Joel L Kaar

List of Publications by Year
in descending order

64	2,814	159525	182361
papers	citations	30 h-index	51 g-index

65	65	65	3639
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Impact of Ionic Liquid Physical Properties on Lipase Activity and Stability. Journal of the American Chemical Society, 2003, 125, 4125-4131.	6.6	534
2	The Scarâ€inâ€aâ€Jar: studying potential antifibrotic compounds from the epigenetic to extracellular level in a single well. British Journal of Pharmacology, 2009, 158, 1196-1209.	2.7	136
3	Linking the foreign body response and protein adsorption to PEG-based hydrogels using proteomics. Biomaterials, 2015, 41, 26-36.	5.7	129
4	Toward the Rational Design of p53-Stabilizing Drugs: Probing the Surface of the Oncogenic Y220C Mutant. Chemistry and Biology, 2010, 17, 46-56.	6.2	97
5	Charge engineering of cellulases improves ionic liquid tolerance and reduces lignin inhibition. Biotechnology and Bioengineering, 2014, 111, 1541-1549.	1.7	91
6	Stabilization of enzymes in ionic liquids via modification of enzyme charge. Biotechnology and Bioengineering, 2013, 110, 2352-2360.	1.7	83
7	Photonic Crystal Kinase Biosensor. Journal of the American Chemical Society, 2014, 136, 6896-6899.	6.6	81
8	Reduced Enzyme Dynamics upon Multipoint Covalent Immobilization Leads to Stability-Activity Trade-off. Journal of the American Chemical Society, 2020, 142, 3463-3471.	6.6	76
9	NMR-Guided Rational Engineering of an Ionic-Liquid-Tolerant Lipase. ACS Catalysis, 2014, 4, 4057-4064.	5.5	64
10	Dense Poly(ethylene glycol) Brushes Reduce Adsorption and Stabilize the Unfolded Conformation of Fibronectin. Biomacromolecules, 2016, 17, 1017-1025.	2.6	64
11	Next generation proteinâ€polymer conjugates. AICHE Journal, 2018, 64, 3230-3245.	1.8	64
12	Use of Salt Hydrate Pairs to Control Water Activity for Enzyme Catalysis in Ionic Liquids. Biotechnology Progress, 2003, 19, 1029-1032.	1.3	61
13	Stabilization of mutant p53 via alkylation of cysteines and effects on DNA binding. Protein Science, 2010, 19, 2267-2278.	3.1	59
14	Matrix metalloproteinase-1 treatment of muscle fibrosis. Acta Biomaterialia, 2008, 4, 1411-1420.	4.1	56
15	Matrix metalloproteinase-1 therapy improves muscle healing. Journal of Applied Physiology, 2007, 102, 2338-2345.	1.2	55
16	Impact of surface interactions on protein conformation. Current Opinion in Colloid and Interface Science, 2018, 38, 45-55.	3.4	55
17	Surface-Mediated Protein Unfolding as a Search Process for Denaturing Sites. ACS Nano, 2016, 10, 730-738.	7.3	54
18	Mediating Electrostatic Binding of 1-Butyl-3-methylimidazolium Chloride to Enzyme Surfaces Improves Conformational Stability. Journal of Physical Chemistry B, 2013, 117, 8977-8986.	1.2	53

