Pablo Ivan Nikel

List of Publications by Year
in descending order

123 papers	7,038 citations	57758 44 h-index	71685 76 g-index
143 all docs	143 docs citations	143 times ranked	5001 citing authors

#	Article	IF	Citations
1	The Standard European Vector Architecture (SEVA): a coherent platform for the analysis and deployment of complex prokaryotic phenotypes. Nucleic Acids Research, 2013, 41, D666-D675.	14.5	556
2	Pseudomonas putida as a functional chassis for industrial biocatalysis: From native biochemistry to trans-metabolism. Metabolic Engineering, 2018, 50, 142-155.	7.0	338
3	Biotechnological domestication of pseudomonads using synthetic biology. Nature Reviews Microbiology, 2014, 12, 368-379.	28.6	332
4	The revisited genome of <i>Pseudomonas putida</i> KT2440 enlightens its value as a robust metabolic <i>chassis</i>. Environmental Microbiology, 2016, 18, 3403-3424.	3.8	270
5	Pseudomonas putida KT2440 Strain Metabolizes Glucose through a Cycle Formed by Enzymes of the Entner-Doudoroff, Embden-Meyerhof-Parnas, and Pentose Phosphate Pathways. Journal of Biological Chemistry, 2015, 290, 25920-25932.	3.4	269
6	Bioremediation 3.0: Engineering pollutant-removing bacteria in the times of systemic biology. Biotechnology Advances, 2017, 35, 845-866.	11.7	240
7	Pseudomonas 2.0: genetic upgrading of P. putida KT2440 as an enhanced host for heterologous gene expression. Microbial Cell Factories, 2014, 13, 159.	4.0	199
8	From dirt to industrial applications: Pseudomonas putida as a Synthetic Biology chassis for hosting harsh biochemical reactions. Current Opinion in Chemical Biology, 2016, 34, 20-29.	6.1	199
9	The <scp>E</scp>ntnerâ€“<scp>D</scp>oudoroff pathway empowers <i><scp>P</scp>seudomonas putida</i>â€…<scp>KT</scp>2440 with a high tolerance to oxidative stress. Environmental Microbiology, 2013, 15, 1772-1785.	3.8	195
10	Chasing bacterial <i>chassis</i> for metabolic engineering: a perspective review from classical to nonâ€traditional microorganisms. Microbial Biotechnology, 2019, 12, 98-124.	4.2	193
11	Exacerbation of substrate toxicity by IPTG in Escherichia coli BL21(DE3) carrying a synthetic metabolic pathway. Microbial Cell Factories, 2015, 14, 201.	4.0	145
12	Genome reduction boosts heterologous gene expression in Pseudomonas putida. Microbial Cell Factories, 2015, 14, 23.	4.0	142
13	The metabolic cost of flagellar motion in <scp><i>P</i></scp><i>seudomonas putida</i>â€…<scp>KT</scp>2440. Environmental Microbiology, 2014, 16, 291-303.	3.8	132
14	Industrial biotechnology of Pseudomonas putida: advances and prospects. Applied Microbiology and Biotechnology, 2020, 104, 7745-7766.	3.6	128
15	Genetic programming of catalytic Pseudomonas putida biofilms for boosting biodegradation of haloalkanes. Metabolic Engineering, 2016, 33, 109-118.	7.0	103
16	Revolutionizing agriculture with synthetic biology. Nature Plants, 2019, 5, 1207-1210.	9.3	100
17	Accelerated genome engineering of <i>Pseudomonas putida</i> by Iâ€<i>Sce</i>Iâ€•mediated recombination and <scp>CRISPR</scp>â€Cas9 counterselection. Microbial Biotechnology, 2020, 13, 233-249.	4.2	99
18	Engineering an anaerobic metabolic regime in Pseudomonas putida KT2440 for the anoxic biodegradation of 1,3-dichloroprop-1-ene. Metabolic Engineering, 2013, 15, 98-112.	7.0	93

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19	Metabolic and regulatory rearrangements underlying glycerol metabolism in <i><scp>P</scp>seudomonas putida</i>â€…<scp>KT</scp>2440. Environmental Microbiology, 2014, 16, 239-254.	3.8	91
