Adam Zlotnick

List of Publications by Year
in descending order

135 papers	9,310 citations	28242 55 h-index	43868 91 g-index
143 all docs	143 docs citations	143 times ranked	5024 citing authors

#	Article	IF	Citations
1	Visualization of a 4-helix bundle in the hepatitis B virus capsid by cryo-electron microscopy. Nature, 1997, 386, 91-94.	13.7	453
2	Weak Proteinâ^'Protein Interactions Are Sufficient To Drive Assembly of Hepatitis B Virus Capsidsâ€. Biochemistry, 2002, 41, 11525-11531.	1.2	340
3	To Build a Virus Capsid. Journal of Molecular Biology, 1994, 241, 59-67.	2.0	297
4	A Theoretical Model Successfully Identifies Features of Hepatitis B Virus Capsid Assembly. Biochemistry, 1999, 38, 14644-14652.	1.2	291
5	Mechanism of Capsid Assembly for an Icosahedral Plant Virus. Virology, 2000, 277, 450-456.	1.1	265
6	A heteroaryldihydropyrimidine activates and can misdirect hepatitis B virus capsid assembly. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 8138-8143.	3.3	235
7	Model-Based Analysis of Assembly Kinetics for Virus Capsids or Other Spherical Polymers. Biophysical Journal, 2002, 83, 1217-1230.	0.2	223
8	Core protein: A pleiotropic keystone in the HBV lifecycle. Antiviral Research, 2015, 121, 82-93.	1.9	211
9	BAY 41-4109 has multiple effects on Hepatitis B virus capsid assembly. Journal of Molecular Recognition, 2006, 19, 542-548.	1.1	167
10	Localization of the C terminus of the assembly domain of hepatitis B virus capsid protein: Implications for morphogenesis and organization of encapsidated RNA. Proceedings of the National Academy of Sciences of the United States of America, 1997, 94, 9556-9561.	3.3	164
11	Global Structural Changes in Hepatitis B Virus Capsids Induced by the Assembly Effector HAP1. Journal of Virology, 2006, 80, 11055-11061.	1.5	162
12	Are weak proteinâ€"protein interactions the general rule in capsid assembly?. Virology, 2003, 315, 269-274.	1.1	160
13	Theoretical aspects of virus capsid assembly. Journal of Molecular Recognition, 2005, 18, 479-490.	1.1	155
14	A simple and general method for determining the protein and nucleic acid content of viruses by UV absorbance. Virology, 2010, 407, 281-288.	1.1	141
15	Chapter 14 The Thermodynamics of Virus Capsid Assembly. Methods in Enzymology, 2009, 455, 395-417.	0.4	140
16	Full-Length Hepatitis B Virus Core Protein Packages Viral and Heterologous RNA with Similarly High Levels of Cooperativity. Journal of Virology, 2010, 84, 7174-7184.	1.5	139
17	Trapping of Hepatitis B Virus Capsid Assembly Intermediates by Phenylpropenamide Assembly Accelerators. ACS Chemical Biology, 2010, 5, 1125-1136.	1.6	138
18	Observed Hysteresis of Virus Capsid Disassembly Is Implicit in Kinetic Models of Assembly. Journal of Biological Chemistry, 2003, 278, 18249-18255.	1.6	135

