Roberto Pisano

List of Publications by Year
in descending order

98 papers	2,428 citations	147726 31 h-index	243529 44 g-index
100 all docs	100 docs citations	100 times ranked	1313 citing authors

#	Article	IF	Citations
1	Advanced approach to build the design space for the primary drying of a pharmaceutical freezeâ€drying process. Journal of Pharmaceutical Sciences, 2011, 100, 4922-4933.	1.6	102
2	Monitoring of the primary drying of a lyophilization process in vials. Chemical Engineering and Processing: Process Intensification, 2009, 48, 408-423.	1.8	97
3	On the Methods Based on the Pressure Rise Test for Monitoring a Freeze-Drying Process. Drying Technology, 2010, 29, 73-90.	1.7	77
4	Model-Based Monitoring and Control of Industrial Freeze-Drying Processes: Effect of Batch Nonuniformity. Drying Technology, 2010, 28, 577-590.	1.7	67
5	Quality by design: optimization of a freeze-drying cycle via design space in case of heterogeneous drying behavior and influence of the freezing protocol. Pharmaceutical Development and Technology, 2013, 18, 280-295.	1.1	67
6	In-Line Optimization and Control of an Industrial Freeze-Drying Process for Pharmaceuticals. Journal of Pharmaceutical Sciences, 2010, 99, 4691-4709.	1.6	63
7	Surface-induced crystallization of pharmaceuticals and biopharmaceuticals: A review. International Journal of Pharmaceutics, 2018, 547, 190-208.	2.6	63
8	Heightened Cold-Denaturation of Proteins at the Iceâ€"Water Interface. Journal of the American Chemical Society, 2020, 142, 5722-5730.	6.6	59
9	Spray Freeze-Drying as a Solution to Continuous Manufacturing of Pharmaceutical Products in Bulk. Processes, 2020, 8, 709.	1.3	59
10	Freeze Drying of Pharmaceutical Excipients Close to Collapse Temperature: Influence of the Process Conditions on Process Time and Product Quality. Drying Technology, 2009, 27, 805-816.	1.7	55
11	The Ice-Water Interface and Protein Stability: A Review. Journal of Pharmaceutical Sciences, 2020, 109, 2116-2130.	1.6	54
12	Freeze-Drying Cycle Optimization Using Model Predictive Control Techniques. Industrial & Engineering Chemistry Research, 2011, 50, 7363-7379.	1.8	53
13	Influence of controlled ice nucleation on the freeze-drying of pharmaceutical products: the secondary drying step. International Journal of Pharmaceutics, 2017, 524, 134-140.	2.6	52
14	Impact of vacuum-induced surface freezing on inter- and intra-vial heterogeneity. European Journal of Pharmaceutics and Biopharmaceutics, 2016, 103, 167-178.	2.0	48
15	Process analytical technology for monitoring pharmaceuticals freeze-drying â€" A comprehensive review. Drying Technology, 2018, 36, 1839-1865.	1.7	47
16	Achieving continuous manufacturing in lyophilization: Technologies and approaches. European Journal of Pharmaceutics and Biopharmaceutics, 2019, 142, 265-279.	2.0	47
17	From Batch to Continuous: Freeze-Drying of Suspended Vials for Pharmaceuticals in Unit-Doses. Industrial & Engineering Chemistry Research, 2019, 58, 1635-1649.	1.8	45
18	In-line control of the lyophilization process. A gentle PAT approach using software sensors. International Journal of Refrigeration, 2009, 32, 1003-1014.	1.8	43