20	New Recombinant Escherichia coli Strain Tailored for the Production of Poly(3-Hydroxybutyrate) from Agroindustrial By-Products. Applied and Environmental Microbiology, 2006, 72, 3949-3954.	3.1	90
21	New Transposon Tools Tailored for Metabolic Engineering of Gram-Negative Microbial Cell Factories. Frontiers in Bioengineering and Biotechnology, 2014, 2, 46.	4.1	85
22	Reconfiguration of metabolic fluxes in <i>Pseudomonas putida</i> as a response to sub-lethal oxidative stress. ISME Journal, 2021, 15, 1751-1766.	9.8	79
23	Accumulation of inorganic polyphosphate enables stress endurance and catalytic vigour in Pseudomonas putida KT2440. Microbial Cell Factories, 2013, 12, 50.	4.0	77
24	Biochemistry, genetics and biotechnology of glycerol utilization in <i>Pseudomonas</i> species. Microbial Biotechnology, 2020, 13, 32-53.	4.2	76
25	Transcriptomic fingerprinting of <i><scp>P</scp>seudomonas putida</i> under alternative physiological regimes. Environmental Microbiology Reports, 2013, 5, 883-891.	2.4	75
26	Poly(3-hydroxybutyrate) synthesis from glycerol by a recombinant Escherichia coli arcA mutant in fed-batch microaerobic cultures. Applied Microbiology and Biotechnology, 2008, 77, 1337-1343.	3.6	74
27	Endogenous Stress Caused by Faulty Oxidation Reactions Fosters Evolution of 2,4-Dinitrotoluene-Degrading Bacteria. PLoS Genetics, 2013, 9, e1003764.	3.5	74
28	Poly(3-Hydroxybutyrate) Synthesis by Recombinant <i>Escherichia coli arcA</i> Mutants in Microaerobiosis. Applied and Environmental Microbiology, 2006, 72, 2614-2620.	3.1	70
29	Engineering Native and Synthetic Pathways in <i>Pseudomonas putida</i> for the Production of Tailored Polyhydroxyalkanoates. Biotechnology Journal, 2021, 16, e2000165.	3.5	67
30	Effects of Aeration on the Synthesis of Poly(3-Hydroxybutyrate) from Glycerol and Glucose in Recombinant <i>Escherichia coli</i>. Applied and Environmental Microbiology, 2010, 76, 2036-2040.	3.1	66
31	The private life of environmental bacteria: pollutant biodegradation at the single cell level. Environmental Microbiology, 2014, 16, 628-642.	3.8	63
32	Robustness of Pseudomonas putida KT2440 as a host for ethanol biosynthesis. New Biotechnology, 2014, 31, 562-571.	4.4	62
33	The Glycerol-Dependent Metabolic Persistence of Pseudomonas putida KT2440 Reflects the Regulatory Logic of the GlpR Repressor. MBio, 2015, 6, .	4.1	62
34	Synthetic control of plasmid replication enables target- and self-curing of vectors and expedites genome engineering of Pseudomonas putida. Metabolic Engineering Communications, 2020, 10, e00126.	3.6	62
35	Polyhydroxyalkanoates. Advances in Applied Microbiology, 2015, 93, 73-106.	2.4	60
36	A fluoride-responsive genetic circuit enables in vivo biofluorination in engineered Pseudomonas putida. Nature Communications, 2020, 11, 5045.	12.8	60

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37	Effects of Granule-Associated Protein PhaP on Glycerol-Dependent Growth and Polymer Production in Poly(3-Hydroxybutyrate)-Producing <i>Escherichia coli</i>. Applied and Environmental Microbiology, 2007, 73, 7912-7916.	3.1	58
38	Pyridine nucleotide transhydrogenases enable redox balance of <i>Pseudomonas putida</i> during biodegradation of aromatic compounds. Environmental Microbiology, 2016, 18, 3565-3582.	3.8	58
39	A Post-translational Metabolic Switch Enables Complete Decoupling of Bacterial Growth from Biopolymer Production in Engineered <i>Escherichia coli</i>. ACS Synthetic Biology, 2018, 7, 2686-2697.	3.8	58
40	Functional implementation of a linear glycolysis for sugar catabolism in Pseudomonas putida. Metabolic Engineering, 2019, 54, 200-211.	7.0	56