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19	In vivo function and membrane binding properties are correlated for Escherichia coli lamB signal peptides. Science, 1985, 228, 1096-1099.	6.0	133
20	Virus assembly, allostery and antivirals. Trends in Microbiology, 2011, 19, 14-23.	3.5	122
21	Characterization of Hepatitis B Virus Capsids by Resistive-Pulse Sensing. Journal of the American Chemical Society, 2011, 133, 1618-1621.	6.6	121
22	A Small Molecule Inhibits and Misdirects Assembly of Hepatitis B Virus Capsids. Journal of Virology, 2002, 76, 4848-4854.	1.5	120
23	Assembly-Directed Antivirals Differentially Bind Quasiequivalent Pockets to Modify Hepatitis B Virus Capsid Tertiary and Quaternary Structure. Structure, 2013, 21, 1406-1416.	1.6	120
24	Detection of Late Intermediates in Virus Capsid Assembly by Charge Detection Mass Spectrometry. Journal of the American Chemical Society, 2014, 136, 3536-3541.	6.6	118
25	Small-Molecule Effectors of Hepatitis B Virus Capsid Assembly Give Insight into Virus Life Cycle. Journal of Virology, 2008, 82, 10262-10270.	1.5	117
26	The Structural Biology of Hepatitis B Virus: Form and Function. Annual Review of Virology, 2016, 3, 429-451.	3.0	117
27	Conformational Changes in the Hepatitis B Virus Core Protein Are Consistent with a Role for Allostery in Virus Assembly. Journal of Virology, 2010, 84, 1607-1615.	1.5	113
28	Regulating Self-Assembly of Spherical Oligomers. Nano Letters, 2005, 5, 765-770.	4.5	109
29	RecA protein self-assembly multiple discrete aggregation states. Journal of Molecular Biology, 1988, 204, 959-972.	2.0	103
30	Redirecting the Coat Protein of a Spherical Virus to Assemble into Tubular Nanostructures. Journal of the American Chemical Society, 2006, 128, 2538-2539.	6.6	101
31	Designing Two Self-Assembly Mechanisms into One Viral Capsid Protein. Journal of the American Chemical Society, 2012, 134, 18506-18509.	6.6	101
32	Nanofluidic Devices with Two Pores in Series for Resistive-Pulse Sensing of Single Virus Capsids. Analytical Chemistry, 2011, 83, 9573-9578.	3.2	100
33	The role of subunit hinges and molecular â€œswitchesâ€•in the control of viral capsid polymorphism. Journal of Structural Biology, 2006, 154, 59-67.	1.3	99
34	All-atom molecular dynamics of the HBV capsid reveals insights into biological function and cryo-EM resolution limits. ELife, 2018, 7, .	2.8	92
35	Determination of the topography of cytochrome b5 in lipid vesicles by fluorescence quenching. Biochemistry, 1985, 24, 2895-2901.	1.2	90
36	Antibody Epitopes on the Neuraminidase of a Recent H3N2 Influenza Virus (A/Memphis/31/98). Journal of Virology, 2002, 76, 12274-12280.	1.5	90

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37	The Interface between Hepatitis B Virus Capsid Proteins Affects Self-Assembly, Pregenomic RNA Packaging, and Reverse Transcription. Journal of Virology, 2015, 89, 3275-3284.	1.5	90
38	Hepatitis B virus capsid: localization of the putative immunodominant loop (residues 78 to 83) on the capsid surface, and implications for the distinction between c and e-antigens. Journal of Molecular Biology, 1998, 279, 1111-1121.	2.0	87
39	RNA Encapsidation by SV40-Derived Nanoparticles Follows a Rapid Two-State Mechanism. Journal of the American Chemical Society, 2012, 134, 8823-8830.	6.6	86
40	How does your virus grow? Understanding and interfering with virus assembly. Trends in Biotechnology, 2003, 21, 536-542.	4.9	78
41	Hepatitis B virus core protein allosteric modulators can distort and disrupt intact capsids. ELife, 2018, 7, .	2.8	76
42	Interaction with Capsid Protein Alters RNA Structure and the Pathway for In Vitro Assembly of Cowpea Chlorotic Mottle Virus. Journal of Molecular Biology, 2004, 335, 455-464.	2.0	75
43	A reaction landscape identifies the intermediates critical for self-assembly of virus capsids and other polyhedral structures. Protein Science, 2009, 14, 1518-1525.	3.1	73
44	Hepatitis B Virus Capsid Completion Occurs through Error Correction. Journal of the American Chemical Society, 2017, 139, 16932-16938.	6.6	71
45	HBV RNA pre-genome encodes specific motifs that mediate interactions with the viral core protein that promote nucleocapsid assembly. Nature Microbiology, 2017, 2, 17098.	5.9	69
46	Hepatitis B Virus Capsid Assembly Is Enhanced by Naturally Occurring Mutation F97L. Journal of Virology, 2004, 78, 9538-9543.	1.5	68
47	A Mutant Hepatitis B Virus Core Protein Mimics Inhibitors of Icosahedral Capsid Self-Assembly. Biochemistry, 2009, 48, 1736-1742.	1.2	68
48	Differential assembly of Hepatitis B Virus core protein on single- and double-stranded nucleic acid suggest the dsDNA-filled core is spring-loaded. Virology, 2012, 430, 20-29.	1.1	68
49	Zinc Ions Trigger Conformational Change and Oligomerization of Hepatitis B Virus Capsid Proteinâ€. Biochemistry, 2004, 43, 9989-9998.	1.2	67
50	Hepatitis B Virus Capsids Have Diverse Structural Responses to Small-Molecule Ligands Bound to the Heteroaryldihydropyrimidine Pocket. Journal of Virology, 2016, 90, 3994-4004.	1.5	65
51	Distinguishing Reversible from Irreversible Virus Capsid Assembly. Journal of Molecular Biology, 2007, 366, 14-18.	2.0	64
52	A Kinase Chaperones Hepatitis B Virus Capsid Assembly and Captures Capsid Dynamics in vitro. PLoS Pathogens, 2011, 7, e1002388.	2.1	64
53	Hepatitis B Virus Core Protein Phosphorylation Sites Affect Capsid Stability and Transient Exposure of the C-terminal Domain. Journal of Biological Chemistry, 2015, 290, 28584-28593.	1.6	63
54	An in vitro fluorescence screen to identify antivirals that disrupt hepatitis B virus capsid assembly. Nature Biotechnology, 2006, 24, 358-362.	9.4	62

