Joel L Kaar

List of Publications by Year
in descending order

64	2,814	182225	206121
papers	citations	30 h-index	51 g-index

65	65	65	4127
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	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
2	Biocatalytic 3D Actuation in Liquid Crystal Elastomers via Enzyme Patterning. ACS Applied Materials & Interfaces, 2022, 14, 26480-26488.	4.0	11
3	Faster Surface Ligation Reactions Improve Immobilized Enzyme Structure and Activity. Journal of the American Chemical Society, 2021, 143, 7154-7163.	6.6	22
4	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
5	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
6	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
7	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
8	Rosetta-Enabled Structural Prediction of Permissive Loop Insertion Sites in Proteins. Biochemistry, 2020, 59, 3993-4002.	1.2	3
9	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
10	Engineering the Composition of Heterogeneous Lipid Bilayers to Stabilize Tethered Enzymes. Advanced Materials Interfaces, 2020, 7, 2000533.	1.9	10
11	Mixed Phospholipid Vesicles Catalytically Inhibit and Reverse Amyloid Fibril Formation. Journal of Physical Chemistry Letters, 2020, 11, 7417-7422.	2.1	7
12	Polyelectrolyte Multilayers Enhance the Dry Storage and pH Stability of Physically Entrapped Enzymes. ACS Applied Materials & Interfaces, 2020, 12, 22640-22649.	4.0	16
13	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
14	Determinants for Efficient Editing with Cas9-Mediated Recombineering in Escherichia coli. ACS Synthetic Biology, 2020, 9, 1083-1099.	1.9	15
15	<scp>CRISPR</scp> /Cas9 recombineeringâ€mediated deep mutational scanning of essential genes in Escherichia coli. Molecular Systems Biology, 2020, 16, e9265.	3.2	28
16	Lipoic Acid Ligase-Promoted Bioorthogonal Protein Modification and Immobilization. Methods in Molecular Biology, 2019, 2012, 279-297.	0.4	8
17	Surface-Templated Nanobubbles Protect Proteins from Surface-Mediated Denaturation. Journal of Physical Chemistry Letters, 2019, 10, 2641-2647.	2.1	8
18	Dramatic Increase in Catalytic Performance of Immobilized Lipases by Their Stabilization on Polymer Brush Supports. ACS Catalysis, 2019, 9, 4992-5001.	5.5	36

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19	Stabilization of Fibronectin by Random Copolymer Brushes Inhibits Macrophage Activation. ACS Applied Bio Materials, 2019, 2, 4698-4702.	2.3	14
20	Grafting Density Impacts Local Nanoscale Hydrophobicity in Poly(ethylene glycol) Brushes. ACS Macro Letters, 2018, 7, 498-503.	2.3	38
21	Modification of Lipase with Poly(4-acryloylmorpholine) Enhances Solubility and Transesterification Activity in Anhydrous Ionic Liquids. Biomacromolecules, 2018, 19, 1324-1332.	2.6	24
22	Impact of surface interactions on protein conformation. Current Opinion in Colloid and Interface Science, 2018, 38, 45-55.	3.4	55
23	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
24	Stabilization of Immobilized Enzymes via the Chaperone-Like Activity of Mixed Lipid Bilayers. ACS Applied Materials & Interfaces, 2018, 10, 19504-19513.	4.0	30
25	Next generation proteinâ€polymer conjugates. AICHE Journal, 2018, 64, 3230-3245.	1.8	64
26	Correlating Structural and Functional Heterogeneity of Immobilized Enzymes. ACS Nano, 2018, 12, 8091-8103.	7.3	38
27	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
28	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
29	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
30	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
31	Lipase Activation and Stabilization in Room-Temperature Ionic Liquids. Methods in Molecular Biology, 2017, 1504, 25-35.	0.4	4
32	Acylaseâ€containing polyurethane coatings with antiâ€biofilm activity. Biotechnology and Bioengineering, 2016, 113, 2535-2543.	1.7	48
33	Role of Dimension and Spatial Arrangement on the Activity of Biocatalytic Cascade Reactions on Scaffolds. ACS Catalysis, 2016, 6, 5161-5169.	5.5	33
34	Design and functionalization of responsive hydrogels for photonic crystal biosensors. Molecular Systems Design and Engineering, 2016, 1, 225-241.	1.7	31
35	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
36	Surface-Mediated Protein Unfolding as a Search Process for Denaturing Sites. ACS Nano, 2016, 10, 730-738.	7.3	54

