Using Raw Glycerol with Suspended and Immobilized Klebsiella pneumoniae. Applied Biochemistry and Biotechnology, 2010, 161, 491-501.	2.9	107
11	Correlation between microbial community structure and biofouling in a laboratory scale membrane bioreactor with synthetic wastewater. Desalination, 2012, 287, 209-215.	8.2	98
12	Anaerobic co-digestion of bioplastics as a sustainable mode of waste management with improved energy production â€“ A review. Bioresource Technology, 2021, 322, 124537.	9.6	93
13	Butanol production from thin stillage using Clostridium pasteurianum. Bioresource Technology, 2011, 102, 4934-4937.	9.6	91
14	In Situ Biphasic Extractive Fermentation for Hexanoic Acid Production from Sucrose by Megasphaera elsdenii NCIMB 702410. Applied Biochemistry and Biotechnology, 2013, 171, 1094-1107.	2.9	85
15	Production of hexanoic acid from d-galactitol by a newly isolated Clostridium sp. BS-1. Applied Microbiology and Biotechnology, 2010, 88, 1161-1167.	3.6	82
16	Effect of Biodiesel-derived Raw Glycerol on 1,3-Propanediol Production by Different Microorganisms. Applied Biochemistry and Biotechnology, 2010, 161, 502-510.	2.9	81
17	Optimization of medium compositions favoring butanol and 1,3-propanediol production from glycerol by Clostridium pasteurianum. Bioresource Technology, 2011, 102, 10561-10568.	9.6	81
18	In situ extractive fermentation for the production of hexanoic acid from galactitol by Clostridium sp. BS-1. Enzyme and Microbial Technology, 2013, 53, 143-151.	3.2	79

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19	Enhanced Light Scattering and Trapping Effect of Ag Nanowire Mesh Electrode for High Efficient Flexible Organic Solar Cell. Small, 2015, 11, 1905-1911.	10.0	78
20	Fungal contribution to in situ biodegradation of poly(3-hydroxybutyrate- co -3-hydroxyvalerate) film in soil. Applied Microbiology and Biotechnology, 2002, 58, 241-247.	3.6	74
21	A pilot scale two-stage anaerobic digester treating food waste leachate (FWL): Performance and microbial structure analysis using pyrosequencing. Process Biochemistry, 2014, 49, 301-308.	3.7	68
22	Comparison of the Bacterial Communities in Anaerobic, Anoxic, and Oxic Chambers of a Pilot A2O Process Using Pyrosequencing Analysis. Current Microbiology, 2013, 66, 555-565.	2.2	62
23	Production of medium-chain carboxylic acids by Megasphaera sp. MH with supplemental electron acceptors. Biotechnology for Biofuels, 2016, 9, 129.	6.2	60
24	Preparation of high purity silica originated from rice husks by chemically removing metallic impurities. Journal of Industrial and Engineering Chemistry, 2017, 50, 79-85.	5.8	59
25	Catalytic behavior of metal catalysts in high-temperature RWGS reaction: In-situ FT-IR experiments and first-principles calculations. Scientific Reports, 2017, 7, 41207.	3.3	57
26	Megasphaera hexanoica sp. nov., a medium-chain carboxylic acid-producing bacterium isolated from a cow rumen. International Journal of Systematic and Evolutionary Microbiology, 2017, 67, 2114-2120.	1.7	57
27	A biosensor based on the self-entrapment of glucose oxidase within biomimetic silica nanoparticles induced by a fusion enzyme. Enzyme and Microbial Technology, 2011, 49, 441-445.	3.2	55
28	Metal-organic framework derived NiMo polyhedron as an efficient hydrogen evolution reaction electrocatalyst. Applied Surface Science, 2019, 478, 916-923.	6.1	55
29	Highly stable enzyme precipitate coatings and their electrochemical applications. Biosensors and Bioelectronics, 2011, 26, 1980-1986.	10.1	54
30	Quantitative Analysis of Microstructures and Reaction Interfaces on Composite Cathodes in All-Solid-State Batteries Using a Three-Dimensional Reconstruction Technique. ACS Applied Materials & Interfaces, 2018, 10, 23740-23747.	8.0	53
31	Co-culturing a novel Bacillus strain with Clostridium tyrobutyricum ATCC 25755 to produce butyric acid from sucrose. Biotechnology for Biofuels, 2013, 6, 35.	6.2	50