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55	Structural Organization of Pregenomic RNA and the Carboxy-Terminal Domain of the Capsid Protein of Hepatitis B Virus. PLoS Pathogens, 2012, 8, e1002919.	2.1	58
56	Single-Particle Electrophoresis in Nanochannels. Analytical Chemistry, 2015, 87, 699-705.	3.2	56
57	The Hepatitis B Virus Core Protein Intradimer Interface Modulates Capsid Assembly and Stability. Biochemistry, 2014, 53, 5496-5504.	1.2	55
58	Pathogens Use Structural Mimicry of Native Host Ligands as a Mechanism for Host Receptor Engagement. Cell Host and Microbe, 2013, 14, 63-73.	5.1	54
59	In vitro screening for molecules that affect virus capsid assembly (and other protein association) Tj ETQq1 1 0.784314 rgBT /Overlock 1	5.5	53
60	Conformational Equilibria and Rates of Localized Motion within Hepatitis B Virus Capsids. Journal of Molecular Biology, 2008, 375, 581-594.	2.0	53
61	To Build a Virus on a Nucleic Acid Substrate. Biophysical Journal, 2013, 104, 1595-1604.	0.2	53
62	Monitoring Assembly of Virus Capsids with Nanofluidic Devices. ACS Nano, 2015, 9, 9087-9096.	7.3	51
63	The extracellular domain of immunodeficiency virus gp41 protein: Expression in<i>Escherichia coli</i>, purification, and crystallization. Protein Science, 1997, 6, 1653-1660.	3.1	49
64	Multiple Pathways in Capsid Assembly. Journal of the American Chemical Society, 2018, 140, 5784-5790.	6.6	49
65	RecA Protein self-assembly. Journal of Molecular Biology, 1990, 216, 949-964.	2.0	48
66	The making and breaking of symmetry in virus capsid assembly: glimpses of capsid biology from cryoelectron microscopy. FASEB Journal, 1997, 11, 733-742.	0.2	48
67	Quantitative Analysis of Multi-component Spherical Virus Assembly: Scaffolding Protein Contributes to the Global Stability of Phage P22 Procapsids. Journal of Molecular Biology, 2006, 359, 1097-1106.	2.0	48
68	Encapsidated hepatitis B virus reverse transcriptase is poised on an ordered RNA lattice. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 11329-11334.	3.3	47
69	Higher Resolution Charge Detection Mass Spectrometry. Analytical Chemistry, 2020, 92, 11357-11364.	3.2	47
70	A Quantitative Description of In Vitro Assembly of Human Papillomavirus 16 Virus-Like Particles. Journal of Molecular Biology, 2008, 381, 229-237.	2.0	45
71	Exploring the Paths of (Virus) Assembly. Biophysical Journal, 2010, 99, 1350-1357.	0.2	45
72	Genetically Altering the Thermodynamics and Kinetics of Hepatitis B Virus Capsid Assembly Has Profound Effects on Virus Replication in Cell Culture. Journal of Virology, 2013, 87, 3208-3216.	1.5	44

