

# Rex Pratt

## List of Publications by Year in descending order

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87  
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2,398  
citations

159585

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87  
docs citations

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times ranked

1400  
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#	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. <i>Biochemistry</i> , 1994, 33, 6762-6772.	2.5	171
2	Inhibition of a class C $\beta$ -lactamase by a specific phosphonate monoester. <i>Science</i> , 1989, 246, 917-919.	12.6	132
3	Kinetics and mechanism of the serine $\beta$ -lactamase catalyzed hydrolysis of depsipeptides. <i>Biochemistry</i> , 1987, 26, 3385-3395.	2.5	88
4	Structures of Two Kinetic Intermediates Reveal Species Specificity of Penicillin-binding Proteins. <i>Journal of Molecular Biology</i> , 2002, 322, 111-122.	4.2	83
5	Substrate specificity of bacterial DD-peptidases (penicillin-binding proteins). <i>Cellular and Molecular Life Sciences</i> , 2008, 65, 2138-2155.	5.4	76
6	$\beta$ -Lactamase-catalyzed hydrolysis of acyclic depsipeptides and acyl transfer to specific amino acid acceptors.. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 1984, 81, 1302-1306.	7.1	65
7	Effectiveness of Tetrahedral Adducts as Transition-State Analogs and Inhibitors of the Class C $\beta$ -Lactamase of Enterobacter cloacae P99. <i>Journal of the American Chemical Society</i> , 1997, 119, 1529-1538.	13.7	59
8	The Crystal Structure of Phosphonate-Inhibited d-Ala-d-Ala Peptidase Reveals an Analogue of a Tetrahedral Transition State,. <i>Biochemistry</i> , 2003, 42, 1199-1208.	2.5	57
9	Crystal Structures of Complexes between the R61 DD-peptidase and Peptidoglycan-mimetic $\beta$ -Lactams: A Non-covalent Complex with a "Perfect Penicillin". <i>Journal of Molecular Biology</i> , 2005, 345, 521-533.	4.2	55
10	Mechanism of inhibition of the class C $\beta$ -lactamase of Enterobacter cloacae P99 by phosphonate monoesters. <i>Biochemistry</i> , 1992, 31, 5869-5878.	2.5	54
11	Reaction of soluble penicillin-binding protein 2a of methicillin-resistant Staphylococcus aureus with $\beta$ -lactams and acyclic substrates: kinetics in homogeneous solution. <i>Biochemical Journal</i> , 1998, 332, 755-761.	3.7	51
12	Crystal Structure of the Bacillus subtilis Penicillin-binding Protein 4a, and its Complex with a Peptidoglycan Mimetic Peptide. <i>Journal of Molecular Biology</i> , 2007, 371, 528-539.	4.2	50
13	Functional evolution of the serine $\beta$ -lactamase active site. <i>Perkin Transactions II RSC</i> , 2002, , 851-861.	1.1	46
14	Crystal Structures of Covalent Complexes of $\beta$ -Lactam Antibiotics with <i>Escherichia coli</i> Penicillin-Binding Protein 5: Toward an Understanding of Antibiotic Specificity. <i>Biochemistry</i> , 2010, 49, 8094-8104.	2.5	46
15	Characterization of covalently bound enzyme inhibitors as transition-state analogs by protein stability measurements: Phosphonate monoester inhibitors of $\beta$ -lactamase. <i>Biochemistry</i> , 1994, 33, 116-125.	2.5	45
16	$\beta$ -Ketophosphonates as $\beta$ -lactamase inhibitors: Intramolecular cooperativity between the hydrophobic subsites of a class D $\beta$ -lactamase. <i>Bioorganic and Medicinal Chemistry</i> , 2008, 16, 6987-6994.	3.0	45
17	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. <i>Biochemistry</i> , 1991, 30, 3640-3649.	2.5	43
18	Crystal Structures of Complexes of Bacterial dd-Peptidases with Peptidoglycan-Mimetic Ligands: The Substrate Specificity Puzzle. <i>Journal of Molecular Biology</i> , 2008, 381, 383-393.	4.2	40