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19	Quality by Design: Scale-Up of Freeze-Drying Cycles in Pharmaceutical Industry. AAPS PharmSciTech, 2013, 14, 1137-1149.	1.5	43
20	Prediction of Ice Crystal Size Distribution after Freezing of Pharmaceutical Solutions. Crystal Growth and Design, 2017, 17, 4573-4581.	1.4	41
21	Economic Analysis of a Freeze-Drying Cycle. Processes, 2020, 8, 1399.	1.3	41
22	Vacuum-Induced Nucleation as a Method for Freeze-Drying Cycle Optimization. Industrial & Engineering Chemistry Research, 2014, 53, 18236-18244.	1.8	40
23	Considerations on Protein Stability During Freezing and Its Impact on the Freeze-Drying Cycle: A Design Space Approach. Journal of Pharmaceutical Sciences, 2020, 109, 464-475.	1.6	39
24	Innovation in Monitoring Food Freeze Drying. Drying Technology, 2011, 29, 1920-1931.	1.7	37
25	In-Line and Off-Line Optimization of Freeze-Drying Cycles for Pharmaceutical Products. Drying Technology, 2013, 31, 905-919.	1.7	37
26	Computer-Aided Framework for the Design of Freeze-Drying Cycles: Optimization of the Operating Conditions of the Primary Drying Stage. Processes, 2015, 3, 406-421.	1.3	37
27	Monitoring of the Secondary Drying in Freeze-Drying of Pharmaceuticals. Journal of Pharmaceutical Sciences, 2011, 100, 732-742.	1.6	33
28	Application of the Quality by Design Approach to the Freezing Step of Freeze-Drying: Building the Design Space. Journal of Pharmaceutical Sciences, 2018, 107, 1586-1596.	1.6	33
29	Effect of Surfactants on Surface-Induced Denaturation of Proteins: Evidence of an Orientation-Dependent Mechanism. Journal of Physical Chemistry B, 2018, 122, 11390-11399.	1.2	33
30	A Model-Based Framework to Optimize Pharmaceuticals Freeze Drying. Drying Technology, 2012, 30, 946-958.	1.7	32
31	Applying quality-by-design to develop a coffee freeze-drying process. Journal of Food Engineering, 2014, 123, 179-187.	2.7	31
32	Prediction of product morphology of lyophilized drugs in the case of Vacuum Induced Surface Freezing. Chemical Engineering Research and Design, 2017, 125, 119-129.	2.7	31
33	Characterization of the mass transfer of lyophilized products based on X-ray micro-computed tomography images. Drying Technology, 2017, 35, 933-938.	1.7	31
34	Looking inside the â€˜black boxâ€™: Freezing engineering to ensure the quality of freeze-dried biopharmaceuticals. European Journal of Pharmaceutics and Biopharmaceutics, 2018, 129, 58-65.	2.0	31
35	Quality by Design in the Secondary Drying Step of a Freeze-Drying Process. Drying Technology, 2012, 30, 1307-1316.	1.7	30
36	Non-Invasive Temperature Monitoring in Freeze Drying: Control of Freezing as a Case Study. Drying Technology, 2015, 33, 1621-1630.	1.7	29

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37	Lipid-Based Nanovesicular Drug Delivery Systems. Nanomaterials, 2021, 11, 3391.	1.9	29
38	Stability of Proteins in Carbohydrates and Other Additives during Freezing: The Human Growth Hormone as a Case Study. Journal of Physical Chemistry B, 2017, 121, 8652-8660.	1.2	28
39	Tuning, measurement and prediction of the impact of freezing on product morphology: A step toward improved design of freeze-drying cycles. Drying Technology, 2019, 37, 579-599.	1.7	26
40	Heat Transfer in Freeze-Drying Apparatus. , 0, , .		25
41	Enhancing the preservation of liposomes: The role of cryoprotectants, lipid formulations and freezing approaches. Cryobiology, 2021, 98, 46-56.	0.3	25
42	Clarifying the role of cryo- and lyo-protectants in the biopreservation of proteins. Physical Chemistry Chemical Physics, 2018, 20, 8267-8277.	1.3	21
43	Polymeric nanocapsules via interfacial cationic photopolymerization in miniemulsion. Polymer, 2018, 139, 155-162.	1.8	21
44	Vacuum Induced Surface Freezing as an effective method for improved inter- and intra-vial product homogeneity. European Journal of Pharmaceutics and Biopharmaceutics, 2018, 128, 210-219.	2.0	20
45	Surfactants as stabilizers for biopharmaceuticals: An insight into the molecular mechanisms for inhibition of protein aggregation. European Journal of Pharmaceutics and Biopharmaceutics, 2018, 128, 98-106.	2.0	20
46	Automatic control of a freeze-drying process: Detection of the end point of primary drying. Drying Technology, 2022, 40, 140-157.	1.7	20
47	Controlled Atmosphere in Food Packaging Using Ethyleneâˆ'Î±-Cyclodextrin Inclusion Complexes Dispersed in Photocured Acrylic Films. Industrial & Engineering Chemistry Research, 2016, 55, 579-585.	1.8	19
48	Measuring and predicting pore size distribution of freeze-dried solutions. Drying Technology, 2019, 37, 435-447.	1.7	18
49	The Role of Cyclodextrins against Interface-Induced Denaturation in Pharmaceutical Formulations: A Molecular Dynamics Approach. Molecular Pharmaceutics, 2021, 18, 2322-2333.	2.3	18
50	Water entrapment and structure ordering as protection mechanisms for protein structural preservation. Journal of Chemical Physics, 2018, 148, 055102.	1.2	16
51	Designing the Optimal Formulation for Biopharmaceuticals: A New Approach Combining Molecular Dynamics and Experiments. Journal of Pharmaceutical Sciences, 2019, 108, 431-438.	1.6	16
52	Using Mathematical Modeling and Prior Knowledge for QbD in Freeze-Drying Processes. AAPS Advances in the Pharmaceutical Sciences Series, 2015, , 565-593.	0.2	16
53	Sputtered thermocouple array for vial temperature mapping. , 2014, , .		14
54	Vacuum-Induced Surface Freezing for the Freeze-Drying of the Human Growth Hormone: How Does Nucleation Control Affect Protein Stability?. Journal of Pharmaceutical Sciences, 2020, 109, 254-263.	1.6	14

