Marcus T Cicerone

List of Publications by Year
in descending order

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79 papers	6,041 citations	94269 37 h-index	79541 73 g-index
79 all docs	79 docs citations	79 times ranked	5595 citing authors

#	Article	IF	Citations
1	Enhanced translation of probe molecules in supercooled oâ€terphenyl: Signature of spatially heterogeneous dynamics?. Journal of Chemical Physics, 1996, 104, 7210-7218.	1.2	420
2	Chemically sensitive bioimaging with coherent Raman scattering. Nature Photonics, 2015, 9, 295-305.	15.6	371
3	High-speed coherent Raman fingerprint imaging of biological tissues. Nature Photonics, 2014, 8, 627-634.	15.6	358
4	How do molecules move near Tg? Molecular rotation of six probes in oâ€terphenyl across 14 decades in time. Journal of Chemical Physics, 1995, 102, 471-479.	1.2	354
5	Relaxation of spatially heterogeneous dynamic domains in supercooled orthoâ€terphenyl. Journal of Chemical Physics, 1995, 103, 5684-5692.	1.2	348
6	Simple approach to one-laser, broadband coherent anti-Stokes Raman scattering microscopy. Optics Letters, 2004, 29, 2701.	1.7	289
7	LTB4 Is a Signal-Relay Molecule during Neutrophil Chemotaxis. Developmental Cell, 2012, 22, 1079-1091.	3.1	267
8	The effect of 3D hydrogel scaffold modulus on osteoblast differentiation and mineralization revealed by combinatorial screening. Biomaterials, 2010, 31, 5051-5062.	5.7	265
9	Fast Dynamics and Stabilization of Proteins: Binary Glasses of Trehalose and Glycerol. Biophysical Journal, 2004, 86, 3836-3845.	0.2	246
10	Anomalous Diffusion of Probe Molecules in Polystyrene: Evidence for Spatially Heterogeneous Segmental Dynamics. Macromolecules, 1995, 28, 8224-8232.	2.2	240
11	Broadband CARS spectral phase retrieval using a time-domain Kramersâ€“Kronig transform. Optics Letters, 2009, 34, 1363.	1.7	186
12	Î²-Relaxation governs protein stability in sugar-glass matrices. Soft Matter, 2012, 8, 2983.	1.2	170
13	Stabilization of proteins in solid form. Advanced Drug Delivery Reviews, 2015, 93, 14-24.	6.6	140
14	Modulus-driven differentiation of marrow stromal cells in 3D scaffolds that is independent of myosin-based cytoskeletal tension. Biomaterials, 2011, 32, 2256-2264.	5.7	113
15	Label-Free Cellular Imaging by Broadband Coherent Anti-Stokes Raman Scattering Microscopy. Biophysical Journal, 2010, 99, 2695-2704.	0.2	110
16	Translational Diffusion on Heterogeneous Lattices:â€‰ A Model for Dynamics in Glass Forming Materials. Journal of Physical Chemistry B, 1997, 101, 8727-8734.	1.2	109
17	Generalized localization model of relaxation in glass-forming liquids. Soft Matter, 2012, 8, 11455.	1.2	106
18	Drying-Induced Variations in Physico-Chemical Properties of Amorphous Pharmaceuticals and Their Impact on Stability (I): Stability of a Monoclonal Antibody**Official contribution of NIST; not subject to copyright in the U.S. Certain commercial equipment, instruments, or materials are identified in this article in order to specify the experimental procedure adequately. Such identification is not intended to imply recommendation or endorsement by the National Institute of Standards and Technology, nor is it i. Journal of Pharmaceutical Sciences, 2007, 96, 1983-2008.	1.6	97