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19	Effect of the 3- $\beta$ -leaving group on turnover of cephem antibiotics by a class C $\beta$ -lactamase. <i>Biochemical Journal</i> , 1989, 259, 255-260.	3.7	39
20	Kinetics and Mechanism of the Hydrolysis of Depsipeptides Catalyzed by the $\beta$ -Lactamase of <i>Enterobacter cloacae</i> . <i>Biochemistry</i> , 1996, 35, 3595-3603.	2.5	39
21	Synthesis and Reactivity with $\beta$ -Lactamases of $\beta$ -Penicillin-like Cyclic Depsipeptides. <i>Journal of Organic Chemistry</i> , 1999, 64, 713-720.	3.2	39
22	Reactivity of Penicillin-Binding Proteins with Peptidoglycan-Mimetic $\beta$ -Lactams: What's Wrong with These Enzymes? <i>Biochemistry</i> , 2006, 45, 15873-15883.	2.5	39
23	Unexpected Tricovalent Binding Mode of Boronic Acids within the Active Site of a Penicillin-Binding Protein. <i>Journal of the American Chemical Society</i> , 2011, 133, 10839-10848.	13.7	37
24	Dipeptide Binding to the Extended Active Site of the Streptomyces R61 d-Alanyl-d-alanine-peptidase: The Path to a Specific Substrate. <i>Biochemistry</i> , 2000, 39, 12200-12209.	2.5	36
25	The Perfect Penicillin? Inhibition of a Bacterial DD-Peptidase by Peptidoglycan-Mimetic $\beta$ -Lactams. <i>Journal of the American Chemical Society</i> , 2004, 126, 8122-8123.	13.7	36
26	Structural Relationship between the Active Sites of $\beta$ -Lactam-Recognizing and Amidase Signature Enzymes: Convergent Evolution? <i>Biochemistry</i> , 2010, 49, 9688-9697.	2.5	36
27	On the Importance of a Methyl Group in $\beta$ -Lactamase Evolution: Free Energy Profiles and Molecular Modeling. <i>Biochemistry</i> , 1999, 38, 10499-10510.	2.5	35
28	<i>O</i> -Aryloxycarbonyl Hydroxamates: New $\beta$ -Lactamase Inhibitors That Cross-Link the Active Site. <i>Journal of the American Chemical Society</i> , 2007, 129, 9548-9549.	13.7	35
29	$\beta$ -Secondary and Solvent Deuterium Kinetic Isotope Effects on $\beta$ -Lactamase Catalysis. <i>Biochemistry</i> , 1996, 35, 3604-3613.	2.5	34
30	The synthesis and evaluation of benzofuranones as $\beta$ -Lactamase substrates. <i>Bioorganic and Medicinal Chemistry</i> , 2001, 9, 1175-1183.	3.0	33
31	Relative specificities of a series of $\beta$ -lactam-recognizing enzymes towards the side-chains of penicillins and of acyclic thioldepsipeptides. <i>Biochemical Journal</i> , 1994, 302, 851-856.	3.7	31
32	$\beta$ -Lactamases: Why and How. <i>Journal of Medicinal Chemistry</i> , 2016, 59, 8207-8220.	6.4	31
33	Approaches to the simultaneous inactivation of metallo- and serine- $\beta$ -lactamases. <i>Bioorganic and Medicinal Chemistry Letters</i> , 2009, 19, 1618-1622.	2.2	29
34	Crystal Structure of a Complex between the <i>Actinomadura</i> R39 Peptidase and a Peptidoglycan-mimetic Boronate Inhibitor: Interpretation of a Transition State Analogue in Terms of Catalytic Mechanism. <i>Biochemistry</i> , 2010, 49, 6411-6419.	2.5	29
35	$\beta$ -Secondary and Solvent Deuterium Kinetic Isotope Effects on Catalysis by the Streptomyces R61 DD-Peptidase: Comparisons with a Structurally Similar Class C $\beta$ -Lactamase. <i>Biochemistry</i> , 1999, 38, 1469-1477.	2.5	26
36	Structure-activity studies of the inhibition of serine $\beta$ -lactamases by phosphonate monoesters. <i>Bioorganic and Medicinal Chemistry</i> , 1997, 5, 1783-1788.	3.0	25