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37	Dense Poly(ethylene glycol) Brushes Reduce Adsorption and Stabilize the Unfolded Conformation of Fibronectin. Biomacromolecules, 2016, 17, 1017-1025.	2.6	64
38	Crystallographic Investigation of Imidazolium Ionic Liquid Effects on Enzyme Structure. ChemBioChem, 2015, 16, 2456-2459.	1.3	31
39	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
40	Multisite Clickable Modification of Proteins Using Lipoic Acid Ligase. Bioconjugate Chemistry, 2015, 26, 1104-1112.	1.8	31
41	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
42	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
43	Linking the foreign body response and protein adsorption to PEG-based hydrogels using proteomics. Biomaterials, 2015, 41, 26-36.	5.7	129
44	Photonic Crystal Kinase Biosensor. Journal of the American Chemical Society, 2014, 136, 6896-6899.	6.6	81
45	NMR-Guided Rational Engineering of an Ionic-Liquid-Tolerant Lipase. ACS Catalysis, 2014, 4, 4057-4064.	5.5	64
46	Charge engineering of cellulases improves ionic liquid tolerance and reduces lignin inhibition. Biotechnology and Bioengineering, 2014, 111, 1541-1549.	1.7	91
47	Accelerated protein engineering for chemical biotechnology via homologous recombination. Current Opinion in Biotechnology, 2013, 24, 1017-1022.	3.3	8
48	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
49	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
50	Stabilization of enzymes in ionic liquids via modification of enzyme charge. Biotechnology and Bioengineering, 2013, 110, 2352-2360.	1.7	83
51	Stability of p53 Homologs. PLoS ONE, 2012, 7, e47889.	1.1	28
52	Lipase Activation and Stabilization in Room-Temperature Ionic Liquids. Methods in Molecular Biology, 2011, 679, 25-35.	0.4	9
53	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
54	Stabilization of mutant p53 via alkylation of cysteines and effects on DNA binding. Protein Science, 2010, 19, 2267-2278.	3.1	59

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55	The Scarâ€inâ€aâ€lar: 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
56	Matrix metalloproteinase-1 treatment of muscle fibrosis. Acta Biomaterialia, 2008, 4, 1411-1420.	4.1	56
57	Enzyme Sheathing Enables Nanoscale Solubilization of Biocatalyst and Dramatically Increases Activity in Organic Solvent. Biomacromolecules, 2008, 9, 1348-1351.	2.6	8
58	Matrix metalloproteinase-1 therapy improves muscle healing. Journal of Applied Physiology, 2007, 102, 2338-2345.	1.2	55
59	Towards improved artificial lungs through biocatalysis. Biomaterials, 2007, 28, 3131-3139.	5.7	51
60	Do ion tethered functional groups affect IL solvent properties? The case of sulfoxides and sulfones. Chemical Communications, 2006, , 646.	2.2	32
61	Characterizing the modification of surface proteins with poly(ethylene glycol) to interrupt platelet adhesion. Biomaterials, 2006, 27, 3125-3135.	5.7	49
62	Use of Salt Hydrate Pairs to Control Water Activity for Enzyme Catalysis in Ionic Liquids. Biotechnology Progress, 2003, 19, 1029-1032.	1.3	61
63	Impact of Ionic Liquid Physical Properties on Lipase Activity and Stability. Journal of the American Chemical Society, 2003, 125, 4125-4131.	6.6	534
64	Catalytic buffers enable positive-response inhibition-based sensing of nerve agents. Biotechnology and Bioengineering, 2002, 77, 352-357.	1.7	15