Ken-ichi Izutsu

List of Publications by Year
in descending order

87	2,283	218677	243625
papers	citations	26 h-index	44 g-index

97	97	97	1973
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Next Generation Drying Technologies for Pharmaceutical Applications. Journal of Pharmaceutical Sciences, 2014, 103, 2673-2695.	3.3	162
2	Decreased protein-stabilizing effects of cryoprotectants due to crystallization. Pharmaceutical Research, 1993, 10, 1232-1237.	3.5	150
3	Effect of Mannitol Crystallinity on the Stabilization of Enzymes during Freeze-Drying.. Chemical and Pharmaceutical Bulletin, 1994, 42, 5-8.	1.3	147
4	Maintenance of Quaternary Structure in the Frozen State Stabilizes Lactate Dehydrogenase during Freezeâ€“Drying. Archives of Biochemistry and Biophysics, 2001, 390, 35-41.	3.0	103
5	Excipient crystallinity and its protein-structure-stabilizing effect during freeze-drying. Journal of Pharmacy and Pharmacology, 2010, 54, 1033-1039.	2.4	76
6	Effects of sugars and polymers on crystallization of poly(ethylene glycol) in frozen solutions: phase separation between incompatible polymers. Pharmaceutical Research, 1996, 13, 1393-1400.	3.5	74
7	Effect of counterions on the physical properties of l-arginine in frozen solutions and freeze-dried solids. International Journal of Pharmaceutics, 2005, 301, 161-169.	5.2	72
8	Freeze-drying of proteins with glass-forming oligosaccharide-derived sugar alcohols. International Journal of Pharmaceutics, 2010, 389, 107-113.	5.2	61
9	Freeze-concentration separates proteins and polymer excipients into different amorphous phases. Pharmaceutical Research, 2000, 17, 1316-1322.	3.5	59
10	Near-infrared analysis of protein secondary structure in aqueous solutions and freeze-dried solids. Journal of Pharmaceutical Sciences, 2006, 95, 781-789.	3.3	59
11	Stabilizing effect of amphiphilic excipients on the freeze-thawing and freeze-drying of lactate dehydrogenase. Biotechnology and Bioengineering, 1994, 43, 1102-1107.	3.3	55
12	Applications of Freezing and Freeze-Drying in Pharmaceutical Formulations. Advances in Experimental Medicine and Biology, 2018, 1081, 371-383.	1.6	53
13	Physical stability and protein stability of freeze-dried cakes during storage at elevated temperatures. Pharmaceutical Research, 1994, 11, 995-999.	3.5	51
14	Increased stabilizing effects of amphiphilic excipients on freeze-drying of lactate dehydrogenase (LDH) by dispersion into sugar matrices. Pharmaceutical Research, 1995, 12, 838-843.	3.5	51
15	Freeze-Drying of Proteins in Glass Solids Formed by Basic Amino Acids and Dicarboxylic Acids. Chemical and Pharmaceutical Bulletin, 2009, 57, 43-48.	1.3	46
16	Characterization and Quality Control of Pharmaceutical Cocrystals. Chemical and Pharmaceutical Bulletin, 2016, 64, 1421-1430.	1.3	46
17	Rapid and efficient high-performance liquid chromatography analysis of N-nitrosodimethylamine impurity in valsartan drug substance and its products. Scientific Reports, 2019, 9, 11852.	3.3	36
18	Is stability prediction possible for protein drugs? Denaturation kinetics of beta-galactosidase in solution. Pharmaceutical Research, 1994, 11, 1721-1725.	3.5	35