41	Physical decoupling of XylS/<i>Pm</i> regulatory elements and conditional proteolysis enable precise control of gene expression in <i>Pseudomonas putida</i>. Microbial Biotechnology, 2020, 13, 222-232.	4.2	54
42	Why are chlorinated pollutants so difficult to degrade aerobically? Redox stress limits 1,3-dichloprop-1-ene metabolism by<i>Pseudomonas pavonaceae</i>. Philosophical Transactions of the Royal Society B: Biological Sciences, 2013, 368, 20120377.	4.0	53
43	Pseudomonas putida. Trends in Microbiology, 2020, 28, 512-513.	7.7	52
44	Implantation of unmarked regulatory and metabolic modules in Gram-negative bacteria with specialised mini-transposon delivery vectors. Journal of Biotechnology, 2013, 163, 143-154.	3.8	51
45	The Metabolic Redox Regime of Pseudomonas putida Tunes Its Evolvability toward Novel Xenobiotic Substrates. MBio, 2018, 9, .	4.1	51
46	Refactoring the Embdenâ€“Meyerhofâ€“Parnas Pathway as a Whole of Portable GlucoBricks for Implantation of Glycolytic Modules in Gram-Negative Bacteria. ACS Synthetic Biology, 2017, 6, 793-805.	3.8	50
47	<i>Escherichia coli arcA</i> Mutants: Metabolic Profile Characterization of Microaerobic Cultures using Glycerol as a Carbon Source. Journal of Molecular Microbiology and Biotechnology, 2008, 15, 48-54.	1.0	48
48	An expanded CRISPRi toolbox for tunable control of gene expression in <i>Pseudomonas putida</i>. Microbial Biotechnology, 2020, 13, 368-385.	4.2	48
49	Metabolic Flux Analysis of <i>Escherichia coli creB</i> and <i>arcA</i> Mutants Reveals Shared Control of Carbon Catabolism under Microaerobic Growth Conditions. Journal of Bacteriology, 2009, 191, 5538-5548.	2.2	46
50	Getting Bacteria in Shape: Synthetic Morphology Approaches for the Design of Efficient Microbial Cell Factories. Advanced Biology, 2018, 2, 1800111.	3.0	46
51	Exploring the synthetic biology potential of bacteriophages for engineering non-model bacteria. Nature Communications, 2020, 11, 5294.	12.8	45
52	Towards robust <i>Pseudomonas</i> cell factories to harbour novel biosynthetic pathways. Essays in Biochemistry, 2021, 65, 319-336.	4.7	44
53	dye (arc) mutants: insights into an unexplained phenotype and its suppression by the synthesis of poly (3-hydroxybutyrate) in Escherichia coli recombinants. FEMS Microbiology Letters, 2006, 258, 55-60.	1.8	42
54	Why Nature Chose Potassium. Journal of Molecular Evolution, 2019, 87, 271-288.	1.8	41

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55	Evolutionary Approaches for Engineering Industrially Relevant Phenotypes in Bacterial Cell Factories. Biotechnology Journal, 2019, 14, e1800439.	3.5	41
56	Model-guided dynamic control of essential metabolic nodes boosts acetyl-coenzyme Aâ€“dependent bioproduction in rewired Pseudomonas putida. Metabolic Engineering, 2021, 67, 373-386.	7.0	41
57	Ethanol synthesis from glycerol by <i>Escherichia coli</i> redox mutants expressing <i>adhE</i> from <i>Leuconostoc mesenteroides</i>. Journal of Applied Microbiology, 2010, 109, 492-504.	3.1	40
58	Modular (de)construction of complex bacterial phenotypes by CRISPR/nCas9-assisted, multiplex cytidine base-editing. Nature Communications, 2022, 13, .	12.8	39
59	Growth-coupled selection of synthetic modules to accelerate cell factory development. Nature Communications, 2021, 12, 5295.	12.8	35
60	High-Performance Biocomputing in Synthetic Biologyâ€“Integrated Transcriptional and Metabolic Circuits. Frontiers in Bioengineering and Biotechnology, 2019, 7, 40.	4.1	34
