Rex Pratt

List of Publications by Year in Descending Order

87 papers	2,165 citations	28 h-index	42 g-index
87 ext. papers	2,233 ext. citations	5.1 avg, IF	4.83 L-index

#	Paper	IF	Citations
87	Detection of an enzyme isomechanism by means of the kinetics of covalent inhibition. *Biochimica Et Biophysica Acta - Proteins and Proteomics*, **2021**, 1869, 140681	4	0
86	Elusive structural changes of New Delhi metallo-lactamase revealed by ultraviolet photodissociation mass spectrometry. *Chemical Science*, **2020**, 11, 8999-9010	9.4	4
85	A Lysine-Targeted Affinity Label for Serine-Lactamase Also Covalently Modifies New Delhi Metallo-lactamase-1 (NDM-1). *Biochemistry*, **2019**, 58, 2834-2843	3.2	16
84	Specificity of extended O-aryloxycarbonyl hydroxamates as inhibitors of a class C lactamase. *Bioorganic and Medicinal Chemistry*, **2019**, 27, 1430-1436	3.4	2
83	Kinetic Evidence for a Second Ligand Binding Site on Streptococcus pneumoniae Penicillin-Binding Protein 2x. *Biochemistry*, **2018**, 57, 1758-1766	3.2	2
82	Specificity and mechanism of mandelamide hydrolase catalysis. *Archives of Biochemistry and Biophysics*, **2017**, 618, 23-31	4.1	
81	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	4.1	4
80	Synthesis and Kinetic Analysis of Two Conformationally Restricted Peptide Substrates of Escherichia coli Penicillin-Binding Protein 5. *Biochemistry*, **2016**, 55, 4065-76	3.2	1
79	Lactamases: Why and How. *Journal of Medicinal Chemistry*, **2016**, 59, 8207-20	8.3	27
78	A New Covalent Inhibitor of Class C Lactamases Reveals Extended Active Site Specificity. *Biochemistry*, **2015**, 54, 7375-84	3.2	7
77	Neutral Lactams Inactivate High Molecular Mass Penicillin-Binding Proteins of Class B1, Including PBP2a of MRSA. *ACS Medicinal Chemistry Letters*, **2014**, 5, 154-7	4.3	4
76	Inhibition of DD-peptidases by a specific trifluoroketone: crystal structure of a complex with the Actinomadura R39 DD-peptidase. *Biochemistry*, **2013**, 52, 2128-38	3.2	5
75	Kinetics of action of a two-stage pro-inhibitor of serine lactamases. *Biochemistry*, **2013**, 52, 7060-70	3.2	10
74	Dual substrate specificity of Bacillus subtilis PBP4a. *Biochemistry*, **2013**, 52, 2627-37	3.2	5
73	Covalent inhibition of serine lactamases by novel hydroxamic acid derivatives. *Biochemistry*, **2013**, 52, 3712-20	3.2	8
72	4-quinolones as noncovalent inhibitors of high molecular mass penicillin-binding proteins. *ACS Medicinal Chemistry Letters*, **2012**, 3, 592-5	4.3	15
71	Kinetics and stereochemistry of hydrolysis of an N-(phenylacetyl)-hydroxyglycine ester catalyzed by serine lactamases and DD-peptidases. *Organic and Biomolecular Chemistry*, **2012**, 10, 7356-62	3.9	