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37	Accumulation of acyl-enzyme intermediates during turnover of penicillins by the class A $\beta$ -lactamase of <i>Staphylococcus aureus</i> PC1. <i>Biochemical Journal</i> , 1988, 254, 919-922.	3.7	24
38	Transpeptidation Reactions of a Specific Substrate Catalyzed by the <i>Streptomyces</i> R61 $\beta$ -Peptidase: Characterization of a Chromogenic Substrate and Acyl Acceptor Design. <i>Biochemistry</i> , 2005, 44, 9971-9979.	2.5	24
39	Kinetics and Mechanism of Inhibition of a Serine $\beta$ -Lactamase by O-Aryloxycarbonyl Hydroxamates. <i>Biochemistry</i> , 2008, 47, 12037-12046.	2.5	23
40	Inhibition of Bacterial DD-Peptidases (Penicillin-Binding Proteins) in Membranes and in Vivo by Peptidoglycan-Mimetic Boronic Acids. <i>Biochemistry</i> , 2012, 51, 2804-2811.	2.5	23
41	Mechanism of Reaction of Acyl Phosph(on)ates with the $\beta$ -Lactamase of <i>Enterobacter cloacae</i> . <i>Biochemistry</i> , 2001, 40, 4610-4621.	2.5	22
42	Inhibition of Serine $\beta$ -Lactamases by Acyl Phosph(on)ates: A New Source of Inert Acyl [and Phosphyl] Enzymes. <i>Journal of the American Chemical Society</i> , 1998, 120, 4264-4268.	13.7	21
43	Synthesis and Evaluation of Ketophosph(on)ates as $\beta$ -Lactamase Inhibitors. <i>Journal of Organic Chemistry</i> , 2006, 71, 4778-4785.	3.2	21
44	Substrate Specificity of Low-Molecular Mass Bacterial $\beta$ -Peptidases. <i>Biochemistry</i> , 2011, 50, 10091-10101.	2.5	21
45	A Lysine-Targeted Affinity Label for Serine $\beta$ -Lactamase Also Covalently Modifies New Delhi Metallo- $\beta$ -lactamase-1 (NDM-1). <i>Biochemistry</i> , 2019, 58, 2834-2843.	2.5	21
46	Interactions of cephalosporins with the <i>Streptomyces</i> R61 $\beta$ -transpeptidase/carboxypeptidase. Influence of the 3'-substituent. <i>Biochemical Journal</i> , 1986, 238, 309-312.	3.7	20
47	Inhibition of Class D $\beta$ -Lactamases by Acyl Phosphates and Phosphonates. <i>Antimicrobial Agents and Chemotherapy</i> , 2005, 49, 4410-4412.	3.2	20
48	4-Quinolones as Noncovalent Inhibitors of High Molecular Mass Penicillin-Binding Proteins. <i>ACS Medicinal Chemistry Letters</i> , 2012, 3, 592-595.	2.8	20
49	Inhibition of Class D $\beta$ -Lactamases by Diaroyl Phosphates. <i>Biochemistry</i> , 2005, 44, 16121-16129.	2.5	17
50	Transpeptidation Reactions of a Specific Substrate Catalyzed by the <i>Streptomyces</i> R61 $\beta$ -Peptidase: The Structural Basis of Acyl Acceptor Specificity. <i>Biochemistry</i> , 2005, 44, 9961-9970.	2.5	17
51	Synthesis and $\beta$ -lactamase reactivity of $\beta$ -substituted phenaceturates. <i>Bioorganic and Medicinal Chemistry</i> , 2006, 14, 7023-7033.	3.0	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 $\beta$ -Lactam-Recognizing Enzymes. <i>European Journal of Organic Chemistry</i> , 2001, 2001, 141-149.	2.4	14
53	Reactions of Peptidoglycan-Mimetic $\beta$ -Lactams with Penicillin-Binding Proteins in Vivo and in Membranes. <i>ACS Chemical Biology</i> , 2007, 2, 620-624.	3.4	14
54	Kinetics of Action of a Two-Stage Pro-Inhibitor of Serine $\beta$ -Lactamases. <i>Biochemistry</i> , 2013, 52, 7060-7070.	2.5	14

