Cleo Kontoravdi

List of Publications by Year
in descending order

81 papers	2,399 citations	186265 28 h-index	233421 45 g-index
88 all docs	88 docs citations	88 times ranked	2196 citing authors

#	Article	IF	Citations
1	Amino acid and glucose metabolism in fed‐batch CHO cell culture affects antibody production and glycosylation. Biotechnology and Bioengineering, 2015, 112, 521-535.	3.3	152
2	Towards the implementation of quality by design to the production of therapeutic monoclonal antibodies with desired glycosylation patterns. Biotechnology Progress, 2010, 26, 1505-1527.	2.6	117
3	A dynamic mathematical model for monoclonal antibody N‐linked glycosylation and nucleotide sugar donor transport within a maturing Golgi apparatus. Biotechnology Progress, 2011, 27, 1730-1743.	2.6	110
4	How does mild hypothermia affect monoclonal antibody glycosylation?. Biotechnology and Bioengineering, 2015, 112, 1165-1176.	3.3	89
5	Emerging Technologies for Low‐Cost, Rapid Vaccine Manufacture. Biotechnology Journal, 2019, 14, e1800376.	3.5	86
6	'Closing the loop' in biological systems modeling — From the in silico to the in vitro. Automatica, 2011, 47, 1147-1155.	5.0	81
7	Resources, Production Scales and Time Required for Producing RNA Vaccines for the Global Pandemic Demand. Vaccines, 2021, 9, 3.	4.4	74
8	Application of Global Sensitivity Analysis to Determine Goals for Design of Experiments: An Example Study on Antibody-Producing Cell Cultures. Biotechnology Progress, 2008, 21, 1128-1135.	2.6	73
9	Towards Controlling the Glycoform: A Model Framework Linking Extracellular Metabolites to Antibody Glycosylation. International Journal of Molecular Sciences, 2014, 15, 4492-4522.	4.1	73
10	The Role of ER Stress-Induced Apoptosis in Neurodegeneration. Current Alzheimer Research, 2012, 9, 373-387.	1.4	69
11	Systematic development of predictive mathematical models for animal cell cultures. Computers and Chemical Engineering, 2010, 34, 1192-1198.	3.8	63
12	Model‐based optimization of antibody galactosylation in CHO cell culture. Biotechnology and Bioengineering, 2019, 116, 1612-1626.	3.3	56
13	A multi‐pronged investigation into the effect of glucose starvation and culture duration on fed‐batch CHO cell culture. Biotechnology and Bioengineering, 2015, 112, 2172-2184.	3.3	54
14	Rapid development and deployment of high‐volume vaccines for pandemic response. Journal of Advanced Manufacturing and Processing, 2020, 2, e10060.	2.4	53
15	Harnessing the potential of artificial neural networks for predicting protein glycosylation. Metabolic Engineering Communications, 2020, 10, e00131.	3.6	50
16	The era of big data: Genome-scale modelling meets machine learning. Computational and Structural Biotechnology Journal, 2020, 18, 3287-3300.	4.1	47
17	Host cell protein removal from biopharmaceutical preparations: Towards the implementation of quality by design. Biotechnology Advances, 2018, 36, 1223-1237.	11.7	43
18	Genetically-encoded biosensors for monitoring cellular stress in bioprocessing. Current Opinion in Biotechnology, 2015, 31, 50-56.	6.6	42