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55	Freeze-drying of enzymes in case of water-binding and non-water-binding substrates. European Journal of Pharmaceutics and Biopharmaceutics, 2013, 85, 974-983.	2.0	13
56	A New Method Based on the Regression of Step Response Data for Monitoring a Freeze-Drying Cycle. Journal of Pharmaceutical Sciences, 2014, 103, 1756-1765.	1.6	13
57	Frequency domain image analysis for the characterization of porous products. Measurement: Journal of the International Measurement Confederation, 2016, 94, 515-522.	2.5	13
58	A multi-scale computational framework for modeling the freeze-drying of microparticles in packed-beds. Powder Technology, 2019, 343, 834-846.	2.1	13
59	Agarose Gel as a Medium for Growing and Tailoring Protein Crystals. Crystal Growth and Design, 2020, 20, 5564-5571.	1.4	13
60	In-Line Monitoring of the Freeze-Drying Process by Means of Heat Flux Sensors. Industrial & Engineering Chemistry Research, 2021, 60, 9637-9645.	1.8	13
61	Alginate Nanohydrogels as a Biocompatible Platform for the Controlled Release of a Hydrophilic Herbicide. Processes, 2021, 9, 1641.	1.3	13
62	Alternative Methods of Controlling Nucleation in Freeze Drying. Methods in Pharmacology and Toxicology, 2019, , 79-111.	0.1	13
63	Noninvasive Monitoring of a Freeze-Drying Process for <i>tert</i>-Butanol/Water Cosolvent-Based Formulations. Industrial & Engineering Chemistry Research, 2016, 55, 5670-5680.	1.8	12
64	Synthesis of polymeric nanocapsules by radical UV-activated interface-emulsion polymerization. Journal of Polymer Science Part A, 2016, 54, 3357-3369.	2.5	12
65	Synthesis of polymeric microcapsules by interfacial-suspension cationic photopolymerisation of divinyl ether monomer in aqueous suspension. Polymer Chemistry, 2017, 8, 972-975.	1.9	11
66	ADD Force Field for Sugars and Polyols: Predicting the Additivity of Proteinâ€“Osmolyte Interaction. Journal of Physical Chemistry B, 2020, 124, 7779-7790.	1.2	11
67	Investigation of the Freezing Phenomenon in Vials Using an Infrared Camera. Pharmaceutics, 2021, 13, 1664.	2.0	11
68	Observer design for the Selective Catalytic Reduction of NOx in a loop reactor. Chemical Engineering Journal, 2007, 128, 181-189.	6.6	10
69	Inclusion complexes dispersed in polystyreneâ€based labels for fruit ripening on demand. International Journal of Food Science and Technology, 2018, 53, 389-394.	1.3	10
70	Synthesis of high payload nanohydrogels for the ecapsulation of hydrophilic molecules via inverse miniemulsion polymerization: caffeine as a case study. Drug Development and Industrial Pharmacy, 2019, 45, 1862-1870.	0.9	10
71	Role of Self-Assembled Surface Functionalization on Nucleation Kinetics and Oriented Crystallization of a Small-Molecule Drug: Batch and Thin-Film Growth of Aspirin as a Case Study. ACS Applied Materials & Interfaces, 2021, 13, 15847-15856.	4.0	10
72	Supporting data and methods for the multi-scale modelling of freeze-drying of microparticles in packed-beds. Data in Brief, 2019, 22, 722-755.	0.5	9