#	Article	IF	Citations
19	Towards improved artificial lungs through biocatalysis. Biomaterials, 2007, 28, 3131-3139.	5.7	51
20	Molecular dynamics investigation of the ionic liquid/enzyme interface: Application to engineering enzyme surface charge. Proteins: Structure, Function and Bioinformatics, 2015, 83, 670-680.	1.5	50
21	Characterizing the modification of surface proteins with poly(ethylene glycol) to interrupt platelet adhesion. Biomaterials, 2006, 27, 3125-3135.	5.7	49
22	Acylaseâ€containing polyurethane coatings with antiâ€biofilm activity. Biotechnology and Bioengineering, 2016, 113, 2535-2543.	1.7	48
23	Single-molecule resolution of protein structure and interfacial dynamics on biomaterial surfaces. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 19396-19401.	3.3	39
24	Grafting Density Impacts Local Nanoscale Hydrophobicity in Poly(ethylene glycol) Brushes. ACS Macro Letters, 2018, 7, 498-503.	2.3	38
25	Correlating Structural and Functional Heterogeneity of Immobilized Enzymes. ACS Nano, 2018, 12, 8091-8103.	7.3	38
26	Dramatic Increase in Catalytic Performance of Immobilized Lipases by Their Stabilization on Polymer Brush Supports. ACS Catalysis, 2019, 9, 4992-5001.	5.5	36
27	Role of Dimension and Spatial Arrangement on the Activity of Biocatalytic Cascade Reactions on Scaffolds. ACS Catalysis, 2016, 6, 5161-5169.	5.5	33
28	Do ion tethered functional groups affect IL solvent properties? The case of sulfoxides and sulfones. Chemical Communications, 2006, , 646.	2.2	32
29	Enhanced Optical Sensitivity in Thermoresponsive Photonic Crystal Hydrogels by Operating Near the Phase Transition. ACS Applied Materials & Interfaces, 2017, 9, 27927-27935.	4.0	32
30	Crystallographic Investigation of Imidazolium Ionic Liquid Effects on Enzyme Structure. ChemBioChem, 2015, 16, 2456-2459.	1.3	31
31	Multisite Clickable Modification of Proteins Using Lipoic Acid Ligase. Bioconjugate Chemistry, 2015, 26, 1104-1112.	1.8	31
32	Design and functionalization of responsive hydrogels for photonic crystal biosensors. Molecular Systems Design and Engineering, 2016, 1, 225-241.	1.7	31
33	Stabilization of Immobilized Enzymes via the Chaperone-Like Activity of Mixed Lipid Bilayers. ACS Applied Materials & Interfaces, 2018, 10, 19504-19513.	4.0	30
34	Stability of p53 Homologs. PLoS ONE, 2012, 7, e47889.	1.1	28
35	<scp>CRISPR</scp> /Cas9 recombineeringâ€mediated deep mutational scanning of essential genes in Escherichia coli. Molecular Systems Biology, 2020, 16, e9265.	3.2	28
36	Modification of Lipase with Poly(4-acryloylmorpholine) Enhances Solubility and Transesterification Activity in Anhydrous Ionic Liquids. Biomacromolecules, 2018, 19, 1324-1332.	2.6	24