32	Mass cultivation and harvesting of microalgal biomass: Current trends and future perspectives. Bioresource Technology, 2022, 344, 126406.	9.6	48
33	Global Gene Response in Saccharomyces cerevisiae Exposed to Silver Nanoparticles. Applied Biochemistry and Biotechnology, 2011, 164, 1278-1291.	2.9	47
34	Continuous hydrogen and butyric acid fermentation by immobilized Clostridium tyrobutyricum ATCC 25755: Effects of the glucose concentration and hydraulic retention time. Bioresource Technology, 2009, 100, 5352-5355.	9.6	45
35	Nanoscale enzyme reactors in mesoporous carbon for improved performance and lifetime of biosensors and biofuel cells. Biosensors and Bioelectronics, 2010, 26, 655-660.	10.1	45
36	Effects of pH conditions on the biological conversion of carbon dioxide to methane in a hollow-fiber membrane biofilm reactor (Hfâ€“MBfR). Desalination, 2008, 234, 409-415.	8.2	44

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37	The removal of nitrogen using an autotrophic hybrid hollow-fiber membrane biofilm reactor. Desalination, 2005, 183, 447-454.	8.2	43
38	Stable and continuous long-term enzymatic reaction using an enzymeâ€“nanofiber composite. Applied Microbiology and Biotechnology, 2007, 75, 1301-1307.	3.6	42
39	Production of microalgae with high lipid content and their potential as sources of nutraceuticals. Phytochemistry Reviews, 2023, 22, 833-860.	6.5	38
40	Effect of geometric lattice design on optical/electrical properties of transparent silver grid for organic solar cells. Optics Express, 2014, 22, 26891.	3.4	36
41	Simple quantification method for N -nitrosamines in atmospheric particulates based on facile pretreatment and GC-MS/MS. Environmental Pollution, 2017, 226, 324-334.	7.5	34
42	Pyrosequencing analysis of microbial communities in hollow fiber-membrane biofilm reactors system for treating high-strength nitrogen wastewater. Chemosphere, 2016, 163, 192-201.	8.2	33
43	A novel route for immobilization of proteins to silica particles incorporating silaffin domains. Biotechnology Progress, 2009, 25, 1643-1649.	2.6	31
44	Electrochemical behaviors of Li-argyrodite-based all-solid-state batteries under deep-freezing conditions. Chemical Communications, 2018, 54, 14116-14119.	4.1	30
45	Simultaneous production of methane and acetate by thermophilic mixed culture from carbon dioxide in bioelectrochemical system. Bioresource Technology, 2019, 281, 474-479.	9.6	30
46	Hydrothermal gasification of pure and crude glycerol in supercritical water: A comparative study. International Journal of Hydrogen Energy, 2014, 39, 1262-1273.	7.1	29
47	Conversion of levulinic acid to 2-butanone by acetoacetate decarboxylase from Clostridium acetobutylicum. Applied Microbiology and Biotechnology, 2013, 97, 5627-5634.	3.6	28
48	An Efficient New Process for the Selective Production of Odd-Chain Carboxylic Acids by Simple Carbon Elongation Using Megasphaera hexanoica. Scientific Reports, 2019, 9, 11999.	3.3	28
49	Isobutanol production from an engineered Shewanella oneidensis MR-1. Bioprocess and Biosystems Engineering, 2015, 38, 2147-2154.	3.4	27
50	Metabolic cascade of complex organic wastes to medium-chain carboxylic acids: A review on the state-of-the-art multi-omics analysis for anaerobic chain elongation pathways. Bioresource Technology, 2022, 344, 126211.	9.6	27
51	Biohydrogen Production by Fermentative Process in Continuous Stirred-Tank Reactor. International Journal of Green Energy, 2007, 4, 385-395.	3.8	26
52	Enhanced electrochemical sensitivity of enzyme precipitate coating (EPC)-based glucose oxidase biosensors with increased free CNT loadings. Bioelectrochemistry, 2015, 101, 114-119.	4.6	25
53	A kinetic analysis of the fungal degradation process of poly(3-hydroxybutyrate-co-3-hydroxyvalerate) in soil. Biochemical Engineering Journal, 2001, 9, 175-184.	3.6	24
54	Continuous synthesis of lithium iron phosphate nanoparticles in supercritical water: Effect of process parameters. Chemical Engineering Journal, 2013, 229, 313-323.	12.7	24