70	Crossover inhibition as an indicator of convergent evolution of enzyme mechanisms: a □lactamase and a N-terminal nucleophile hydrolase. *FEBS Letters*, **2012**, 586, 4186-9	3.8	8
69	Inhibition of bacterial DD-peptidases (penicillin-binding proteins) in membranes and in vivo by peptidoglycan-mimetic boronic acids. *Biochemistry*, **2012**, 51, 2804-11	3.2	21
68	Unexpected tricovalent binding mode of boronic acids within the active site of a penicillin-binding protein. *Journal of the American Chemical Society*, **2011**, 133, 10839-48	16.4	34
67	Kinetics of reactions of the Actinomadura R39 DD-peptidase with specific substrates. *Biochemistry*, **2011**, 50, 376-87	3.2	9
66	Substrate specificity of low-molecular mass bacterial DD-peptidases. *Biochemistry*, **2011**, 50, 10091-101	3.2	17
65	Crystal structure of a complex between the Actinomadura R39 DD-peptidase and a peptidoglycan-mimetic boronate inhibitor: interpretation of a transition state analogue in terms of catalytic mechanism. *Biochemistry*, **2010**, 49, 6411-9	3.2	28
64	Serendipitous discovery of □hydroxyalkyl esters as □lactamase substrates. *Biochemistry*, **2010**, 49, 10496-506	3.2	1
63	Structural relationship between the active sites of □lactam-recognizing and amidase signature enzymes: convergent evolution?. *Biochemistry*, **2010**, 49, 9688-97	3.2	32
62	Crystal structures of covalent complexes of □lactam antibiotics with Escherichia coli penicillin-binding protein 5: toward an understanding of antibiotic specificity. *Biochemistry*, **2010**, 49, 8094-104	3.2	39
61	Substituted aryl malonamates as new serine beta-lactamase substrates: structure-activity studies. *Bioorganic and Medicinal Chemistry*, **2010**, 18, 282-91	3.4	7
60	Approaches to the simultaneous inactivation of metallo- and serine-beta-lactamases. *Bioorganic and Medicinal Chemistry Letters*, **2009**, 19, 1618-22	2.9	28
59	Intramolecular cooperativity in the reaction of diacyl phosphates with serine beta-lactamases. *Biochemistry*, **2009**, 48, 8293-8	3.2	4
58	Inhibition of class A and C beta-lactamases by diaroyl phosphates. *Biochemistry*, **2009**, 48, 8285-92	3.2	10
57	Crystal structures of complexes of bacterial DD-peptidases with peptidoglycan-mimetic ligands: the substrate specificity puzzle. *Journal of Molecular Biology*, **2008**, 381, 383-93	6.5	40
56	Kinetics and mechanism of inhibition of a serine beta-lactamase by O-aryloxycarbonyl hydroxamates. *Biochemistry*, **2008**, 47, 12037-46	3.2	20
55	Substrate specificity of bacterial DD-peptidases (penicillin-binding proteins). *Cellular and Molecular Life Sciences*, **2008**, 65, 2138-55	10.3	71
54	Beta-ketophosphonates as beta-lactamase inhibitors: Intramolecular cooperativity between the hydrophobic subsites of a class D beta-lactamase. *Bioorganic and Medicinal Chemistry*, **2008**, 16, 6987-94	3.4	35
53	Reactions of peptidoglycan-mimetic beta-lactams with penicillin-binding proteins in vivo and in membranes. *ACS Chemical Biology*, **2007**, 2, 620-4	4.9	12

