Paul R Carey

List of Publications by Year
in descending order

68 papers	1,787 citations	218677 26 h-index	302126 39 g-index
68 all docs	68 docs citations	68 times ranked	1880 citing authors

#	Article	IF	Citations
1	In Situ Iridium LIII-Edge X-ray Absorption and Surface Enhanced Raman Spectroscopy of Electrodeposited Iridium Oxide Films in Aqueous Electrolytes. Journal of Physical Chemistry B, 2002, 106, 3681-3686.	2.6	104
2	RAMAN CRYSTALLOGRAPHY AND OTHER BIOCHEMICAL APPLICATIONS OF RAMAN MICROSCOPY. Annual Review of Physical Chemistry, 2006, 57, 527-554.	10.8	100
3	Raman Spectroscopy, the Sleeping Giant in Structural Biology, Awakes. Journal of Biological Chemistry, 1999, 274, 26625-26628.	3.4	92
4	Following the Reactions of Mechanism-Based Inhibitors with Î²-Lactamase by Raman Crystallography. Biochemistry, 2003, 42, 13386-13392.	2.5	71
5	Tazobactam Forms a Stoichiometric trans-Enamine Intermediate in the E166A Variant of SHV-1 Î²-Lactamase:â€‰ 1.63 Ã… Crystal Structure,. Biochemistry, 2004, 43, 843-848.	2.5	67
6	Proteins can convert to Î²-sheet in single crystals. Protein Science, 2004, 13, 1288-1294.	7.6	57
7	Using Raman Spectroscopy To Monitor the Solvent-Exposed and â€œBuriedâ€•Forms of Flavin in p-Hydroxybenzoate Hydroxylase. Biochemistry, 1999, 38, 16727-16732.	2.5	52
8	Effect of the Inhibitor-Resistant M69V Substitution on the Structures and Populations oftrans-Enamine Î²-Lactamase Intermediatesâ€. Biochemistry, 2006, 45, 11895-11904.	2.5	52
9	Unlocking the Secrets of Enzyme Power Using Raman Spectroscopy. Accounts of Chemical Research, 1995, 28, 8-13.	15.6	51
10	Raman Spectroscopy of Uracil DNA Glycosylaseâˆ'DNA Complexes:Â Insights into DNA Damage Recognition and Catalysisâ€. Biochemistry, 2000, 39, 13241-13250.	2.5	51
11	Following Ligand Binding and Ligand Reactions in Proteins via Raman Crystallographyâ€. Biochemistry, 2004, 43, 8885-8893.	2.5	48
12	Detection of Innersphere Interactions between Magnesium Hydrate and the Phosphate Backbone of the HDV Ribozyme Using Raman Crystallography. Journal of the American Chemical Society, 2008, 130, 9670-9672.	13.7	46
13	Evidence for electrophilic catalysis in the 4-chlorobenzoyl-CoA dehalogenase reaction: UV, Raman, and 13C-NMR spectral studies of dehalogenase complexes of benzoyl-CoA adducts. Biochemistry, 1995, 34, 13881-13888.	2.5	45
14	Raman Study of the Polarizing Forces Promoting Catalysis in 4-Chlorobenzoate-CoA Dehalogenaseâ€. Biochemistry, 1997, 36, 10192-10199.	2.5	45
15	Raman spectrum of fully reduced flavin. Journal of Raman Spectroscopy, 2004, 35, 521-524.	2.5	43
16	Sulbactam Forms Only Minimal Amounts of Irreversible Acrylate-Enzyme with SHV-1 Î²-Lactamase. Biochemistry, 2007, 46, 8980-8987.	2.5	43
17	Scanâ€rate dependence in protein calorimetry: The reversible transitions of <i>Bacillus circulans</i> xylanase and a disulfideâ€bridge mutant. Protein Science, 1998, 7, 1538-1544.	7.6	40
18	Transcarboxylase 12S crystal structure: hexamer assembly and substrate binding to a multienzyme core. EMBO Journal, 2003, 22, 2334-2347.	7.8	39

