Rex Pratt

List of Publications by Year
in descending order

87 papers	2,398 citations	159358 30 h-index	233125 45 g-index
87 all docs	87 docs citations	87 times ranked	1400 citing authors

#	Article	IF	Citations
1	Crystallographic Structure of a Phosphonate Derivative of the Enterobacter cloacae P99 Cephalosporinase: Mechanistic Interpretation of a .beta.-Lactamase Transition-State Analog. Biochemistry, 1994, 33, 6762-6772.	1.2	171
2	Inhibition of a class C beta-lactamase by a specific phosphonate monoester. Science, 1989, 246, 917-919.	6.0	132
3	Kinetics and mechanism of the serine .beta.-lactamase catalyzed hydrolysis of depsipeptides. Biochemistry, 1987, 26, 3385-3395.	1.2	88
4	Structures of Two Kinetic Intermediates Reveal Species Specificity of Penicillin-binding Proteins. Journal of Molecular Biology, 2002, 322, 111-122.	2.0	83
5	Substrate specificity of bacterial DD-peptidases (penicillin-binding proteins). Cellular and Molecular Life Sciences, 2008, 65, 2138-2155.	2.4	76
6	beta-Lactamase-catalyzed hydrolysis of acyclic depsipeptides and acyl transfer to specific amino acid acceptors.. Proceedings of the National Academy of Sciences of the United States of America, 1984, 81, 1302-1306.	3.3	65
7	Effectiveness of Tetrahedral Adducts as Transition-State Analogs and Inhibitors of the Class C Î²-Lactamase of Enterobacter cloacae P99. Journal of the American Chemical Society, 1997, 119, 1529-1538.	6.6	59
8	The Crystal Structure of Phosphonate-Inhibited d-Ala-d-Ala Peptidase Reveals an Analogue of a Tetrahedral Transition State,. Biochemistry, 2003, 42, 1199-1208.	1.2	57
9	Crystal Structures of Complexes between the R61 DD-peptidase and Peptidoglycan-mimetic Î²-Lactams: A Non-covalent Complex with a â€œPerfect Penicillinâ€. Journal of Molecular Biology, 2005, 345, 521-533.	2.0	55
10	Mechanism of inhibition of the class C .beta.-lactamase of Enterobacter cloacae P99 by phosphonate monoesters. Biochemistry, 1992, 31, 5869-5878.	1.2	54
11	Reaction of soluble penicillin-binding protein 2a of methicillin-resistant Staphylococcus aureus with Î²-lactams and acyclic substrates: kinetics in homogeneous solution. Biochemical Journal, 1998, 332, 755-761.	1.7	51
12	Crystal Structure of the Bacillus subtilis Penicillin-binding Protein 4a, and its Complex with a Peptidoglycan Mimetic Peptide. Journal of Molecular Biology, 2007, 371, 528-539.	2.0	50
13	Functional evolution of the serine Î²-lactamase active site. Perkin Transactions II RSC, 2002, , 851-861.	1.1	46
14	Crystal Structures of Covalent Complexes of Î²-Lactam Antibiotics with Escherichia coli Penicillin-Binding Protein 5: Toward an Understanding of Antibiotic Specificity. Biochemistry, 2010, 49, 8094-8104.	1.2	46
15	Characterization of covalently bound enzyme inhibitors as transition-state analogs by protein stability measurements: Phosphonate monoester inhibitors of .beta.-lactamase. Biochemistry, 1994, 33, 116-125.	1.2	45
16	Î²-Ketophosphonates as Î²-lactamase inhibitors: Intramolecular cooperativity between the hydrophobic subsites of a class D Î²-lactamase. Bioorganic and Medicinal Chemistry, 2008, 16, 6987-6994.	1.4	45
17	N-(Phenylacetyl)glycyl-D-aziridine-2-carboxylate, an acylic amide substrate of .beta.-lactamases: importance of the shape of the substrate in .beta.-lactamase evolution. Biochemistry, 1991, 30, 3640-3649.	1.2	43
18	Crystal Structures of Complexes of Bacterial dd-Peptidases with Peptidoglycan-Mimetic Ligands: The Substrate Specificity Puzzle. Journal of Molecular Biology, 2008, 381, 383-393.	2.0	40