61	Statistical optimization of a culture medium for biomass and poly(3-hydroxybutyrate) production by a recombinant Escherichia coli strain using agroindustrial byproducts. International Microbiology, 2005, 8, 243-50.	2.4	34
62	Biotransformation of 2,4â€dinitrotoluene in a phototrophic coâ€culture of engineered <i>Synechococcus elongatus</i> and <i>Pseudomonas putida</i>. Microbial Biotechnology, 2020, 13, 997-1011.	4.2	30
63	A Metabolic Widget Adjusts the Phosphoenolpyruvate-Dependent Fructose Influx in Pseudomonas putida. MSystems, 2016, 1, .	3.8	28
64	<scp>ArsH</scp> protects <i>Pseudomonas putida</i> from oxidative damage caused by exposure to arsenic. Environmental Microbiology, 2020, 22, 2230-2242.	3.8	28
65	ESCHERICHIA COLI REDOX MUTANTS AS MICROBIAL CELL FACTORIES FOR THE SYNTHESIS OF REDUCED BIOCHEMICALS. Computational and Structural Biotechnology Journal, 2012, 3, e201210019.	4.1	27
66	The global regulator Crc orchestrates the metabolic robustness underlying oxidative stress resistance in <i>Pseudomonas aeruginosa</i>. Environmental Microbiology, 2019, 21, 898-912.	3.8	27
67	Elimination of<scp>d</scp>-Lactate Synthesis Increases Poly(3-Hydroxybutyrate) and Ethanol Synthesis from Glycerol and Affects Cofactor Distribution in Recombinant<i>Escherichia coli</i>. Applied and Environmental Microbiology, 2010, 76, 7400-7406.	3.1	25
68	The <scp>RNA</scp> chaperone <scp>Hfq</scp> enables the environmental stress tolerance superâ€phenotype of <scp><i>P</i></scp><i>seudomonas putida</i>. Environmental Microbiology, 2016, 18, 3309-3326.	3.8	25
69	Synthetic metabolism for biohalogenation. Current Opinion in Biotechnology, 2022, 74, 180-193.	6.6	25
70	Pseudomonas putida mt-2 tolerates reactive oxygen species generated during matric stress by inducing a major oxidative defense response. BMC Microbiology, 2015, 15, 202.	3.3	24
71	Merging automation and fundamental discovery into the designâ€“buildâ€“testâ€“learn cycle of nontraditional microbes. Trends in Biotechnology, 2022, 40, 1148-1159.	9.3	24
72	Engineering Gram-Negative Microbial Cell Factories Using Transposon Vectors. Methods in Molecular Biology, 2017, 1498, 273-293.	0.9	23

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73	Nonâ€invasive, ratiometric determination of intracellular pH in Pseudomonas species using a novel genetically encoded indicator. Microbial Biotechnology, 2019, 12, 799-813.	4.2	23
74	In silico-guided engineering of Pseudomonas putida towards growth under micro-oxic conditions. Microbial Cell Factories, 2019, 18, 179.	4.0	23
75	Anr, the anaerobic global regulator, modulates the redox state and oxidative stress resistance in Pseudomonas extremaustralis. Microbiology (United Kingdom), 2013, 159, 259-268.	1.8	22
76	A New Player in the Biorefineries Field: Phasin PhaP Enhances Tolerance to Solvents and Boosts Ethanol and 1,3-Propanediol Synthesis in Escherichia coli. Applied and Environmental Microbiology, 2017, 83, .	3.1	22
77	Breaking the stateâ€ofâ€theâ€art in the chemical industry with newâ€toâ€Nature products <i>via</i> synthetic microbiology. Microbial Biotechnology, 2019, 12, 187-190.	4.2	22
78	The Legacy of HfrH: Mutations in the Two-Component System CreBC Are Responsible for the Unusual Phenotype of an Escherichia coli arcA Mutant. Journal of Bacteriology, 2008, 190, 3404-3407.	2.2	21
79	Intersecting Xenobiology and Neometabolism To Bring Novel Chemistries to Life. ChemBioChem, 2020, 21, 2551-2571.	2.6	20
80	A Nonconventional Archaeal Fluorinase Identified by In Silico Mining for Enhanced Fluorine Biocatalysis. ACS Catalysis, 2022, 12, 6570-6577.	11.2	20