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55	New coculture system of Clostridium spp. and Megasphaera hexanoica using submerged hollow-fiber membrane bioreactors for caproic acid production. Bioresource Technology, 2018, 270, 498-503.	9.6	24
56	A novel CSTR-type of hollow fiber membrane biofilm reactor for consecutive nitrification and denitrification. Desalination, 2008, 221, 526-533.	8.2	23
57	Identification of Escherichia coli biomarkers responsive to various lignin-hydrolysate compounds. Bioresource Technology, 2012, 114, 450-456.	9.6	23
58	In situ detoxification of lignocellulosic hydrolysate using a surfactant for butyric acid production by Clostridium tyrobutyricum ATCC 25755. Process Biochemistry, 2015, 50, 630-635.	3.7	21
59	Optimization of hexanoic acid production in recombinant Escherichia coli by precise flux rebalancing. Bioresource Technology, 2018, 247, 1253-1257.	9.6	21
60	Thermostabilization of Candida antarctica lipase B by double immobilization: Adsorption on a macroporous polyacrylate carrier and R1 silaffin-mediated biosilicification. Process Biochemistry, 2013, 48, 1181-1187.	3.7	19
61	Electronic wastes: A near inexhaustible and an unimaginably wealthy resource for water splitting electrocatalysts. Journal of Hazardous Materials, 2022, 421, 126687.	12.4	18
62	Performance Analysis of a Proton Exchange Membrane Fuel Cell (PEMFC) Integrated with a Trickling Bed Bioreactor for Biological High-Rate Hydrogen Production. Energy & Fuels, 2008, 22, 83-86.	5.1	17
63	Effects of water content on ball milling pretreatment and the enzymatic digestibility of corn stover. Water-Energy Nexus, 2018, 1, 61-65.	4.0	17
64	Two-Stage Continuous Process for the Extraction of Silica from Rice Husk Using Attrition Ball Milling and Alkaline Leaching Methods. Sustainability, 2021, 13, 7350.	3.2	17
65	Silaffin Peptides as a Novel Signal Enhancer for Gravimetric Biosensors. Applied Biochemistry and Biotechnology, 2013, 170, 25-31.	2.9	16
66	Effects of supplement additives on anaerobic biogas production. Korean Journal of Chemical Engineering, 2017, 34, 2678-2685.	2.7	16
67	Tomographical analysis of electrochemical lithiation and delithiation of LiNi0.6Co0.2Mn0.2O2 cathodes in all-solid-state batteries. Scripta Materialia, 2019, 165, 10-14.	5.2	16
68	Characterisation of bacterial nanocellulose and nanostructured carbon produced from crude glycerol by Komagataeibacter sucrofermentans. Bioresource Technology, 2021, 342, 125918.	9.6	16
69	Feasibility of a facile butanol bioproduction using planetary mill pretreatment. Bioresource Technology, 2016, 199, 283-287.	9.6	15
70	Chain elongation process for caproate production using lactate as electron donor in Megasphaera hexanoica. Bioresource Technology, 2022, 346, 126660.	9.6	15
71	Clostridium vulturis sp. nov., isolated from the intestine of the cinereous vulture (Aegypius) Tj ETQq1 1 0.784314 rgBT /Overlock 10 T	1.7	14
72	A Hierarchically Modified Graphite Cathode with Au Nanoislands, Cysteamine, and Au Nanocolloids for Increased Electricity-Assisted Production of Isobutanol by Engineered Shewanella oneidensis MR-1. ACS Applied Materials & Interfaces, 2017, 9, 43563-43574.	8.0	14

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73	Enhanced extraction of butyric acid under high-pressure CO2 conditions to integrate chemical catalysis for value-added chemicals and biofuels. Biotechnology for Biofuels, 2018, 11, 119.	6.2	13
74	Impact of feedstocks and downstream processing technologies on the economics of caproic acid production in fermentation by Megasphaera elsdenii T81. Bioresource Technology, 2020, 301, 122794.	9.6	13
75	Risk Reduction of Adverse Effects Due to Di-(2-Ethylhexyl) Phthalate (DEHP) by Utilizing Microbial Degradation. Journal of Toxicology and Environmental Health - Part A: Current Issues, 2009, 72, 1388-1394.	2.3	12
76	Effects of carbon source and metabolic engineering on butyrate production in Escherichia coli. Korean Journal of Chemical Engineering, 2011, 28, 1587-1592.	2.7	12