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19	Effect of the 3â€²-leaving group on turnover of cephem antibiotics by a class C Î²-lactamase. Biochemical Journal, 1989, 259, 255-260.	1.7	39
20	Kinetics and Mechanism of the Hydrolysis of Depsipeptides Catalyzed by the Î²-Lactamase ofEnterobacter cloacaeP99â€. Biochemistry, 1996, 35, 3595-3603.	1.2	39
21	Synthesis and Reactivity with Î²-Lactamases of â€œPenicillin-likeâ€•Cyclic Depsipeptides. Journal of Organic Chemistry, 1999, 64, 713-720.	1.7	39
22	Reactivity of Penicillin-Binding Proteins with Peptidoglycan-Mimetic Î²-Lactams:Â What's Wrong with These Enzymes?â€. Biochemistry, 2006, 45, 15873-15883.	1.2	39
23	Unexpected Tricovalent Binding Mode of Boronic Acids within the Active Site of a Penicillin-Binding Protein. Journal of the American Chemical Society, 2011, 133, 10839-10848.	6.6	37
24	Dipeptide Binding to the Extended Active Site of the Streptomyces R61 d-Alanyl-d-alanine-peptidase: The Path to a Specific Substrateâ€. Biochemistry, 2000, 39, 12200-12209.	1.2	36
25	The Perfect Penicillin? Inhibition of a Bacterial DD-Peptidase by Peptidoglycan-Mimetic Î²-Lactams. Journal of the American Chemical Society, 2004, 126, 8122-8123.	6.6	36
26	Structural Relationship between the Active Sites of Î²-Lactam-Recognizing and Amidase Signature Enzymes: Convergent Evolution?. Biochemistry, 2010, 49, 9688-9697.	1.2	36
27	On the Importance of a Methyl Group in Î²-Lactamase Evolution:Â Free Energy Profiles and Molecular Modelingâ€. Biochemistry, 1999, 38, 10499-10510.	1.2	35
28	O-Aryloxycarbonyl Hydroxamates:â€‰ New Î²-Lactamase Inhibitors That Cross-Link the Active Site. Journal of the American Chemical Society, 2007, 129, 9548-9549.	6.6	35
29	Î²-Secondary and Solvent Deuterium Kinetic Isotope Effects on Î²-Lactamase Catalysisâ€. Biochemistry, 1996, 35, 3604-3613.	1.2	34
30	The synthesis and evaluation of benzofuranones as Î²-Lactamase substrates. Bioorganic and Medicinal Chemistry, 2001, 9, 1175-1183.	1.4	33
31	Relative specificities of a series of Î²-lactam-recognizing enzymes towards the side-chains of penicillins and of acyclic thioldepsipeptides. Biochemical Journal, 1994, 302, 851-856.	1.7	31
32	Î²-Lactamases: Why and How. Journal of Medicinal Chemistry, 2016, 59, 8207-8220.	2.9	31
33	Approaches to the simultaneous inactivation of metallo- and serine-Î²-lactamases. Bioorganic and Medicinal Chemistry Letters, 2009, 19, 1618-1622.	1.0	29
34	Crystal Structure of a Complex between the Actinomadura R39 <scp>dd</scp>-Peptidase and a Peptidoglycan-mimetic Boronate Inhibitor: Interpretation of a Transition State Analogue in Terms of Catalytic Mechanism. Biochemistry, 2010, 49, 6411-6419.	1.2	29
35	Î²-Secondary and Solvent Deuterium Kinetic Isotope Effects on Catalysis by the Streptomyces R61 DD-Peptidase:â€‰ Comparisons with a Structurally Similar Class C Î²-Lactamase. Biochemistry, 1999, 38, 1469-1477.	1.2	26
36	Structure-activity studies of the inhibition of serine Î²-lactamases by phosphonate monoesters. Bioorganic and Medicinal Chemistry, 1997, 5, 1783-1788.	1.4	25