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73	Assembly and Release of Hepatitis B Virus. Cold Spring Harbor Perspectives in Medicine, 2015, 5, a021394.	2.9	44
74	Charge Detection Mass Spectrometry Identifies Preferred Non-Icosahedral Polymorphs in the Self-Assembly of Woodchuck Hepatitis Virus Capsids. Journal of Molecular Biology, 2016, 428, 292-300.	2.0	43
75	Scaffold Properties Are a Key Determinant of the Size and Shape of Self-Assembled Virus-Derived Particles. ACS Chemical Biology, 2013, 8, 2753-2761.	1.6	42
76	The unique potency of Cowpea mosaic virus (CPMV) <i>in situ</i> cancer vaccine. Biomaterials Science, 2020, 8, 5489-5503.	2.6	42
77	<i>In Vitro</i> Assembly of an Empty Picornavirus Capsid follows a Dodecahedral Path. Journal of Virology, 2012, 86, 13062-13069.	1.5	39
78	Importin Î² Can Bind Hepatitis B Virus Core Protein and Empty Core-Like Particles and Induce Structural Changes. PLoS Pathogens, 2016, 12, e1005802.	2.1	39
79	Viruses and the physics of soft condensed matter. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 15549-15550.	3.3	37
80	Assembly Reactions of Hepatitis B Capsid Protein into Capsid Nanoparticles Follow a Narrow Path through a Complex Reaction Landscape. ACS Nano, 2019, 13, 7610-7626.	7.3	37
81	Rapidly Forming Early Intermediate Structures Dictate the Pathway of Capsid Assembly. Journal of the American Chemical Society, 2020, 142, 7868-7882.	6.6	37
82	Self-Assembly of an Alphavirus Core-like Particle Is Distinguished by Strong Intersubunit Association Energy and Structural Defects. ACS Nano, 2015, 9, 8898-8906.	7.3	36
83	Characterization of Virus Capsids and Their Assembly Intermediates by Multicycle Resistive-Pulse Sensing with Four Pores in Series. Analytical Chemistry, 2018, 90, 7267-7274.	3.2	35
84	Localization of the N terminus of hepatitis B virus capsid protein by peptide-based difference mapping from cryoelectron microscopy. Proceedings of the National Academy of Sciences of the United States of America, 1998, 95, 14622-14627.	3.3	31
85	Separation and crystallization ofT= 3 andT= 4 icosahedral complexes of the hepatitis B virus core protein. Acta Crystallographica Section D: Biological Crystallography, 1999, 55, 717-720.	2.5	31
86	Assembly Properties of Hepatitis B Virus Core Protein Mutants Correlate with Their Resistance to Assembly-Directed Antivirals. Journal of Virology, 2018, 92, .	1.5	31
87	An alpha-helical peptide model for electrostatic interactions of proteins with DNA. Journal of Molecular Biology, 1989, 209, 447-457.	2.0	30
88	Phase Diagrams Map the Properties of Antiviral Agents Directed against Hepatitis B Virus Core Assembly. Antimicrobial Agents and Chemotherapy, 2013, 57, 1505-1508.	1.4	30
89	Analytical Techniques to Characterize the Structure, Properties, and Assembly of Virus Capsids. Analytical Chemistry, 2019, 91, 622-636.	3.2	30
90	Macromolecular Crystallography for Synthetic Abiological Molecules: Combining xMDFF and PHENIX for Structure Determination of Cyanostar Macrocycles. Journal of the American Chemical Society, 2015, 137, 8810-8818.	6.6	29