81	Quantifying the Relative Importance of Phylogeny and Environmental Preferences As Drivers of Gene Content in Prokaryotic Microorganisms. Frontiers in Microbiology, 2016, 7, 433.	3.5	19
82	Combinatorial pathway balancing provides biosynthetic access to 2-fluoro-cis,cis-muconate in engineered Pseudomonas putida. Chem Catalysis, 2021, 1, 1234-1259.	6.1	19
83	Data on the standardization of a cyclohexanone-responsive expression system for Gram-negative bacteria. Data in Brief, 2016, 6, 738-744.	1.0	17
84	The CreC Regulator of Escherichia coli, a New Target for Metabolic Manipulations. Applied and Environmental Microbiology, 2016, 82, 244-254.	3.1	17
85	Cofactor Specificity of Glucose-6-Phosphate Dehydrogenase Isozymes in Pseudomonas putida Reveals a General Principle Underlying Glycolytic Strategies in Bacteria. MSystems, 2021, 6, .	3.8	17
86	Dynamic flux regulation for high-titer anthranilate production by plasmid-free, conditionally-auxotrophic strains of Pseudomonas putida. Metabolic Engineering, 2022, 73, 11-25.	7.0	16
87	Manipulation of the Anoxic Metabolism in Escherichia coli by ArcB Deletion Variants in the ArcBA Two-Component System. Applied and Environmental Microbiology, 2012, 78, 8784-8794.	3.1	15
88	Role of the <scp>CrcB</scp> transporter of <i>Pseudomonas putida</i> in the multiâ€level stress response elicited by mineral fluoride. Environmental Microbiology, 2022, 24, 5082-5104.	3.8	15
89	Quantitative Physiology Approaches to Understand and Optimize Reducing Power Availability in Environmental Bacteria. Springer Protocols, 2015, , 39-70.	0.3	14
90	Highâ€throughput dilutionâ€based growth method enables timeâ€resolved exoâ€metabolomics of <i>Pseudomonas putida</i> and <i>Pseudomonas aeruginosa</i>. Microbial Biotechnology, 2021, 14, 2214-2226.	4.2	14

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91	ArcA Redox Mutants as a Source of Reduced Bioproducts. Journal of Molecular Microbiology and Biotechnology, 2008, 15, 41-47.	1.0	13
92	Evolving metabolism of 2,4â€dinitrotoluene triggers SOSâ€independent diversification of host cells. Environmental Microbiology, 2019, 21, 314-326.	3.8	13
93	Metabolic selective pressure stabilizes plasmids carrying biosynthetic genes for reduced biochemicals in Escherichia coli redox mutants. Applied Microbiology and Biotechnology, 2010, 88, 563-573.	3.6	12
94	Dual Effect: High NADH Levels Contribute to Efflux-Mediated Antibiotic Resistance but Drive Lethality Mediated by Reactive Oxygen Species. MBio, 2022, 13, e0243421.	4.1	12
95	Spatiotemporal Manipulation of the Mismatch Repair System of <i>Pseudomonas putida</i> Accelerates Phenotype Emergence. ACS Synthetic Biology, 2021, 10, 1214-1226.	3.8	11
96	Rapid Genome Engineering of Pseudomonas Assisted by Fluorescent Markers and Tractable Curing of Plasmids. Bio-protocol, 2021, 11, e3917.	0.4	10
97	Developing a CRISPRâ€assisted baseâ€editing system for genome engineering of <i>Pseudomonas chlororaphis</i>. Microbial Biotechnology, 2022, 15, 2324-2336.	4.2	10
98	Challenges and opportunities in bringing nonbiological atoms to life with synthetic metabolism. Trends in Biotechnology, 2023, 41, 27-45.	9.3	10
99	Metabolic profile of Mycobacterium smegmatis reveals Mce4 proteins are relevant for cell wall lipid homeostasis. Metabolomics, 2016, 12, 1.	3.0	8
100	Transcriptional control of 2,4â€dinitrotoluene degradation in <i>Burkholderia sp</i>. <scp>R34</scp> bears a regulatory patch that eases pathway evolution. Environmental Microbiology, 2021, 23, 2522-2531.	3.8	8