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37	Accumulation of acyl-enzyme intermediates during turnover of penicillins by the class A Î²-lactamase of Staphylococcus aureus PC1. Biochemical Journal, 1988, 254, 919-922.	1.7	24
38	Transpeptidation Reactions of a Specific Substrate Catalyzed by the Streptomyces R61 dd-Peptidase:â€‰ Characterization of a Chromogenic Substrate and Acyl Acceptor Design. Biochemistry, 2005, 44, 9971-9979.	1.2	24
39	Kinetics and Mechanism of Inhibition of a Serine Î²-Lactamase by O-Aryloxycarbonyl Hydroxamates. Biochemistry, 2008, 47, 12037-12046.	1.2	23
40	Inhibition of Bacterial DD-Peptidases (Penicillin-Binding Proteins) in Membranes and in Vivo by Peptidoglycan-Mimetic Boronic Acids. Biochemistry, 2012, 51, 2804-2811.	1.2	23
41	Mechanism of Reaction of Acyl Phosph(on)ates with the Î²-Lactamase ofEnterobacter cloacaeP99â€. Biochemistry, 2001, 40, 4610-4621.	1.2	22
42	Inhibition of Serine Î²-Lactamases by Acyl Phosph(on)ates:Â A New Source of Inert Acyl [and Phosphyl] Enzymes. Journal of the American Chemical Society, 1998, 120, 4264-4268.	6.6	21
43	Synthesis and Evaluation of Ketophosph(on)ates as Î²-Lactamase Inhibitors. Journal of Organic Chemistry, 2006, 71, 4778-4785.	1.7	21
44	Substrate Specificity of Low-Molecular Mass Bacterial <scp>dd</scp>-Peptidases. Biochemistry, 2011, 50, 10091-10101.	1.2	21
45	A Lysine-Targeted Affinity Label for Serine-Î²-Lactamase Also Covalently Modifies New Delhi Metallo-Î²-lactamase-1 (NDM-1). Biochemistry, 2019, 58, 2834-2843.	1.2	21
46	Interactions of cephalosporins with the Streptomyces R61 <scp>dd</scp>-transpeptidase/carboxypeptidase. Influence of the 3â€²-substituent. Biochemical Journal, 1986, 238, 309-312.	1.7	20
47	Inhibition of Class D Î²-Lactamases by Acyl Phosphates and Phosphonates. Antimicrobial Agents and Chemotherapy, 2005, 49, 4410-4412.	1.4	20
48	4-Quinolones as Noncovalent Inhibitors of High Molecular Mass Penicillin-Binding Proteins. ACS Medicinal Chemistry Letters, 2012, 3, 592-595.	1.3	20
49	Inhibition of Class D Î²-Lactamases by Diaroyl Phosphatesâ€. Biochemistry, 2005, 44, 16121-16129.	1.2	17
50	Transpeptidation Reactions of a Specific Substrate Catalyzed by the Streptomyces R61 dd-Peptidase:â€‰ The Structural Basis of Acyl Acceptor Specificity. Biochemistry, 2005, 44, 9961-9970.	1.2	17
51	Synthesis and Î²-lactamase reactivity of Î±-substituted phenaceturates. Bioorganic and Medicinal Chemistry, 2006, 14, 7023-7033.	1.4	15
52	Synthesis, Hydrolysis, and Evaluation of 3-Acylamino-3,4-dihydro-2-oxo-2H-1,3-benzoxazinecarboxylic Acids and Linear Azadepsipeptides as Potential Substrates/Inhibitors of Î²-Lactam-Recognizing Enzymes. European Journal of Organic Chemistry, 2001, 2001, 141-149.	1.2	14
53	Reactions of Peptidoglycan-Mimetic Î²-Lactams with Penicillin-Binding Proteins in Vivo and in Membranes. ACS Chemical Biology, 2007, 2, 620-624.	1.6	14
54	Kinetics of Action of a Two-Stage Pro-Inhibitor of Serine Î²-Lactamases. Biochemistry, 2013, 52, 7060-7070.	1.2	14

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55	Nucleophilic re-activation of the PC1 Î²-lactamase of Staphylococcus aureus and of the <scp>dd</scp>-peptidase of Streptomyces R61 after their inactivation by cephalosporins and cephamycins. Biochemical Journal, 1987, 246, 651-658.	1.7	13
56	Salicyloyl Cyclic Phosphate, a â€œPenicillin-Likeâ€•Inhibitor of Î²-Lactamases. Journal of the American Chemical Society, 1998, 120, 3004-3006.	6.6	13
57	Kinetics of Turnover of Cefotaxime by theEnterobacter cloacaeP99 and GCl Î²-Lactamases:Â Two Free Enzyme Forms of the P99 Î²-Lactamase Detected by a Combination of Pre- and Post-Steady State Kineticsâ€. Biochemistry, 2004, 43, 2664-2672.	1.2	13
58	Synthesis and Evaluation of New Substrate Analogues ofStreptomycesR61dd-Peptidase:Â Dissection of a Specific Ligand. Journal of Organic Chemistry, 2004, 69, 7472-7478.	1.7	12
59	Inhibition of Class A and C Î²-Lactamases by Diaroyl Phosphates. Biochemistry, 2009, 48, 8285-8292.	1.2	12
60	Covalent Inhibition of Serine Î²-Lactamases by Novel Hydroxamic Acid Derivatives. Biochemistry, 2013, 52, 3712-3720.	1.2	12
61	Elusive structural changes of New Delhi metallo-Î²-lactamase revealed by ultraviolet photodissociation mass spectrometry. Chemical Science, 2020, 11, 8999-9010.	3.7	12
62	Thed-Methyl Group in Î²-Lactamase Evolution:Â Evidence from the Y221G and GC1 Mutants of the Class C Î²-Lactamase ofEnterobacter cloacaeP99â€. Biochemistry, 2005, 44, 7543-7552.	1.2	11
63	A New Covalent Inhibitor of Class C Î²-Lactamases Reveals Extended Active Site Specificity. Biochemistry, 2015, 54, 7375-7384.	1.2	11
64	Inverse Acyl Phosph(on)ates: Substrates or Inhibitors of Î²-Lactam-Recognizing Enzymes?. Bioorganic Chemistry, 2001, 29, 271-281.	2.0	10
65	Kinetic and structural consequences of the leaving group in substrates of a class C Î²-lactamase. Bioorganic and Medicinal Chemistry, 2004, 12, 1537-1542.	1.4	10
66	Kinetics of Reactions of the Actinomadura R39 <scp>dd</scp>-Peptidase with Specific Substrates. Biochemistry, 2011, 50, 376-387.	1.2	9
67	8-Hydroxypenillic Acid from 6-Aminopenicillanic Acid:â€‰ A New Reaction Catalyzed by a Class C Î²-Lactamase. Journal of the American Chemical Society, 1996, 118, 8207-8212.	6.6	8
68	New Substrates for Î²-Lactam-Recognizing Enzymes:Â Aryl Malonamatesâ€. Biochemistry, 2003, 42, 6719-6725.	1.2	8
69	Substituted aryl malonamates as new serine Î²-lactamase substrates: Structureâ€“activity studies. Bioorganic and Medicinal Chemistry, 2010, 18, 282-291.	1.4	8
70	Crossover inhibition as an indicator of convergent evolution of enzyme mechanisms: A Î²â€lactamase and a Nâ€terminal nucleophile hydrolase. FEBS Letters, 2012, 586, 4186-4189.	1.3	8
71	Inhibition of <scp>dd</scp>-Peptidases by a Specific Trifluoroketone: Crystal Structure of a Complex with the Actinomadura R39 <scp>dd</scp>-Peptidase. Biochemistry, 2013, 52, 2128-2138.	1.2	8
72	Deacylation Transition States of a Bacterial DD-Peptidaseâ€. Biochemistry, 2006, 45, 13074-13082.	1.2	7