77	Efficient, Simple Production of Corresponding Alcohols from Supplemented C2-C8 Carboxylic Acids in Escherichia coli Using Acyl-CoA Transferase from Megasphaera hexanoica. Biotechnology and Bioprocess Engineering, 2020, 25, 599-606.	2.6	12
78	Analysis of the Microbial Community in an Acidic Hollow-Fiber Membrane Biofilm Reactor (Hf-MBfR) Used for the Biological Conversion of Carbon Dioxide to Methane. PLoS ONE, 2015, 10, e0144999.	2.5	12
79	Purification and Characterization of Fungal Poly(3-hydroxybutyrate) Depolymerase from Paecilomyces lilacinus F4-5 and Enzymatic Degradation of Poly(3-hydroxybutyrate-co-3-hydroxyvalerate) Film. World Journal of Microbiology and Biotechnology, 2006, 22, 51-57.	3.6	11
80	Perspectives for biocatalytic lignin utilization: cleaving 4-O-5 and CÎ±â€“CÎ² bonds in dimeric lignin model compounds catalyzed by a promiscuous activity of tyrosinase. Biotechnology for Biofuels, 2017, 10, 212.	6.2	11
81	Robust solid-state interface with a deformable glass interlayer in sulfide-based all-solid-state batteries. Solid State Ionics, 2020, 346, 115217.	2.7	11
82	Bacterial nanocellulose as a green and flexible electrode matrix for efficient hydrogen evolution reaction in alkaline conditions. Cellulose, 2020, 27, 8135-8146.	4.9	11
83	Butyric acid production from red algae by a newly isolated Clostridium sp. S1. Biotechnology Letters, 2015, 37, 1837-1844.	2.2	10
84	Application of SPE followed by large-volume injection GC/MS for the analysis of geosmin and 2-methylisoborneol in water. Analytical Methods, 2015, 7, 6678-6685.	2.7	10
85	Antimicrobial Air Filter Coating with Plant Extracts Against Airborne Microbes. Applied Sciences (Switzerland), 2020, 10, 9120.	2.5	10
86	One-dimensional InGaZnO field-effect transistor on a polyimide wire substrate for an electronic textile. Journal of the Korean Physical Society, 2016, 68, 599-603.	0.7	9
87	High-Speed Annealing of Hydrous Ruthenium Oxide Nanoparticles by Intensely Pulsed White Light for Supercapacitors. Journal of the Electrochemical Society, 2013, 160, A1772-A1776.	2.9	8
88	ABE production from yellow poplar through alkaline pre-hydrolysis, enzymatic saccharification, and fermentation. Biotechnology and Bioprocess Engineering, 2013, 18, 965-971.	2.6	8
89	Feasibility of Continuous Pretreatment of Corn Stover: A Comparison of Three Commercially Available Continuous Pulverizing Devices. Energies, 2019, 12, 1422.	3.1	8
90	Development of Real-Time PCR Primer and Probe Sets for Detecting Degenerated and Non-degenerated Forms of the Butanol-Producing Bacterium Clostridium acetobutylicum ATCC 824. Applied Biochemistry and Biotechnology, 2010, 161, 75-83.	2.9	7

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91	InGaZnO transistor based on porous Ag nanowire-functionalized gate electrode for detection of bio-relevant molecules. Sensors and Actuators B: Chemical, 2018, 254, 36-43.	7.8	7
92	Comparison between OClâ¯-Injection and In Situ Electrochlorination in the Formation of Chlorate and Perchlorate in Seawater. Applied Sciences (Switzerland), 2019, 9, 229.	2.5	7
93	Silica formation with nanofiber morphology via helical display of the silaffin R5 peptide on a filamentous bacteriophage. Scientific Reports, 2017, 7, 16212.	3.3	6
94	Evaluation of relationship between biogas production and microbial communities in anaerobic co-digestion. Korean Journal of Chemical Engineering, 2018, 35, 179-186.	2.7	6
95	Collateral hydrogenation over proton-conducting Ni/BaZr_{0.85}Y_{0.15}O_{3â¯Î´} catalysts for promoting CO₂ methanation. RSC Advances, 2018, 8, 32095-32101.	3.6	6
96	Dynamic Changes of Microbiome with the Utilization of Volatile Fatty Acids as Electron Donors for Denitrification. Water (Switzerland), 2021, 13, 1556.	2.7	6
97	Alkali Extraction to Detoxify Rice Husk-Derived Silica and Increase Its Biocompatibility. ACS Sustainable Chemistry and Engineering, 2022, 10, 7811-7817.	6.7	6