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73	Force Field Parameterization for the Description of the Interactions between Hydroxypropyl-Î²-Cyclodextrin and Proteins. Journal of Physical Chemistry B, 2021, 125, 7397-7405.	1.2	9
74	On the use of temperature measurement to monitor a freeze-drying process for pharmaceuticals. , 2017, , .		8
75	The Preservation of Lyophilized Human Growth Hormone Activity: how Do Buffers and Sugars Interact?. Pharmaceutical Research, 2018, 35, 131.	1.7	8
76	A model-based approach for the rational design of the freeze-thawing of a protein-based formulation. Pharmaceutical Development and Technology, 2020, 25, 823-831.	1.1	7
77	Polymeric Supports for Controlled Release of Ethylene for Food Industry. International Polymer Processing, 2016, 31, 570-576.	0.3	7
78	Ultrasonic spray freeze-drying of sucrose and mannitol-based formulations: Impact of the atomization conditions on the particle morphology and drying performance. Drying Technology, 2023, 41, 251-261.	1.7	7
79	Effect of Electron Beam Irradiation on Remaining Activity of Lyophilized Acid Phosphatase with Water-Binding and Non-Waterâ€"Binding Additives. Drying Technology, 2015, 33, 822-830.	1.7	6
80	Effect of Polymerization Time on the Binding Properties of Ciprofloxacin-Imprinted nanoMIPs Prepared by Solid-Phase Synthesis. Polymers, 2021, 13, 2656.	2.0	6
81	A molecular dynamics approach to nanostructuring of particles produced via aerosol cationic photopolymerization. Chemical Engineering Science, 2019, 195, 1021-1027.	1.9	5
82	General and adaptive synthesis protocol for high-quality organosilane self-assembled monolayers as tunable surface chemistry platforms for biochemical applications. Biointerphases, 2020, 15, 041005.	0.6	5
83	Impact of controlled vacuum induced surface freezing on the freeze drying of human plasma. International Journal of Pharmaceutics, 2020, 582, 119290.	2.6	5
84	Tuning Transport Phenomena in Agarose Gels for the Control of Protein Nucleation Density and Crystal Form. Crystals, 2021, 11, 466.	1.0	5
85	Combining Mathematical Modeling and Thermal Infrared Data in the Freezing of Pharmaceutical Liquid Formulations. Industrial & Engineering Chemistry Research, 2022, 61, 4379-4389.	1.8	5
86	Tailoring of Bone Scaffold Properties Using Silicate/Phosphate Glass Mixtures. Key Engineering Materials, 2014, 631, 283-288.	0.4	4
87	Surface Treatment of Glass Vials for Lyophilization: Implications for Vacuum-Induced Surface Freezing. Pharmaceutics, 2021, 13, 1766.	2.0	4
88	Bacterial ligands as flexible and sensitive detectors in rapid tests for antibodies to SARS-CoV-2. Analytical and Bioanalytical Chemistry, 2022, 414, 5473-5482.	1.9	4
89	Model-Based Framework for the Analysis of Failure Consequences in a Freeze-Drying Process. Industrial & Engineering Chemistry Research, 2012, , 120913132455009.	1.8	3
90	Real-time temperature monitoring in pharmaceutical freeze-drying. , 2014, , .		3

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91	Freeze-drying monitoring via Pressure Rise Test: The role of the pressure sensor dynamics. , 2017, , .		3
92	An Experimental and Modeling Combined Approach in Preparative Hydrophobic Interaction Chromatography. Processes, 2022, 10, 1027.	1.3	3
93	Characterization of freeze-dried pharmaceutical product structures by an FFT-imaging approach. , 2014, , .		2
94	Controlled release of ethylene via polymeric films for food packaging. AIP Conference Proceedings, 2015, , .	0.3	2
95	Use of Microfluidic Capillary Electrophoresis for the Determination of Multi-Component Protein Adsorption Isotherms: Application to High-Throughput Analysis for Hydrophobic Interaction Chromatography. Pharmaceutics, 2021, 13, 2135.	2.0	2
96	On the Design of an In-Line Control System for a Vial Freeze-Drying Process: The Role of Chamber Pressure. Chemical Product and Process Modeling, 2009, 4, .	0.5	1
97	Wavelet image decomposition for characterization of freeze-dried pharmaceutical product structures. , 2015, , .		1
98	Process intensification and process control in freeze-drying. , 0, , .		0