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19	Different Intermediate Populations Formed by Tazobactam, Sulbactam, and Clavulanate Reacting with SHV-1 Î²-Lactamases: Raman Crystallographic Evidence. Journal of the American Chemical Society, 2009, 131, 2338-2347.	13.7	39
20	Spectroscopic Characterization of Distortion in Enzyme Complexes. Chemical Reviews, 2006, 106, 3043-3054.	47.7	34
21	Resonance Raman labels: a submolecular probe for interactions in biochemical and biological systems. Accounts of Chemical Research, 1978, 11, 122-128.	15.6	33
22	Carbapenems and SHV-1 Î²-Lactamase Form Different Acyl-Enzyme Populations in Crystals and Solution. Biochemistry, 2008, 47, 11830-11837.	2.5	32
23	Î±-Helix Dipoles and Catalysis:Â Absorption and Raman Spectroscopic Studies of Acyl Cysteine Proteasesâ€. Biochemistry, 1996, 35, 12495-12502.	2.5	31
24	Raman spectroscopy in enzymology: the first 25 years. Journal of Raman Spectroscopy, 1998, 29, 7-14.	2.5	30
25	Raman crystallography of RNA. Methods, 2009, 49, 101-111.	3.8	30
26	Following Drug Uptake and Reactions inside <i>Escherichia coli</i> Cells by Raman Microspectroscopy. Biochemistry, 2014, 53, 4113-4121.	2.5	30
27	Kinetic, Raman, NMR, and Site-Directed Mutagenesis Studies of the Pseudomonas Sp. Strain CBS3 4-Hydroxybenzoyl-CoA Thioesterase Active Site. Biochemistry, 2002, 41, 11152-11160.	2.5	28
28	Modulating Electron Density in the Bound Product, 4-Hydroxybenzoyl-CoA, by Mutations in 4-Chlorobenzoyl-CoA Dehalogenase Near the 4-Hydroxy Groupâ€. Biochemistry, 1999, 38, 4198-4206.	2.5	26
29	Structural characterization of the entire 1.3S subunit of transcarboxylase from <i>Propionibacterium shermanii</i>. Protein Science, 1998, 7, 2156-2163.	7.6	24
30	Probing Inhibitors Binding to Human Urokinase Crystals by Raman Microscopy:Â Implications for Compound Screeningâ€. Biochemistry, 2001, 40, 9751-9757.	2.5	22
31	The Different Inhibition Mechanisms of OXA-1 and OXA-24 Î²-Lactamases Are Determined by the Stability of Active Site Carboxylated Lysine. Journal of Biological Chemistry, 2014, 289, 6152-6164.	3.4	22
32	Molecular details of enzyme-substrate transients by resonance Raman spectroscopy. Accounts of Chemical Research, 1983, 16, 455-460.	15.6	21
33	Carboxylation and Decarboxylation of Active Site Lys 84 Controls the Activity of OXA-24 Î²-Lactamase of Acinetobacter baumannii: Raman Crystallographic and Solution Evidence. Journal of the American Chemical Society, 2012, 134, 11206-11215.	13.7	21
34	Raman Crystallographic Studies of the Intermediates Formed by Ser130Gly SHV, a Î²-Lactamase that Confers Resistance to Clinical Inhibitors. Biochemistry, 2007, 46, 8689-8699.	2.5	20
35	Why the Extended-Spectrum Î²-Lactamases SHV-2 and SHV-5 Are â€œHypersusceptibleâ€•to Mechanism-Based Inhibitors. Biochemistry, 2009, 48, 9912-9920.	2.5	19
36	Chemistry of enzymeâ€“substrate complexes revealed by resonance Raman spectroscopy. Chemical Society Reviews, 1990, 19, 293-316.	38.1	18