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19	Impact of sucrose level on storage stability of proteins in freeze-dried solids: II. Correlation of aggregation rate with protein structure and molecular mobility**This work is a product of the U.S. Government and is not subject to copyright in the United States.. Journal of Pharmaceutical Sciences, 2009, 98, 3145-3166.	1.6	97
20	Molecular Motions and Viscoelasticity of Amorphous Polymers near Tg. Macromolecules, 1995, 28, 3425-3433.	2.2	94
21	Photobleaching technique for measuring ultraslow reorientation near and below the glass transition: tetracene in o-terphenyl. The Journal of Physical Chemistry, 1993, 97, 10489-10497.	2.9	91
22	Solid state chemistry of proteins: II. The correlation of storage stability of freezeâ€dried human growth hormone (hGH) with structure and dynamics in the glassy solid. Journal of Pharmaceutical Sciences, 2008, 97, 5106-5121.	1.6	89
23	A simple, non-invasive method for the measurement of gas flow velocities in the inductively coupled plasma. Spectrochimica Acta, Part B: Atomic Spectroscopy, 1989, 44, 897-907.	1.5	75
24	Maximum entropy and timeâ€domain Kramersâ€“Kronig phase retrieval approaches are functionally equivalent for CARS microspectroscopy. Journal of Raman Spectroscopy, 2012, 43, 637-643.	1.2	74
25	Quantitative, comparable coherent antiâ€Stokes Raman scattering (CARS) spectroscopy: correcting errors in phase retrieval. Journal of Raman Spectroscopy, 2016, 47, 408-415.	1.2	66
26	Quantitative Image Analysis of Broadband CARS Hyperspectral Images of Polymer Blends. Analytical Chemistry, 2011, 83, 2733-2739.	3.2	62
27	Multicomponent Chemical Imaging of Pharmaceutical Solid Dosage Forms with Broadband CARS Microscopy. Analytical Chemistry, 2013, 85, 8102-8111.	3.2	59
28	Quantifying Changes in the High-Frequency Dynamics of Mixtures by Dielectric Spectroscopy. Journal of Physical Chemistry B, 2008, 112, 15980-15990.	1.2	55
29	Alternating current electric field effects on neural stem cell viability and differentiation. Biotechnology Progress, 2010, 26, 664-670.	1.3	48
30	Picosecond Dynamic Heterogeneity, Hopping, and Johari-Goldstein Relaxation in Glass-Forming Liquids. Physical Review Letters, 2014, 113, 117801.	2.9	48
31	One-laser interferometric broadband coherent anti-Stokes Raman scattering. Optics Express, 2006, 14, 3631.	1.7	46
32	Systematic Investigation of Porogen Size and Content on Scaffold Morphometric Parameters and Properties. Biomacromolecules, 2007, 8, 1511-1518.	2.6	45
33	The Impact of Thermal Treatment on the Stability of Freeze-Dried Amorphous Pharmaceuticals: II. Aggregation in an IgG1 Fusion Protein. Journal of Pharmaceutical Sciences, 2010, 99, 683-700.	1.6	45
34	Fast extraction of resonant vibrational response from CARS spectra with arbitrary nonresonant background. Journal of Raman Spectroscopy, 2009, 40, 726-731.	1.2	44
35	Small-Angle Neutron Scattering Study of Protein Crowding in Liquid and Solid Phases: Lysozyme in Aqueous Solution, Frozen Solution, and Carbohydrate Powders. Journal of Physical Chemistry B, 2012, 116, 9653-9667.	1.2	43
36	Histological coherent Raman imaging: a prognostic review. Analyst, The, 2018, 143, 33-59.	1.7	43

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37	Optimized continuum from a photonic crystal fiber for broadband time-resolved coherent anti-Stokes Raman scattering. Optics Express, 2010, 18, 4371.	1.7	39
38	Characterization of three-color CARS in a two-pulse broadband CARS spectrum. Optics Letters, 2007, 32, 3370.	1.7	38
39	Vibrational dephasing time imaging by time-resolved broadband coherent anti-Stokes Raman scattering microscopy. Applied Physics Letters, 2008, 92, 041108.	1.5	36
40	Exploring Cellular Contact Guidance Using Gradient Nanogratings. Biomacromolecules, 2010, 11, 3067-3072.	2.6	36
41	Thermodynamic Underpinnings of Cell Alignment on Controlled Topographies. Advanced Materials, 2011, 23, 421-425.	11.1	36
42	Pronounced Microheterogeneity in a Sorbitolâ€“Water Mixture Observed through Variable Temperature Neutron Scattering. Journal of Physical Chemistry B, 2012, 116, 4439-4447.	1.2	36
43	Spectroscopic coherent Raman imaging of Caenorhabditis elegans reveals lipid particle diversity. Nature Chemical Biology, 2020, 16, 1087-1095.	3.9	35
44	Characterization of dynamics in complex lyophilized formulations: II. Analysis of density variations in terms of glass dynamics and comparisons with global mobility, fast dynamics, and Positron Annihilation Lifetime Spectroscopy (PALS). European Journal of Pharmaceutics and Biopharmaceutics, 2013, 85, 197-206.	2.0	33
45	Stabilization of Proteins by Nanoencapsulation in Sugarâ€“Glass for Tissue Engineering and Drug Delivery Applications. Advanced Materials, 2011, 23, 4861-4867.	11.1	31
46	Tissue Engineering Scaffolds Based on Photocured Dimethacrylate Polymers for in Vitro Optical Imaging. Biomacromolecules, 2006, 7, 1751-1757.	2.6	27
47	Solvent effects on protein fast dynamics: implications for biopreservation. Soft Matter, 2013, 9, 5336.	1.2	26
48	A new technique for measuring ultraslow molecular reorientation near and below the glass transition. Journal of Chemical Physics, 1992, 97, 2156-2159.	1.2	25
49	Tertiary Structure Changes in Albumin upon Surface Adsorption Observed via Fourier Transform Infrared Spectroscopy. Langmuir, 2009, 25, 4571-4578.	1.6	24
50	Contributions of local mobility and degree of retention of native secondary structure to the stability of recombinant human growth hormone (rhGH) in glassy lyophilized formulations. Soft Matter, 2013, 9, 7855.	1.2	24
51	Storage stability of keratinocyte growth factor-2 in lyophilized formulations: Effects of formulation physical properties and protein fraction at the solidâ€“air interface. European Journal of Pharmaceutics and Biopharmaceutics, 2014, 88, 332-341.	2.0	24
52	Imaging the Molecular Structure of Polyethylene Blends with Broadband Coherent Raman Microscopy. ACS Macro Letters, 2012, 1, 1347-1351.	2.3	23
53	Metabasin transitions are Johari-Goldstein relaxation events. Journal of Chemical Physics, 2017, 146, 054502.	1.2	23
54	Phonon dephasing and population decay dynamics of the G-band of semiconducting single-wall carbon nanotubes. Physical Review B, 2010, 82, .	1.1	20