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19	Inactivation kinetics of enzyme pharmaceuticals in aqueous solution. Pharmaceutical Research, 1991, 08, 480-484.	3.5	33
20	Effect of Cryoprotectants on the Eutectic Crystallization of NaCl in Frozen Solutions Studied by Differential Scanning Calorimetry (DSC) and Broad-Line Pulsed NMR.. Chemical and Pharmaceutical Bulletin, 1995, 43, 1804-1806.	1.3	32
21	Effect of salts and sugars on phase separation of polyvinylpyrrolidone[ndash]dextran solutions induced by freeze-concentration. Journal of the Chemical Society, Faraday Transactions, 1998, 94, 411-417.	1.7	31
22	Stability of beta-galactosidase, a model protein drug, is related to water mobility as measured by 17O nuclear magnetic resonance (NMR). Pharmaceutical Research, 1993, 10, 103-108.	3.5	30
23	Physicochemical Characterization of Liposomes That Mimic the Lipid Composition of Exosomes for Effective Intracellular Trafficking. Langmuir, 2020, 36, 12735-12744.	3.5	30
24	Effects of sodium tetraborate and boric acid on nonisothermal mannitol crystallization in frozen solutions and freeze-dried solids. International Journal of Pharmaceutics, 2004, 273, 85-93.	5.2	29
25	Investigation of factors affectingin vitrodoxorubicin release from PEGylated liposomal doxorubicin for the development ofin vitrorelease testing conditions. Drug Development and Industrial Pharmacy, 2015, 41, 1376-1386.	2.0	29
26	Aggregates formed during storage of beta-galactosidase in solution and in the freeze-dried state. Pharmaceutical Research, 1993, 10, 687-691.	3.5	28
27	Effect of surface charge on the size-dependent cellular internalization of liposomes. Chemistry and Physics of Lipids, 2019, 224, 104726.	3.2	26
28	Current Status and Challenges of Analytical Methods for Evaluation of Size and Surface Modification of Nanoparticle-Based Drug Formulations. AAPS PharmSciTech, 2022, 23, .	3.3	25
29	Application of Accelerated Testing to Shelf-life Prediction of Commercial Protein Preparations. Journal of Pharmaceutical Sciences, 1994, 83, 454-456.	3.3	24
30	Use of bicarbonate buffer systems for dissolution characterization of enteric-coated proton pump inhibitor tablets. Journal of Pharmacy and Pharmacology, 2016, 68, 467-474.	2.4	24
31	Protection of Protein Secondary Structure by Saccharides of Different Molecular Weights during Freeze-Drying. Chemical and Pharmaceutical Bulletin, 2004, 52, 199-203.	1.3	23
32	Temperature-Dependent Formation of <i>N</i>-Nitrosodimethylamine during the Storage of Ranitidine Reagent Powders and Tablets. Chemical and Pharmaceutical Bulletin, 2020, 68, 1008-1012.	1.3	22
33	Glass-State Amorphous Salt Solids Formed by Freeze-Drying of Amines and Hydroxy Carboxylic Acids: Effect of Hydrogen-Bonding and Electrostatic Interactions. Chemical and Pharmaceutical Bulletin, 2008, 56, 821-826.	1.3	21
34	Stabilization of Liposomes in Frozen Solutions Through Control of Osmotic Flow and Internal Solution Freezing by Trehalose. Journal of Pharmaceutical Sciences, 2011, 100, 2935-2944.	3.3	21
35	Studying the Morphology of Lyophilized Protein Solids Using X-ray Micro-CT: Effect of Post-freeze Annealing and Controlled Nucleation. AAPS PharmSciTech, 2014, 15, 1181-1188.	3.3	21
36	Inhibition of Mannitol Crystallization in Frozen Solutions by Sodium Phosphates and Citrates. Chemical and Pharmaceutical Bulletin, 2007, 55, 565-570.	1.3	20

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37	Phase separation of polyelectrolytes and non-ionic polymers in frozen solutions. Physical Chemistry Chemical Physics, 2000, 2, 123-127.	2.8	19
38	Effect of Polymer Size and Cosolutes on Phase Separation of Poly(Vinylpyrrolidone) (PVP) and Dextran in Frozen Solutions. Journal of Pharmaceutical Sciences, 2005, 94, 709-717.	3.3	19
39	Dimeric structure of nucleoside diphosphate kinase from moderately halophilic bacterium: contrast to the tetramericPseudomonascounterpart. FEMS Microbiology Letters, 2007, 268, 52-58.	1.8	19
40	Near-Infrared Analysis of Hydrogen-Bonding in Glass- and Rubber-State Amorphous Saccharide Solids. AAPS PharmSciTech, 2009, 10, 524-529.	3.3	19
41	Protein denaturation in dosage forms measured by differential scanning calorimetry.. Chemical and Pharmaceutical Bulletin, 1990, 38, 800-803.	1.3	17
42	Stabilization of Protein Structure in Freeze-Dried Amorphous Organic Acid Buffer Salts. Chemical and Pharmaceutical Bulletin, 2009, 57, 1231-1236.	1.3	17
43	Interaction kinetics of serum proteins with liposomes and their effect on phospholipase-induced liposomal drug release. International Journal of Pharmaceutics, 2015, 495, 827-839.	5.2	17
44	Analysis of an Impurity, <i>N</i>-Nitrosodimethylamine, in Valsartan Drug Substances and Associated Products Using GC-MS. Biological and Pharmaceutical Bulletin, 2019, 42, 547-551.	1.4	17
45	Effect of inorganic salts on crystallization of poly(ethylene glycol) in frozen solutions. International Journal of Pharmaceutics, 2005, 288, 101-108.	5.2	16
46	Comparison of Aerodynamic Particle Size Distribution Between a Next Generation Impactor and a Cascade Impactor at a Range of Flow Rates. AAPS PharmSciTech, 2017, 18, 646-653.	3.3	16
47	Enhancement of direct membrane penetration of arginine-rich peptides by polyproline II helix structure. Biochimica Et Biophysica Acta - Biomembranes, 2020, 1862, 183403.	2.6	16
48	The effect of salts on the stability of beta-galactosidase in aqueous solution, as related to the water mobility. Pharmaceutical Research, 1993, 10, 1484-1487.	3.5	15
49	A single Gly114Arg mutation stabilizes the hexameric subunit assembly and changes the substrate specificity of haloâ€archaeal nucleoside diphosphate kinase. FEBS Letters, 2007, 581, 4073-4079.	2.8	15
50	Improved Atomic Force Microscopy Stiffness Measurements of Nanoscale Liposomes by Cantilever Tip Shape Evaluation. Analytical Chemistry, 2019, 91, 10432-10440.	6.5	15
51	Effect of hydrophobic moment on membrane interaction and cell penetration of apolipoprotein E-derived arginine-rich amphipathic Î±-helical peptides. Scientific Reports, 2022, 12, 4959.	3.3	15
52	Isolation of N-nitrosodimethylamine from drug substances using solid-phase extraction-liquid chromatographyâ€“tandem mass spectrometry. Journal of Pharmaceutical and Biomedical Analysis, 2022, 210, 114561.	2.8	14
53	<i>N</i>-Nitrosodimethylamine (NDMA) Formation from Ranitidine Impurities: Possible Root Causes of the Presence of NDMA in Ranitidine Hydrochloride. Chemical and Pharmaceutical Bulletin, 2021, 69, 872-876.	1.3	12
54	Effect of Sodium Tetraborate (Borax) on the Thermal Properties of Frozen Aqueous Sugar and Polyol Solutions. Chemical and Pharmaceutical Bulletin, 2003, 51, 663-666.	1.3	11