101	Standardization of regulatory nodes for engineering heterologous gene expression: a feasibility study. Microbial Biotechnology, 2022, 15, 2250-2265.	4.2	8
102	Redox driven metabolic tuning. Bioengineered Bugs, 2010, 1, 293-297.	1.7	7
103	The Pseudomonas aeruginosa whole genome sequence: A 20th anniversary celebration. Advances in Microbial Physiology, 2021, 79, 25-88.	2.4	7
104	Oligomerization engineering of the fluorinase enzyme leads to an active trimer that supports synthesis of fluorometabolites <i>inÂvitro</i>. Microbial Biotechnology, 2022, 15, 1622-1632.	4.2	7
105	Highâ€throughput colorimetric assays optimized for detection of ketones and aldehydes produced by microbial cell factories. Microbial Biotechnology, 2022, 15, 2426-2438.	4.2	6
106	Modelling the freezing response of bakerâ€™s yeast prestressed cells: a statistical approach. Journal of Applied Microbiology, 2008, 104, 716-727.	3.1	5
107	The <i>Synthetic Microbiology Caucus</i>: from abstract ideas to turning microbes into cellular machines and back. Microbial Biotechnology, 2019, 12, 5-7.	4.2	5
108	<i>Pseudomonas taiwanensis</i> biofilms for continuous conversion of cyclohexanone in drip flow and rotating bed reactors. Engineering in Life Sciences, 2021, 21, 258-269.	3.6	5

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109	Assessing Carbon Source-Dependent Phenotypic Variability in Pseudomonas putida. Methods in Molecular Biology, 2018, 1745, 287-301.	0.9	4
110	Elimination of GlnKAmtB affects serine biosynthesis and improves growth and stress tolerance of <i>Escherichia coli</i> under nutrient-rich conditions. FEMS Microbiology Letters, 2020, 367, .	1.8	4
111	Low CyaA expression and antiâ€cooperative binding of cAMP to CRP frames the scope of the cognate regulon of Pseudomonas putida. Environmental Microbiology, 2021, 23, 1732-1749.	3.8	4
112	Re-Factoring Glycolytic Genes for Targeted Engineering of Catabolism in Gram-Negative Bacteria. Methods in Molecular Biology, 2018, 1772, 3-24.	0.9	3
113	Synthesis of Recoded Bacterial Genomes toward Bespoke Biocatalysis. Trends in Biotechnology, 2019, 37, 1036-1038.	9.3	3
114	Advanced metabolic engineering strategies for the development of sustainable microbial processes. , 2020, , 225-246.		3
115	Editorial: Synthetic Biology-Guided Metabolic Engineering. Frontiers in Bioengineering and Biotechnology, 2020, 8, 221.	4.1	3
116	Systems and Synthetic Biology Approaches for Metabolic Engineering of Pseudomonas putida. , 2016, , 3-22.		3
117	Engineering Reduced-Genome Strains of Pseudomonas putida for Product Valorization. , 2020, , 69-93.		2
118	Unexpected functions of automatically annotated genes: a lesson learnt from <i>Bacillus subtilis</i>. Environmental Microbiology, 2017, 19, 5-6.	3.8	1
119	Microbial cell factories: a biotechnology journey across species. Essays in Biochemistry, 2021, 65, 143-145.	4.7	1
120	dye(arc) mutants: insights into an unexplained phenotype and its suppression by the synthesis of poly (3-hydroxybutyrate) inEscherichia colirecombinants. FEMS Microbiology Letters, 2006, 259, 332-332.	1.8	0
121	Metabolic engineering strategies of Pseudomonas putida KT2440 for biocatalysis under conditions with restricted oxygen supply. New Biotechnology, 2012, 29, S30.	4.4	0
122	A SsrA/NIa-based Strategy for Post-Translational Regulation of Protein Levels in Gram-negative Bacteria. Bio-protocol, 2020, 10, e3688.	0.4	0
123	Synthetic biology beyond borders. Microbial Biotechnology, 2021, 14, 2254-2256.	4.2	0