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19	Whole-cell *Escherichia coli* lactate biosensor for monitoring mammalian cell cultures during biopharmaceutical production. Biotechnology and Bioengineering, 2017, 114, 1290-1300.	3.3	42
20	An optimized method for extraction and quantification of nucleotides and nucleotide sugars from mammalian cells. Analytical Biochemistry, 2013, 443, 172-180.	2.4	39
21	Engineering challenges in therapeutic protein product and process design. Current Opinion in Chemical Engineering, 2020, 27, 81-88.	7.8	38
22	Model-based investigation of intracellular processes determining antibody Fc-glycosylation under mild hypothermia. Biotechnology and Bioengineering, 2017, 114, 1570-1582.	3.3	36
23	Quality by design modelling to support rapid RNA vaccine production against emerging infectious diseases. Npj Vaccines, 2021, 6, 65.	6.0	36
24	Quality by Design for enabling RNA platform production processes. Trends in Biotechnology, 2022, 40, 1213-1228.	9.3	36
25	Development of a dynamic model of monoclonal antibody production and glycosylation for product quality monitoring. Computers and Chemical Engineering, 2007, 31, 392-400.	3.8	35
26	A framework for the systematic design of fed-batch strategies in mammalian cell culture. Biotechnology and Bioengineering, 2014, 111, 2466-2476.	3.3	32
27	Analysis of the landscape of biologically-derived pharmaceuticals in Europe: Dominant production systems, molecule types on the rise and approval trends. European Journal of Pharmaceutical Sciences, 2013, 48, 428-441.	4.0	31
28	Global sensitivity analysis and meta-modeling of an ethanol production process. Chemical Engineering Science, 2014, 114, 114-127.	3.8	31
29	A theoretical estimate for nucleotide sugar demand towards Chinese Hamster Ovary cellular glycosylation. Scientific Reports, 2016, 6, 28547.	3.3	30
30	Osmolality Effects on CHO Cell Growth, Cell Volume, Antibody Productivity and Glycosylation. International Journal of Molecular Sciences, 2021, 22, 3290.	4.1	30
31	Cascading effect in bioprocessing—The impact of mild hypothermia on CHO cell behavior and host cell protein composition. Biotechnology and Bioengineering, 2017, 114, 2771-2781.	3.3	25
32	Integration of models and experimentation to optimise the production of potential biotherapeutics. Drug Discovery Today, 2013, 18, 1250-1255.	6.4	24
33	Applying quality by design to glycoprotein therapeutics: experimental and computational efforts of process control. Pharmaceutical Bioprocessing, 2013, 1, 51-69.	0.8	23
34	Constrained global sensitivity analysis for bioprocess design space identification. Computers and Chemical Engineering, 2019, 125, 558-568.	3.8	22
35	Metabolic network reconstruction: advances in in silico interpretation of analytical information. Current Opinion in Biotechnology, 2012, 23, 77-82.	6.6	21
36	Synergising stoichiometric modelling with artificial neural networks to predict antibody glycosylation patterns in Chinese hamster ovary cells. Computers and Chemical Engineering, 2021, 154, 107471.	3.8	21

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37	Modeling Amino Acid Metabolism in Mammalian Cells—Toward the Development of a Model Library. Biotechnology Progress, 2007, 23, 1261-1269.	2.6	20
38	Metabolic characterization and modeling of fermentation process of an engineered Geobacillus thermoglucosidasius strain for bioethanol production with gas stripping. Chemical Engineering Science, 2015, 122, 138-149.	3.8	18
39	Modelling of amorphous cellulose depolymerisation by cellulases, parametric studies and optimisation. Biochemical Engineering Journal, 2016, 105, 455-472.	3.6	18
40	A model‐based quantification of the impact of new manufacturing technologies on developing country vaccine supply chain performance: A Kenyan case study. Journal of Advanced Manufacturing and Processing, 2019, 1, .	2.4	18
41	Development and design of bio-pharmaceutical processes. Current Opinion in Chemical Engineering, 2013, 2, 435-441.	7.8	17
42	Mild hypothermic culture conditions affect residual host cell protein composition post-Protein A chromatography. MAbs, 2018, 10, 476-487.	5.2	17
43	Evaluation of transfection methods for transient gene expression in Chinese hamster ovary cells. Advances in Bioscience and Biotechnology (Print), 2013, 04, 1013-1019.	0.7	17
44	Genome-based kinetic modeling of cytosolic glucose metabolism in industrially relevant cell lines: Saccharomyces cerevisiae and Chinese hamster ovary cells. Bioprocess and Biosystems Engineering, 2012, 35, 1023-1033.	3.4	14
45	Computational tools for predicting and controlling the glycosylation of biopharmaceuticals. Current Opinion in Chemical Engineering, 2018, 22, 89-97.	7.8	14
46	Modelling the osmotic behaviour of human mesenchymal stem cells. Biochemical Engineering Journal, 2019, 151, 107296.	3.6	14
47	An experimental approach probing the conformational transitions and energy landscape of antibodies: a glimmer of hope for reviving lost therapeutic candidates using ionic liquid. Chemical Science, 2021, 12, 9528-9545.	7.4	14
48	Comparative analysis of amino acid metabolism and transport in CHO variants with different levels of productivity. Journal of Biotechnology, 2013, 168, 543-551.	3.8	13
49	Analysis of Chinese hamster ovary cell metabolism through a combined computational and experimental approach. Cytotechnology, 2014, 66, 945-966.	1.6	12
50	Pandemic-response adenoviral vector and RNA vaccine manufacturing. Npj Vaccines, 2022, 7, 29.	6.0	12
51	DigiGlyc: A hybrid tool for reactive scheduling in cell culture systems. Computers and Chemical Engineering, 2021, 154, 107460.	3.8	11
52	Glycoengineering Chinese hamster ovary cells: a short history. Biochemical Society Transactions, 2021, 49, 915-931.	3.4	10
53	Immunoglobulin G N-glycan Biomarkers for Autoimmune Diseases: Current State and a Glycoinformatics Perspective. International Journal of Molecular Sciences, 2022, 23, 5180.	4.1	10
54	CHO cell cultures in shake flasks and bioreactors present different host cell protein profiles in the supernatant. Biochemical Engineering Journal, 2019, 144, 185-192.	3.6	9