98	Plasmonic-based colorimetric and spectroscopic discrimination of acetic and butyric acids produced by different types of Escherichia coli through the different assembly structures formation of gold nanoparticles. Analytica Chimica Acta, 2016, 933, 196-206.	5.4	5
99	Aerobic denitrification by a novel Pseudomonas sp. JN5 in different bioreactor systems. Water-Energy Nexus, 2019, 2, 37-45.	4.0	5
100	Selective Removal of Water Generated during Hydrogenotrophic Methanation from Culture Medium Using Membrane Distillation. Energies, 2019, 12, 4130.	3.1	5
101	Anisotropic Alignment of Bacterial Nanocellulose Ionogels for Unconventionally High Combination of Stiffness and Damping. ACS Applied Materials & Interfaces, 2022, 14, 30056-30066.	8.0	5
102	Production of Hydrogen and Volatile Fatty Acid by Enterobacter sp. T4384 Using Organic Waste Materials. Journal of Microbiology and Biotechnology, 2013, 23, 189-194.	2.1	4
103	Analysis of Microbial Communities in Biofilms from CSTR-Type Hollow Fiber Membrane Biofilm Reactors for Autotrophic Nitrification and Hydrogenotrophic Denitrification. Journal of Microbiology and Biotechnology, 2015, 25, 1670-1679.	2.1	4
104	A mathematical description for the fungal degradation process of biodegradable plastics. Mathematics and Computers in Simulation, 2004, 65, 147-155.	4.4	3
105	Functional expression of anti-hepatitis B virus (HBV) preS2 antigen scFv by cspA promoter system in Escherichia coli and application as a recognition molecule for single-walled carbon nanotube (SWNT) field effect transistor (FET). Biotechnology and Bioprocess Engineering, 2010, 15, 810-816.	2.6	3
106	Metal-oxide thin-film transistor-based pH sensor with a silver nanowire top gate electrode. Journal of the Korean Physical Society, 2016, 68, 901-907.	0.7	3
107	Enzymatic Esterification under High-pressure CO2 Conditions for in situ Recovery of Butyric Acid from Anaerobic Fermenters. Biotechnology and Bioprocess Engineering, 2020, 25, 616-622.	2.6	3
108	Shear effects on production of lignin peroxidase byPhanerochaete chrysosporium. Biotechnology and Bioprocess Engineering, 1996, 1, 26-31.	2.6	2

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109	Enzyme-Nanofiber Composites for Biocatalysis Applications. ACS Symposium Series, 2008, , 254-262.	0.5	2
110	Complete Genomic Sequence of the Thermophilic and Hydrogenotrophic Methanogen Methanothermobacter sp. Strain KEPCO-1. Microbiology Resource Announcements, 2020, 9, .	0.6	2
111	Impact of Attrition Ball-Mill on Characteristics and Biochemical Methane Potential of Food Waste. Energies, 2021, 14, 2085.	3.1	2
112	The trade-offs and effect of carrier size and oxygen-loading on gaseous toluene removal performance of a three-phase circulating-bed biofilm reactor. Applied Microbiology and Biotechnology, 2003, 61, 214-219.	3.6	1
113	Application of Computational Fluid Dynamics in Chlorine-Dynamics Modeling of In-Situ Chlorination Systems for Cooling Systems. Applied Sciences (Switzerland), 2020, 10, 4455.	2.5	1
114	Innovations in environmental bioprocesses for sustainable development. Environmental Science and Pollution Research, 2020, 27, 27169-27171.	5.3	1
115	Recent advances in Bioprocess Technology-2020. Bioresource Technology, 2021, 327, 124824.	9.6	1
116	Complete Genome Sequence of Methanothermobacter sp. Strain THM-1, a Thermophilic and Hydrogenotrophic Methanogen Isolated from an Anaerobic Reactor in South Korea. Microbiology Resource Announcements, 2021, 10, e0058721.	0.6	1
117	Anaerobic Digestion of Cigarette Butts: Microbial Community Analysis and Energy Production Estimation. Energies, 2021, 14, 8290.	3.1	1
118	CHEMOAUTOTROPHIC NITRIFICATION AND DENITRIFICATIN BY AIR- AND HYDROGEN-BASED HOLLOW-FIBER MEMBRANE BIOFILM REACTOR. Proceedings of the Water Environment Federation, 2005, 2005, 4225-4231.	0.0	0
119	Improved Sugar Production by Optimizing Planetary Mill Pretreatment and Enzyme Hydrolysis Process. BioMed Research International, 2015, 2015, 1-5.	1.9	0