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55	Nucleophilic re-activation of the PC1 $\beta$ -lactamase of <i>Staphylococcus aureus</i> and of the $\beta$ -peptidase of <i>Streptomyces</i> R61 after their inactivation by cephalosporins and cephamycins. <i>Biochemical Journal</i> , 1987, 246, 651-658.	3.7	13
56	Salicyloyl Cyclic Phosphate, a Penicillin-Like Inhibitor of $\beta$ -Lactamases. <i>Journal of the American Chemical Society</i> , 1998, 120, 3004-3006.	13.7	13
57	Kinetics of Turnover of Cefotaxime by the <i>Enterobacter cloacae</i> P99 and GCI $\beta$ -Lactamases: A Two Free Enzyme Forms of the P99 $\beta$ -Lactamase Detected by a Combination of Pre- and Post-Steady State Kinetics. <i>Biochemistry</i> , 2004, 43, 2664-2672.	2.5	13
58	Synthesis and Evaluation of New Substrate Analogues of <i>Streptomyces</i> R61 $\beta$ -Peptidase: A Dissection of a Specific Ligand. <i>Journal of Organic Chemistry</i> , 2004, 69, 7472-7478.	3.2	12
59	Inhibition of Class A and C $\beta$ -Lactamases by Diaroyl Phosphates. <i>Biochemistry</i> , 2009, 48, 8285-8292.	2.5	12
60	Covalent Inhibition of Serine $\beta$ -Lactamases by Novel Hydroxamic Acid Derivatives. <i>Biochemistry</i> , 2013, 52, 3712-3720.	2.5	12
61	Elusive structural changes of New Delhi metallo- $\beta$ -lactamase revealed by ultraviolet photodissociation mass spectrometry. <i>Chemical Science</i> , 2020, 11, 8999-9010.	7.4	12
62	The $\beta$ -Methyl Group in $\beta$ -Lactamase Evolution: Evidence from the Y221G and GC1 Mutants of the Class C $\beta$ -Lactamase of <i>Enterobacter cloacae</i> P99. <i>Biochemistry</i> , 2005, 44, 7543-7552.	2.5	11
63	A New Covalent Inhibitor of Class C $\beta$ -Lactamases Reveals Extended Active Site Specificity. <i>Biochemistry</i> , 2015, 54, 7375-7384.	2.5	11
64	Inverse Acyl Phosph(on)ates: Substrates or Inhibitors of $\beta$ -Lactam-Recognizing Enzymes?. <i>Bioorganic Chemistry</i> , 2001, 29, 271-281.	4.1	10
65	Kinetic and structural consequences of the leaving group in substrates of a class C $\beta$ -lactamase. <i>Bioorganic and Medicinal Chemistry</i> , 2004, 12, 1537-1542.	3.0	10
66	Kinetics of Reactions of the <i>Actinomadura</i> R39 $\beta$ -Peptidase with Specific Substrates. <i>Biochemistry</i> , 2011, 50, 376-387.	2.5	9
67	8-Hydroxyphenillic Acid from 6-Aminopenicillanic Acid: A New Reaction Catalyzed by a Class C $\beta$ -Lactamase. <i>Journal of the American Chemical Society</i> , 1996, 118, 8207-8212.	13.7	8
68	New Substrates for $\beta$ -Lactam-Recognizing Enzymes: Aryl Malonamates. <i>Biochemistry</i> , 2003, 42, 6719-6725.	2.5	8
69	Substituted aryl malonamates as new serine $\beta$ -lactamase substrates: Structure-activity studies. <i>Bioorganic and Medicinal Chemistry</i> , 2010, 18, 282-291.	3.0	8
70	Crossover inhibition as an indicator of convergent evolution of enzyme mechanisms: A $\beta$ -lactamase and a N-terminal nucleophile hydrolase. <i>FEBS Letters</i> , 2012, 586, 4186-4189.	2.8	8
71	Inhibition of $\beta$ -Peptidases by a Specific Trifluoroketone: Crystal Structure of a Complex with the <i>Actinomadura</i> R39 $\beta$ -Peptidase. <i>Biochemistry</i> , 2013, 52, 2128-2138.	2.5	8
72	Deacylation Transition States of a Bacterial DD-Peptidase. <i>Biochemistry</i> , 2006, 45, 13074-13082.	2.5	7