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37	The Strength of Dehalogenaseâˆ’Substrate Hydrogen Bonding Correlates with the Rate of Meisenheimer Intermediate Formationâ€. Biochemistry, 2003, 42, 9482-9490.	2.5	18
38	Î²-Lactamase Inhibition by 7-Alkylidenecephalosporin Sulfones: Allylic Transposition and Formation of an Unprecedented Stabilized Acyl-Enzyme. Journal of the American Chemical Society, 2013, 135, 18358-18369.	13.7	18
39	Probing Adenine Rings and Backbone Linkages Using Base Specific Isotope-Edited Raman Spectroscopy: Application to Group II Intron Ribozyme Domain V. Biochemistry, 2010, 49, 3427-3435.	2.5	17
40	Kinetic crystallography by Raman microscopy. Biochimica Et Biophysica Acta - Proteins and Proteomics, 2011, 1814, 742-749.	2.3	17
41	Resonance Raman labels and Raman labels. Journal of Raman Spectroscopy, 1998, 29, 861-868.	2.5	16
42	Measuring Propargyl-Linked Drug Populations Inside Bacterial Cells, and Their Interaction with a Dihydrofolate Reductase Target, by Raman Microscopy. Biochemistry, 2015, 54, 2719-2726.	2.5	15
43	Active Site Properties of the 3C Proteinase from Hepatitis A Virus (a Hybrid Cysteine/Serine Protease) Probed by Raman Spectroscopyâ€. Biochemistry, 1997, 36, 4943-4948.	2.5	13
44	Raman difference spectroscopic studies of dithiobenzoyl substrate and product analogs binding to the enzyme dehalogenase: ?-electron polarization is prevented by the C?O to C?S substitution. Journal of Raman Spectroscopy, 2000, 31, 365-371.	2.5	12
45	Raman Spectra of Interchanging Î²-Lactamase Inhibitor Intermediates on the Millisecond Time Scale. Journal of the American Chemical Society, 2013, 135, 2895-2898.	13.7	12
46	New techniques in antibiotic discovery and resistance: Raman spectroscopy. Annals of the New York Academy of Sciences, 2015, 1354, 67-81.	3.8	12
47	Deacylation and Reacylation for a Series of Acyl Cysteine Proteases, Including Acyl Groups Derived from Novel Chromophoric Substratesâ€. Biochemistry, 1996, 35, 12487-12494.	2.5	9
48	Transcarboxylase: One of Nature's Early Nanomachines. IUBMB Life, 2004, 56, 575-583.	3.4	9
49	Following DNA Chain Extension and Protein Conformational Changes in Crystals of a Y-Family DNA Polymerase via Raman Crystallography. Biochemistry, 2013, 52, 4881-4890.	2.5	9
50	Defining Molecular Details of the Chemistry of Biofilm Formation by Raman Microspectroscopy. Biochemistry, 2017, 56, 2247-2250.	2.5	9
51	Selective enhancement of ligand and flavin Raman modes in charge-transfer complexes of sarcosine oxidase. Journal of Raman Spectroscopy, 2001, 32, 79-92.	2.5	8
52	Comparison of resonance Raman spectra of flavin-3,4-dihydroxybenzoate charge-transfer complexes in three flavoenzymes. Journal of Raman Spectroscopy, 2001, 32, 579-586.	2.5	8
53	Role of E166 in the Imine to Enamine Tautomerization of the Clinical Î²-Lactamase Inhibitor Sulbactam. Biochemistry, 2009, 48, 10196-10198.	2.5	8
54	A thioester substrate binds to the enzyme <i>Arthrobacter</i> thioesterase in two ionization states: evidence from Raman difference spectroscopy. Journal of Raman Spectroscopy, 2012, 43, 65-71.	2.5	8

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55	Detecting a Quasi-stable Imine Species on the Reaction Pathway of SHV-1 Î²-Lactamase and 6Î²-(Hydroxymethyl)penicillanic Acid Sulfone. Biochemistry, 2015, 54, 734-743.	2.5	7
56	â€œMind the Gapâ€. Raman Evidence for Rapid Inactivation of CTX-M-9 Î²-Lactamase Using Mechanism-Based Inhibitors that Bridge the Active Site. Journal of the American Chemical Society, 2015, 137, 12760-12763.	13.7	7
57	Measuring Drug-Induced Changes in Metabolite Populations of Live Bacteria: Real Time Analysis by Raman Spectroscopy. Journal of Physical Chemistry B, 2018, 122, 6377-6385.	2.6	7
58	Time-Resolved Raman and Polyacrylamide Gel Electrophoresis Observations of Nucleotide Incorporation and Misincorporation in RNA within a Bacterial RNA Polymerase Crystal. Biochemistry, 2015, 54, 652-665.	2.5	6
59	Molecular structure of 5-methyl thiophene acryloyl ethyl thiolester: A vibrational spectroscopic and density functional theory study. , 1999, 5, 201-218.		3
60	Expression and crystallization of several forms of thePropionibacterium shermaniitranscarboxylase 5S subunit. Acta Crystallographica Section D: Biological Crystallography, 2004, 60, 521-523.	2.5	3
61	Raman evidence for product binding to the enzyme W137F 4-chlorobenzoyl-CoA dehalogenase in two conformational states. Journal of Raman Spectroscopy, 2005, 36, 320-325.	2.5	2
62	Concerted Protein and Nucleic Acid Conformational Changes Observed Prior to Nucleotide Incorporation in a Bacterial RNA Polymerase: Raman Crystallographic Evidence. Biochemistry, 2015, 54, 5297-5305.	2.5	2
63	Large Î±â€helical movements observed in ternary crystals of RB69 DNA polymerase following nucleotide incorporation. Journal of Raman Spectroscopy, 2016, 47, 110-115.	2.5	2
64	Advances in applying Raman spectroscopy to the study of enzyme mechanisms. Journal of Raman Spectroscopy, 0, , .	2.5	2
65	Resonance Raman labels and Raman labels. Journal of Raman Spectroscopy, 1998, 29, 861-868.	2.5	2
66	Direct Raman Measurement of an Elevated Base pK[sub a] in the Active Site of a Small Ribozyme in a Pre-catalytic Conformation. , 2010, , .		0
67	The Application of Raman Microscopy in Drug Design and Drug Screening. , 2010, , .		0
68	The Raman Revolution in Structural Biology. , 2010, , .		0