52	Crystal structure of the Bacillus subtilis penicillin-binding protein 4a, and its complex with a peptidoglycan mimetic peptide. *Journal of Molecular Biology*, **2007**, 371, 528-39	6.5	48
51	O-aryloxycarbonyl hydroxamates: new beta-lactamase inhibitors that cross-link the active site. *Journal of the American Chemical Society*, **2007**, 129, 9548-9	16.4	27
50	Reactivity of penicillin-binding proteins with peptidoglycan-mimetic beta-lactams: what's wrong with these enzymes?. *Biochemistry*, **2006**, 45, 15873-83	3.2	36
49	Deacylation transition states of a bacterial DD-peptidase. *Biochemistry*, **2006**, 45, 13074-82	3.2	7
48	Synthesis and beta-lactamase reactivity of alpha-substituted phenaceturates. *Bioorganic and Medicinal Chemistry*, **2006**, 14, 7023-33	3.4	15
47	Synthesis and reactivity with beta-lactamases of a monobactam bearing a retro-amide side chain. *Bioorganic and Medicinal Chemistry Letters*, **2006**, 16, 869-71	2.9	5
46	Synthesis and evaluation of ketophosph(on)ates as beta-lactamase inhibitors. *Journal of Organic Chemistry*, **2006**, 71, 4778-85	4.2	19
45	Transpeptidation reactions of a specific substrate catalyzed by the streptomyces R61 DD-peptidase: characterization of a chromogenic substrate and acyl acceptor design. *Biochemistry*, **2005**, 44, 9971-9	3.2	24
44	The D-methyl group in beta-lactamase evolution: evidence from the Y221G and GC1 mutants of the class C beta-lactamase of Enterobacter cloacae P99. *Biochemistry*, **2005**, 44, 7543-52	3.2	11
43	Inhibition of class D beta-lactamases by diaroyl phosphates. *Biochemistry*, **2005**, 44, 16121-9	3.2	16
42	Transpeptidation reactions of a specific substrate catalyzed by the Streptomyces R61 DD-peptidase: the structural basis of acyl acceptor specificity. *Biochemistry*, **2005**, 44, 9961-70	3.2	17
41	Crystal structures of complexes between the R61 DD-peptidase and peptidoglycan-mimetic beta-lactams: a non-covalent complex with a "perfect penicillin". *Journal of Molecular Biology*, **2005**, 345, 521-33	6.5	53
40	Inhibition of class D beta-lactamases by acyl phosphates and phosphonates. *Antimicrobial Agents and Chemotherapy*, **2005**, 49, 4410-2	5.9	18
39	Kinetic and structural consequences of the leaving group in substrates of a class C beta-lactamase. *Bioorganic and Medicinal Chemistry*, **2004**, 12, 1537-42	3.4	10
38	Benzopyranones with retro-amide side chains as (inhibitory) beta-lactamase substrates. *Bioorganic and Medicinal Chemistry Letters*, **2004**, 14, 5117-20	2.9	4
37	Synthesis and evaluation of new substrate analogues of streptomyces R61 DD-peptidase: dissection of a specific ligand. *Journal of Organic Chemistry*, **2004**, 69, 7472-8	4.2	12
36	Kinetics of turnover of cefotaxime by the Enterobacter cloacae P99 and GCl beta-lactamases: two free enzyme forms of the P99 beta-lactamase detected by a combination of pre- and post-steady state kinetics. *Biochemistry*, **2004**, 43, 2664-72	3.2	13
35	The perfect penicillin? Inhibition of a bacterial DD-peptidase by peptidoglycan-mimetic beta-lactams. *Journal of the American Chemical Society*, **2004**, 126, 8122-3	16.4	32

34	The crystal structure of phosphonate-inhibited D-Ala-D-Ala peptidase reveals an analogue of a tetrahedral transition state. *Biochemistry*, **2003**, 42, 1199-208	3.2	55
33	New substrates for beta-lactam-recognizing enzymes: aryl malonamates. *Biochemistry*, **2003**, 42, 6719-25	3.2	7
32	Functional evolution of the serine β-lactamase active site. *Perkin Transactions II RSC*, **2002**, 851-861		41
31	Structures of two kinetic intermediates reveal species specificity of penicillin-binding proteins. *Journal of Molecular Biology*, **2002**, 322, 111-22	6.5	78
30	The synthesis and evaluation of benzofuranones as beta-lactamase substrates. *Bioorganic and Medicinal Chemistry*, **2001**, 9, 1175-83	3.4	28
29	Inverse acyl phosph(on)ates: substrates or inhibitors of beta-lactam-recognizing enzymes?. *Bioorganic Chemistry*, **2001**, 29, 271-81	5.1	8
28	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 β-Lactam-Recognizing Enzymes. *European Journal of Organic Chemistry*, **2001**, 2001, 141-149	3.2	13
27	Mechanism of reaction of acyl phosph(on)ates with the beta-lactamase of Enterobacter cloacae P99. *Biochemistry*, **2001**, 40, 4610-21	3.2	21
26	Dipeptide binding to the extended active site of the Streptomyces R61 D-alanyl-D-alanine-peptidase: the path to a specific substrate. *Biochemistry*, **2000**, 39, 12200-9	3.2	34
25	A "cephalosporin-like" cyclic depsipeptide: synthesis and reaction with beta-lactam-recognizing enzymes. *Bioorganic and Medicinal Chemistry Letters*, **1999**, 9, 341-6	2.9	4
24	On the importance of a methyl group in beta-lactamase evolution: free energy profiles and molecular modeling. *Biochemistry*, **1999**, 38, 10499-510	3.2	32
23	Beta-secondary and solvent deuterium kinetic isotope effects on catalysis by the Streptomyces R61 DD-peptidase: comparisons with a structurally similar class C beta-lactamase. *Biochemistry*, **1999**, 38, 1469-77	3.2	24
22	Synthesis and Reactivity with beta-Lactamases of "Penicillin-like" Cyclic Depsipeptides. *Journal of Organic Chemistry*, **1999**, 64, 713-720	4.2	35
21	Salicyloyl Cyclic Phosphate, a Penicillin-Like Inhibitor of β-Lactamases. *Journal of the American Chemical Society*, **1998**, 120, 3004-3006	16.4	12
20	Inhibition of Serine β-Lactamases by Acyl Phosph(on)ates: A New Source of Inert Acyl [and Phosphyl] Enzymes. *Journal of the American Chemical Society*, **1998**, 120, 4264-4268	16.4	18
19	Reaction of soluble penicillin-binding protein 2a of methicillin-resistant Staphylococcus aureus with beta-lactams and acyclic substrates: kinetics in homogeneous solution. *Biochemical Journal*, **1998**, 332 (Pt 3), 755-61	3.8	48
18	Effectiveness of Tetrahedral Adducts as Transition-State Analogs and Inhibitors of the Class C β-Lactamase of Enterobacter cloacae P99. *Journal of the American Chemical Society*, **1997**, 119, 1529-1538	16.4	56
17	Structure-activity studies of the inhibition of serine beta-lactamases by phosphonate monoesters. *Bioorganic and Medicinal Chemistry*, **1997**, 5, 1783-8	3.4	24