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55	Comparison of Dissolution Similarity Assessment Methods for Products with Large Variations: <i>f</i>₂ Statistics and Model-Independent Multivariate Confidence Region Procedure for Dissolution Profiles of Multiple Oral Products. Biological and Pharmaceutical Bulletin, 2017, 40, 722-725.	1.4	11
56	Visualizing the spatial localization of ciclesonide and its metabolites in rat lungs after inhalation of 1-Î¼m aerosol of ciclesonide by desorption electrospray ionization-time of flight mass spectrometry imaging. International Journal of Pharmaceutics, 2021, 595, 120241.	5.2	11
57	Impact of heat treatment on miscibility of proteins and disaccharides in frozen solutions. European Journal of Pharmaceutics and Biopharmaceutics, 2013, 85, 177-183.	4.3	10
58	Scientific and regulatory approaches to confirm quality and improve patient perceptions of generic drug products in Japan. AAPS Open, 2016, 2, .	1.3	10
59	Quantification of a cocrystal and its dissociated compounds in solid dosage form using transmission Raman spectroscopy. Journal of Pharmaceutical and Biomedical Analysis, 2020, 177, 112886.	2.8	9
60	In Vitro Sensitivity Analysis of the Gastrointestinal Dissolution Profile of Weakly Basic Drugs in the Stomach-to-Intestine Fluid Changing System: Explanation for Variable Plasma Exposure after Oral Administration. Molecular Pharmaceutics, 2021, 18, 1711-1719.	4.6	8
61	Discrimination of ranitidine hydrochloride crystals using X-ray micro-computed tomography for the evaluation of three-dimensional spatial distribution in solid dosage forms. International Journal of Pharmaceutics, 2021, 605, 120834.	5.2	8
62	Effects of Solute Miscibility on the Micro- and Macroscopic Structural Integrity of Freeze-Dried Solids. Journal of Pharmaceutical Sciences, 2010, 99, 4710-4719.	3.3	7
63	Dimerâ€“tetramer assembly of nucleoside diphosphate kinase from moderately halophilic bacterium Chromohalobacter salexigens DSM3043: Both residues 134 and 136 are critical for the tetramer assembly. Enzyme and Microbial Technology, 2010, 46, 129-135.	3.2	7
64	Component Crystallization and Physical Collapse during Freeze-Drying of L-Arginineâ€“Citric Acid Mixtures. Chemical and Pharmaceutical Bulletin, 2012, 60, 1176-1181.	1.3	7
65	Particle Image Velocimetry Evaluation of Fluid Flow Profiles in USP 4 Flow-Through Dissolution Cells. Pharmaceutical Research, 2015, 32, 2950-2959.	3.5	7
66	Amorphousâ€“Amorphous Phase Separation of Freeze-Concentrated Protein and Amino Acid Excipients for Lyophilized Formulations. Chemical and Pharmaceutical Bulletin, 2016, 64, 1674-1680.	1.3	7
67	Simple bicarbonate buffer system for dissolution testing: Floating lid method and its application to colonic drug delivery system. Journal of Drug Delivery Science and Technology, 2021, 63, 102447.	3.0	7
68	Impact of Heat Treatment on the Physical Properties of Noncrystalline Multisolute Systems Concentrated in Frozen Aqueous Solutions. Journal of Pharmaceutical Sciences, 2011, 100, 5244-5253.	3.3	6
69	Stabilization of Therapeutic Proteins in Aqueous Solutions and Freeze-Dried Solids: An Overview. Methods in Molecular Biology, 2014, 1129, 435-441.	0.9	6
70	Effects of Formulation and Process Factors on the Crystal Structure of Freeze-Dried Myo-Inositol. Journal of Pharmaceutical Sciences, 2014, 103, 2347-2355.	3.3	6
71	Bioequivalence of Oral Drug Products in the Healthy and Special Populations: Assessment and Prediction Using a Newly Developed In Vitro System â€œBE Checkerâ€• Pharmaceutics, 2021, 13, 1136.	4.5	6
72	Utilization of Diluted Compendial Media as Dissolution Test Solutions with Low Buffer Capacity for the Investigation of Dissolution Rate of Highly Soluble Immediate Release Drug Products. Chemical and Pharmaceutical Bulletin, 2020, 68, 664-670.	1.3	5