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73	Dual Substrate Specificity ofBacillus subtilisPBP4a. Biochemistry, 2013, 52, 2627-2637.	1.2	6
74	A â€œcephalosporin-likeâ€•cyclic depsipeptide: Synthesis and reaction with ÃŸ-lactam-recognizing enzymes. Bioorganic and Medicinal Chemistry Letters, 1999, 9, 341-346.	1.0	5
75	Benzopyranones with retro-amide side chains as (inhibitory) Î²-lactamase substrates. Bioorganic and Medicinal Chemistry Letters, 2004, 14, 5117-5120.	1.0	5
76	Synthesis and reactivity with Î²-lactamases of a monobactam bearing a retro-amide side chain. Bioorganic and Medicinal Chemistry Letters, 2006, 16, 869-871.	1.0	5
77	Neutral Î²-Lactams Inactivate High Molecular Mass Penicillin-Binding Proteins of Class B1, Including PBP2a of MRSA. ACS Medicinal Chemistry Letters, 2014, 5, 154-157.	1.3	5
78	Effect of side-chain amide thionation on turnover of Î²-lactam substrates by Î²-lactamases. Further evidence on the question of side-chain hydrogen-bonding in catalysis. Biochemical Journal, 1992, 286, 857-862.	1.7	4
79	Intramolecular Cooperativity in the Reaction of Diacyl Phosphates with Serine Î²-Lactamases. Biochemistry, 2009, 48, 8293-8298.	1.2	4
80	Penicillin acylase and O-aryloxycarbonyl hydroxamates: Two acyl-enzymes, one leading to hydrolysis, the other to inactivation. Archives of Biochemistry and Biophysics, 2017, 614, 65-71.	1.4	4
81	Synthesis and Kinetic Analysis of Two Conformationally Restricted Peptide Substrates ofEscherichia coliPenicillin-Binding Protein 5. Biochemistry, 2016, 55, 4065-4076.	1.2	2
82	Kinetic Evidence for a Second Ligand Binding Site on Streptococcus pneumoniae Penicillin-Binding Protein 2x. Biochemistry, 2018, 57, 1758-1766.	1.2	2
83	Specificity of extended O-aryloxycarbonyl hydroxamates as inhibitors of a class C Î²-lactamase. Bioorganic and Medicinal Chemistry, 2019, 27, 1430-1436.	1.4	2
84	Detection of an enzyme isomechanism by means of the kinetics of covalent inhibition. Biochimica Et Biophysica Acta - Proteins and Proteomics, 2021, 1869, 140681.	1.1	2
85	Serendipitous Discovery of Î±-Hydroxyalkyl Esters as Î²-Lactamase Substrates. Biochemistry, 2010, 49, 10496-10506.	1.2	1
86	Kinetics and stereochemistry of hydrolysis of an N-(phenylacetyl)-Î±-hydroxyglycine ester catalyzed by serine Î²-lactamases and dd-peptidases. Organic and Biomolecular Chemistry, 2012, 10, 7356.	1.5	0
87	Specificity and mechanism of mandelamide hydrolase catalysis. Archives of Biochemistry and Biophysics, 2017, 618, 23-31.	1.4	0