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55	Design, Development and Optimization of a Functional Mammalian Cell-Free Protein Synthesis Platform. Frontiers in Bioengineering and Biotechnology, 2020, 8, 604091.	4.1	9
56	Exploring cellular behavior under transient gene expression and its impact on mAb productivity and Fcâ€glycosylation. Biotechnology and Bioengineering, 2018, 115, 512-518.	3.3	8
57	Low-cost and user-friendly biosensor to test the integrity of mRNA molecules suitable for field applications. Biosensors and Bioelectronics, 2019, 137, 199-206.	10.1	8
58	High resolution biosensor to test the capping level and integrity of mRNAs. Nucleic Acids Research, 2020, 48, e129-e129.	14.5	8
59	Model-Based Planning and Delivery of Mass Vaccination Campaigns against Infectious Disease: Application to the COVID-19 Pandemic in the UK. Vaccines, 2021, 9, 1460.	4.4	8
60	A quantitative and mechanistic model for monoclonal antibody glycosylation as a function of nutrient availability during cell culture. BMC Proceedings, 2013, 7, .	1.6	7
61	Polymer Encapsulation of Bacterial Biosensors Enables Coculture with Mammalian Cells. ACS Synthetic Biology, 2022, 11, 1303-1312.	3.8	7
62	A systems biology approach to optimising hosts for industrial protein production. Biotechnology Letters, 2013, 35, 1961-1969.	2.2	6
63	Dynamic Optimization of Bioprocesses. Applied Mathematics, 2012, 03, 1487-1495.	0.4	6
64	Dynamic profiling of amino acid transport and metabolism in Chinese hamster ovary cell culture. BMC Proceedings, 2013, 7, .	1.6	5
65	Techno-Economic Assessment of Cell-Free Synthesis of Monoclonal Antibodies Using CHO Cell Extracts. Processes, 2020, 8, 454.	2.8	5
66	Designing an Artificial Golgi reactor to achieve targeted glycosylation of monoclonal antibodies. AICHE Journal, 2016, 62, 2959-2973.	3.6	4
67	Population balance modelling captures host cell protein dynamics in CHO cell cultures. PLoS ONE, 2022, 17, e0265886.	2.5	4
68	Cell cycle modelling for off-line dynamic optimisation of mammalian cultures. Computer Aided Chemical Engineering, 2008, , 109-114.	0.5	3
69	Advances in the Development of Biotherapeutics. BioMed Research International, 2015, 2015, 1-2.	1.9	3
70	Insights on biomarkers from Chinese hamster ovary â€˜omicsâ€™ studies. Pharmaceutical Bioprocessing, 2014, 2, 389-401.	0.8	2
71	Strategic Framework for Parameterization of Cell Culture Models. Processes, 2019, 7, 174.	2.8	2
72	Systematic Methodology for the Development of Mathematical Models for Biological Processes. Methods in Molecular Biology, 2013, 1073, 177-190.	0.9	2

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73	Dynamic model of MAb production and glycosylation for the purpose of product quality control. Computer Aided Chemical Engineering, 2005, 20, 307-312.	0.5	1
74	Quantification of intracellular nucleotide sugars and formulation of a mathematical model for prediction of their metabolism. BMC Proceedings, 2011, 5, P10.	1.6	1
75	Multi-stage population balance model to understand the dynamics of fed-batch CHO cell culture. Computer Aided Chemical Engineering, 2017, 40, 2821-2826.	0.5	1
76	Hitting the sweet spot with capillary electrophoresis: advances in N-glycomics and glycoproteomics. Current Opinion in Biotechnology, 2021, 71, 182-190.	6.6	1
77	Cell-free protein synthesis using Chinese hamster ovary cells. Methods in Enzymology, 2021, 659, 411-435.	1.0	1
78	Model Identifies Genetic Predisposition of Alzheimerâ€™s Disease as Key Decider in Cell Susceptibility to Stress. International Journal of Molecular Sciences, 2021, 22, 12001.	4.1	1
79	An improved model framework linking the extracellular environment to antibody glycosylation. BMC Proceedings, 2015, 9, .	1.6	0
80	Understanding the impact of different bioprocess conditions on monoclonal antibody glycosylation in CHO cell cultures through experimental and computational analyses. BMC Proceedings, 2015, 9, .	1.6	0
81	Rapid Antibody in CHO Cells Via RNA and CGE-LIF N-Glycomics. Methods in Molecular Biology, 2022, 2370, 147-167.	0.9	0