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73	Physical Characterization of <i>meso</i>-Erythritol as a Crystalline Bulking Agent for Freeze-Dried Formulations. Chemical and Pharmaceutical Bulletin, 2015, 63, 311-317.	1.3	4
74	Detection of material-derived differences in the stiffness of egg yolk phosphatidylcholine-containing liposomes using atomic force microscopy. Chemistry and Physics of Lipids, 2020, 233, 104992.	3.2	4
75	Instrument-Dependent Factors Affecting the Precision in the Atomic Force Microscopy Stiffness Measurement of Nanoscale Liposomes. Chemical and Pharmaceutical Bulletin, 2020, 68, 473-478.	1.3	4
76	Stabilization of Therapeutic Proteins by Chemical and Physical Methods. , 2005, 308, 287-292.		3
77	Miscibility as a Factor for Component Crystallization in Multisolute Frozen Solutions. Journal of Pharmaceutical Sciences, 2014, 103, 2139-2146.	3.3	3
78	Effect of co-solutes and process variables on crystallinity and the crystal form of freeze-dried myo -inositol. International Journal of Pharmaceutics, 2016, 509, 368-374.	5.2	3
79	Effects of Pump Pulsation on Hydrodynamic Properties and Dissolution Profiles in Flow-Through Dissolution Systems (USP 4). Pharmaceutical Research, 2016, 33, 1327-1336.	3.5	3
80	Relationship Between Geometric and Aerodynamic Particle Size Distributions in the Formulation of Solution and Suspension Metered-Dose Inhalers. AAPS PharmSciTech, 2020, 21, 158.	3.3	3
81	Altered Media Flow and Tablet Position as Factors of How Air Bubbles Affect Dissolution of Disintegrating and Non-disintegrating Tablets Using a USP 4 Flow-Through Cell Apparatus. AAPS PharmSciTech, 2021, 22, 227.	3.3	2
82	Freezing- and Drying-Induced Perturbations of Protein Structure and Mechanisms of Protein Protection by Stabilizing Additives. Drugs and the Pharmaceutical Sciences, 2004, , .	0.1	1
83	Detailed Morphological Characterization of Nanocrystalline Active Ingredients in Solid Oral Dosage Forms Using Atomic Force Microscopy. AAPS PharmSciTech, 2019, 20, 70.	3.3	1
84	Approaches to supply bioequivalent oral solid pharmaceutical formulations through the lifecycles of products: Four-media dissolution monitoring program in Japan. Journal of Drug Delivery Science and Technology, 2020, 56, 101378.	3.0	1
85	Effect of Complex Coacervation with Hyaluronic Acid on Protein Transition in a Subcutaneous Injection Site Model System. Chemical and Pharmaceutical Bulletin, 2020, 68, 1109-1112.	1.3	1
86	Abnormal Dissolutions of Chlorpromazine Hydrochloride Tablets in Water by Paddle Method under a High Agitation Condition. Chemical and Pharmaceutical Bulletin, 2003, 51, 1021-1024.	1.3	0
87	Morphological Analysis of Spherical Adsorptive Carbon Granules Using Three-Dimensional X-Ray Micro-computed Tomography. Chemical and Pharmaceutical Bulletin, 2020, 68, 179-180.	1.3	0