#	Article	IF	Citations
37	Protein adsorption measurements on low fouling and ultralow fouling surfaces: A critical comparison of surface characterization techniques. Acta Biomaterialia, 2020, 102, 169-180.	4.1	24
38	Faster Surface Ligation Reactions Improve Immobilized Enzyme Structure and Activity. Journal of the American Chemical Society, 2021, 143, 7154-7163.	6.6	22
39	Understanding Design Rules for Optimizing the Interface between Immobilized Enzymes and Random Copolymer Brushes. ACS Applied Materials & Interfaces, 2021, 13, 26694-26703.	4.0	22
40	Elucidating sequence and solvent specific design targets to protect and stabilize enzymes for biocatalysis in ionic liquids. Physical Chemistry Chemical Physics, 2017, 19, 17426-17433.	1.3	21
41	Optically Diffracting Hydrogels for Screening Kinase Activity in Vitro and in Cell Lysate: Impact of Material and Solution Properties. Analytical Chemistry, 2015, 87, 3467-3475.	3.2	20
42	Mechanism of Competitive Inhibition and Destabilization of Acidothermus cellulolyticus Endoglucanase 1 by Ionic Liquids. Journal of Physical Chemistry B, 2017, 121, 10793-10803.	1.2	20
43	Label-free detection of missense mutations and methylation differences in the p53 gene using optically diffracting hydrogels. Analyst, The, 2015, 140, 6354-6362.	1.7	19
44	Polyelectrolyte Multilayers Enhance the Dry Storage and pH Stability of Physically Entrapped Enzymes. ACS Applied Materials & Interfaces, 2020, 12, 22640-22649.	4.0	16
45	Catalytic buffers enable positive-response inhibition-based sensing of nerve agents. Biotechnology and Bioengineering, 2002, 77, 352-357.	1.7	15
46	Lytic Polysaccharide Monooxygenases ScLPMO10B and ScLPMO10C Are Stable in Ionic Liquids As Determined by Molecular Simulations. Journal of Physical Chemistry B, 2016, 120, 3863-3872.	1.2	15
47	Determinants for Efficient Editing with Cas9-Mediated Recombineering in Escherichia coli. ACS Synthetic Biology, 2020, 9, 1083-1099.	1.9	15
48	Connecting Protein Conformation and Dynamics with Ligandâ€“Receptor Binding Using Three-Color FÃ¶rster Resonance Energy Transfer Tracking. Journal of the American Chemical Society, 2017, 139, 9937-9948.	6.6	14
49	Stabilization of Fibronectin by Random Copolymer Brushes Inhibits Macrophage Activation. ACS Applied Bio Materials, 2019, 2, 4698-4702.	2.3	14
50	Chemically Triggered Changes in Mechanical Properties of Responsive Liquid Crystal Polymer Networks with Immobilized Urease. Journal of the American Chemical Society, 2021, 143, 16740-16749.	6.6	13
51	Enhanced Activity and Stability of Acidothermus cellulolyticus Endoglucanase 1 in Ionic Liquids via Engineering Active Site Residues and Non-Native Disulfide Bridges. ACS Sustainable Chemistry and Engineering, 2020, 8, 11299-11307.	3.2	12
52	Exploiting the Benefits of Homogeneous and Heterogeneous Biocatalysis: Tuning the Molecular Interaction of Enzymes with Solvents via Polymer Modification. ACS Catalysis, 2018, 8, 11579-11588.	5.5	11
53	Biocatalytic 3D Actuation in Liquid Crystal Elastomers via Enzyme Patterning. ACS Applied Materials & Interfaces, 2022, 14, 26480-26488.	4.0	11
54	Engineering the Composition of Heterogeneous Lipid Bilayers to Stabilize Tethered Enzymes. Advanced Materials Interfaces, 2020, 7, 2000533.	1.9	10

#	Article	IF	Citations
55	Lipase Activation and Stabilization in Room-Temperature Ionic Liquids. Methods in Molecular Biology, 2011, 679, 25-35.	0.4	9
56	Enzyme Sheathing Enables Nanoscale Solubilization of Biocatalyst and Dramatically Increases Activity in Organic Solvent. Biomacromolecules, 2008, 9, 1348-1351.	2.6	8
57	Accelerated protein engineering for chemical biotechnology via homologous recombination. Current Opinion in Biotechnology, 2013, 24, 1017-1022.	3.3	8
58	Lipoic Acid Ligase-Promoted Bioorthogonal Protein Modification and Immobilization. Methods in Molecular Biology, 2019, 2012, 279-297.	0.4	8
59	Surface-Templated Nanobubbles Protect Proteins from Surface-Mediated Denaturation. Journal of Physical Chemistry Letters, 2019, 10, 2641-2647.	2.1	8
60	Mixed Phospholipid Vesicles Catalytically Inhibit and Reverse Amyloid Fibril Formation. Journal of Physical Chemistry Letters, 2020, 11, 7417-7422.	2.1	7
61	Lipase Activation and Stabilization in Room-Temperature Ionic Liquids. Methods in Molecular Biology, 2017, 1504, 25-35.	0.4	4
62	Rosetta-Enabled Structural Prediction of Permissive Loop Insertion Sites in Proteins. Biochemistry, 2020, 59, 3993-4002.	1.2	3
63	Substitution of distal and active site residues reduces product inhibition of E1 from Acidothermus Cellulolyticus. Protein Engineering, Design and Selection, 2021, 34, .	1.0	2
64	Quantification of Metabolic Products from Microbial Hosts in Complex Media Using Optically Diffracting Hydrogels. ACS Applied Bio Materials, 2022, 5, 1252-1258.	2.3	2