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55	Fast relaxation and elasticity-related properties of trehalose-glycerol mixtures. Soft Matter, 2012, 8, 4936.	1.2	18
56	Molecular imaging with CARS micro-spectroscopy. Current Opinion in Chemical Biology, 2016, 33, 179-185.	2.8	18
57	Beam scanning for rapid coherent Raman hyperspectral imaging. Optics Letters, 2015, 40, 5826.	1.7	17
58	Surrogate for Debyeâ€“Waller Factors from Dynamic Stokes Shifts. Journal of Physical Chemistry Letters, 2011, 2, 1464-1468.	2.1	16
59	Accurate and interpretable classification of microspectroscopy pixels using artificial neural networks. Medical Image Analysis, 2017, 37, 37-45.	7.0	15
60	Temperature dependence of molecular motions in bulk polystyrene. Journal of Polymer Science, Part B: Polymer Physics, 1994, 32, 2595-2604.	2.4	13
61	Addition of Monovalent Electrolytes to Improve Storage Stability of Freeze-Dried Protein Formulations. Journal of Pharmaceutical Sciences, 2016, 105, 530-541.	1.6	13
62	Single-shot interferometric approach to background free broadband coherent anti- Stokes Raman scattering spectroscopy. Optics Express, 2009, 17, 123.	1.7	12
63	Enhanced Stabilization in Dried Silk Fibroin Matrices. Biomacromolecules, 2017, 18, 2900-2905.	2.6	11
64	Protein stability â€" An underappreciated but critical need for drug delivery systems. Advanced Drug Delivery Reviews, 2015, 93, 1.	6.6	9
65	Using the Fluorescence Red Edge Effect to Assess the Long-Term Stability of Lyophilized Protein Formulations. Molecular Pharmaceutics, 2015, 12, 1141-1149.	2.3	8
66	Response to â€œComment on â€˜Generalized Localization Model of Relaxation in Glass-Forming Liquidsâ€™â€•by A. Ottochian et al.. Soft Matter, 2013, 9, 7892.	1.2	7
67	Witnessing the survival of time-energy entanglement through biological tissue and scattering media. Biomedical Optics Express, 2021, 12, 3658.	1.5	7
68	The role of hopping on transport above Tc in glycerol. Journal of Non-Crystalline Solids, 2015, 407, 118-125.	1.5	6
69	The polarizability response of a glass-forming liquid reveals intrabasin motion and interbasin transitions on a potential energy landscape. Soft Matter, 2020, 16, 5588-5598.	1.2	6
70	Potential Roles for Spectroscopic Coherent Raman Imaging for Histopathology and Biomedicine. , 2019, , 547-570.		5
71	Glass Dynamics and the Preservation of Proteins. , 2006, , 193-214.		3
72	Discriminating cell line specific features of antibioticâ€resistant strains of Escherichia coli from Raman spectra via machine learning analysis. Journal of Biophotonics, 2022, , e202100274.	1.1	3

#	Article	IF	Citations
73	Mapping Chemistry, Composition, and Dynamics with Coherent Raman Imaging. Microscopy and Microanalysis, 2016, 22, 1074-1075.	0.2	2
74	Low-aberration high-speed-compatible optical delay line. Optics Letters, 2020, 45, 3820.	1.7	2
75	Advancing Technology Through Measurement Science in the NIST Polymers Division. Advanced Materials, 2011, 23, 317-318.	11.1	1
76	A larger palette for biological imaging. Nature, 2017, 544, 423-424.	13.7	0
77	Raman spectra and DFT calculations for botryococcene and methylsqualene hydrocarbons from the B race of the green microalga Botryococcus braunii. Journal of Molecular Structure, 2017, 1147, 427-437.	1.8	0
78	Broadband Coherent Raman Imaging - Method Development and Application to Tissue Imaging. , 2017, , .		0
79	Glass Dynamics and the Preservation of Proteins. , 2006, , 193-214.		0