16	Kinetics and mechanism of the hydrolysis of depsipeptides catalyzed by the beta-lactamase of Enterobacter cloacae P99. *Biochemistry*, **1996**, 35, 3595-603	3.2	34
15	8-Hydroxypenillic Acid from 6-Aminopenicillanic Acid: A New Reaction Catalyzed by a Class C β-Lactamase. *Journal of the American Chemical Society*, **1996**, 118, 8207-8212	16.4	8
14	Beta-secondary and solvent deuterium kinetic isotope effects on beta-lactamase catalysis. *Biochemistry*, **1996**, 35, 3604-13	3.2	32
13	Characterization of covalently bound enzyme inhibitors as transition-state analogs by protein stability measurements: phosphonate monoester inhibitors of a beta-lactamase. *Biochemistry*, **1994** , 33, 116-25	3.2	40
12	Crystallographic structure of a phosphonate derivative of the Enterobacter cloacae P99 cephalosporinase: mechanistic interpretation of a beta-lactamase transition-state analog. *Biochemistry*, **1994**, 33, 6762-72	3.2	158
11	Relative specificities of a series of beta-lactam-recognizing enzymes towards the side-chains of penicillins and of acyclic thioldepsipeptides. *Biochemical Journal*, **1994**, 302 (Pt 3), 851-6	3.8	26
10	Effect of side-chain amide thionation on turnover of beta-lactam substrates by beta-lactamases. Further evidence on the question of side-chain hydrogen-bonding in catalysis. *Biochemical Journal*, **1992**, 286 (Pt 3), 857-62	3.8	4
9	Mechanism of inhibition of the class C beta-lactamase of Enterobacter cloacae P99 by phosphonate monoesters. *Biochemistry*, **1992**, 31, 5869-78	3.2	49
8	N-(phenylacetyl)glycyl-D-aziridine-2-carboxylate, an acyclic amide substrate of beta-lactamases: importance of the shape of the substrate in beta-lactamase evolution. *Biochemistry*, **1991**, 30, 3640-9	3.2	38
7	Inhibition of a class C beta-lactamase by a specific phosphonate monoester. *Science*, **1989**, 246, 917-9	33.3	119
6	Effect of the 3'-leaving group on turnover of cephem antibiotics by a class C beta-lactamase. *Biochemical Journal*, **1989**, 259, 255-60	3.8	36
5	Accumulation of acyl-enzyme intermediates during turnover of penicillins by the class A beta-lactamase of Staphylococcus aureus PC1. *Biochemical Journal*, **1988**, 254, 919-22	3.8	23
4	Nucleophilic re-activation of the PC1 beta-lactamase of Staphylococcus aureus and of the DD-peptidase of Streptomyces R61 after their inactivation by cephalosporins and cephamycins. *Biochemical Journal*, **1987**, 246, 651-8	3.8	11
3	Kinetics and mechanism of the serine beta-lactamase catalyzed hydrolysis of depsipeptides. *Biochemistry*, **1987**, 26, 3385-95	3.2	80
2	Interactions of cephalosporins with the Streptomyces R61 DD-transpeptidase/carboxypeptidase. Influence of the 3'-substituent. *Biochemical Journal*, **1986**, 238, 309-12	3.8	18
1	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, 1302-6	11.5	58