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73	Dual Substrate Specificity of <i>Bacillus subtilis</i> PBP4a. <i>Biochemistry</i> , 2013, 52, 2627-2637.	2.5	6
74	A $\beta$ -cephalosporin-like cyclic depsipeptide: Synthesis and reaction with $\beta$ -lactam-recognizing enzymes. <i>Bioorganic and Medicinal Chemistry Letters</i> , 1999, 9, 341-346.	2.2	5
75	Benzopyranones with retro-amide side chains as (inhibitory) $\beta$ -lactamase substrates. <i>Bioorganic and Medicinal Chemistry Letters</i> , 2004, 14, 5117-5120.	2.2	5
76	Synthesis and reactivity with $\beta$ -lactamases of a monobactam bearing a retro-amide side chain. <i>Bioorganic and Medicinal Chemistry Letters</i> , 2006, 16, 869-871.	2.2	5
77	Neutral $\beta$ -Lactams Inactivate High Molecular Mass Penicillin-Binding Proteins of Class B1, Including PBP2a of MRSA. <i>ACS Medicinal Chemistry Letters</i> , 2014, 5, 154-157.	2.8	5
78	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. <i>Biochemical Journal</i> , 1992, 286, 857-862.	3.7	4
79	Intramolecular Cooperativity in the Reaction of Diacyl Phosphates with Serine $\beta$ -Lactamases. <i>Biochemistry</i> , 2009, 48, 8293-8298.	2.5	4
80	Penicillin acylase and O-aryloxycarbonyl hydroxamates: Two acyl-enzymes, one leading to hydrolysis, the other to inactivation. <i>Archives of Biochemistry and Biophysics</i> , 2017, 614, 65-71.	3.0	4
81	Synthesis and Kinetic Analysis of Two Conformationally Restricted Peptide Substrates of <i>Escherichia coli</i> Penicillin-Binding Protein 5. <i>Biochemistry</i> , 2016, 55, 4065-4076.	2.5	2
82	Kinetic Evidence for a Second Ligand Binding Site on <i>Streptococcus pneumoniae</i> Penicillin-Binding Protein 2x. <i>Biochemistry</i> , 2018, 57, 1758-1766.	2.5	2
83	Specificity of extended O-aryloxycarbonyl hydroxamates as inhibitors of a class C $\beta$ -lactamase. <i>Bioorganic and Medicinal Chemistry</i> , 2019, 27, 1430-1436.	3.0	2
84	Detection of an enzyme isomechanism by means of the kinetics of covalent inhibition. <i>Biochimica Et Biophysica Acta - Proteins and Proteomics</i> , 2021, 1869, 140681.	2.3	2
85	Serendipitous Discovery of $\beta$ -Hydroxyalkyl Esters as $\beta$ -Lactamase Substrates. <i>Biochemistry</i> , 2010, 49, 10496-10506.	2.5	1
86	Kinetics and stereochemistry of hydrolysis of an N-(phenylacetyl)- $\beta$ -hydroxyglycine ester catalyzed by serine $\beta$ -lactamases and dd-peptidases. <i>Organic and Biomolecular Chemistry</i> , 2012, 10, 7356.	2.8	0
87	Specificity and mechanism of mandelamide hydrolase catalysis. <i>Archives of Biochemistry and Biophysics</i> , 2017, 618, 23-31.	3.0	0