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91	Nanofluidic Devices with 8 Pores in Series for Real-Time, Resistive-Pulse Analysis of Hepatitis B Virus Capsid Assembly. Analytical Chemistry, 2017, 89, 4855-4862.	3.2	28
92	Viral structural proteins as targets for antivirals. Current Opinion in Virology, 2020, 45, 43-50.	2.6	28
93	Uncatalyzed assembly of spherical particles from SV40 VP1 pentamers and linear dsDNA incorporates both low and high cooperativity elements. Virology, 2010, 397, 199-204.	1.1	27
94	Hepatitis Virus Capsid Polymorph Stability Depends on Encapsulated Cargo Size. ACS Nano, 2013, 7, 8447-8454.	7.3	27
95	Structurally Similar Woodchuck and Human Hepadnavirus Core Proteins Have Distinctly Different Temperature Dependences of Assembly. Journal of Virology, 2014, 88, 14105-14115.	1.5	27
96	Asymmetric Modification of Hepatitis B Virus (HBV) Genomes by an Endogenous Cytidine Deaminase inside HBV Cores Informs a Model of Reverse Transcription. Journal of Virology, 2018, 92, .	1.5	26
97	Geometric Defects and Icosahedral Viruses. Viruses, 2018, 10, 25.	1.5	26
98	Viral Double-Strand RNA-Binding Proteins Can Enhance Innate Immune Signaling by Toll-Like Receptor 3. PLoS ONE, 2011, 6, e25837.	1.1	25
99	Phosphorylation of the Brome Mosaic Virus Capsid Regulates the Timing of Viral Infection. Journal of Virology, 2016, 90, 7748-7760.	1.5	25
100	An Assembly-Activating Site in the Hepatitis B Virus Capsid Protein Can Also Trigger Disassembly. ACS Chemical Biology, 2018, 13, 2114-2120.	1.6	25
101	Shared motifs of the capsid proteins of hepadnaviruses and retroviruses suggest a common evolutionary origin. FEBS Letters, 1998, 431, 301-304.	1.3	23
102	Local Stabilization of Subunitâ€"Subunit Contacts Causes Global Destabilization of Hepatitis B Virus Capsids. ACS Chemical Biology, 2020, 15, 1708-1717.	1.6	23
103	A molecular breadboard: Removal and replacement of subunits in a hepatitis B virus capsid. Protein Science, 2017, 26, 2170-2180.	3.1	22
104	Revealing in real-time a multistep assembly mechanism for SV40 virus-like particles. Science Advances, 2020, 6, eaaz1639.	4.7	22
105	Effect of dsDNA on the Assembly Pathway andÂMechanical Strength of SV40 VP1 Virus-like Particles. Biophysical Journal, 2018, 115, 1656-1665.	0.2	21
106	Dynamics of Hepatitis B Virus Capsid Protein Dimer Regulate Assembly through an Allosteric Network. ACS Chemical Biology, 2020, 15, 2273-2280.	1.6	21
107	Synergistic Interactions between Hepatitis B Virus RNase H Antagonists and Other Inhibitors. Antimicrobial Agents and Chemotherapy, 2017, 61, .	1.4	20
108	The Integrity of the Intradimer Interface of the Hepatitis B Virus Capsid Protein Dimer Regulates Capsid Self-Assembly. ACS Chemical Biology, 2020, 15, 3124-3132.	1.6	20

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109	Altering the Energy Landscape of Virus Self-Assembly to Generate Kinetically Trapped Nanoparticles. Biomacromolecules, 2010, 11, 439-442.	2.6	19
110	Length of encapsidated cargo impacts stability and structure of<i>in vitro</i>assembled alphavirus core-like particles. Journal of Physics Condensed Matter, 2017, 29, 484003.	0.7	19
111	The energetic contributions of scaffolding and coat proteins to the assembly of bacteriophage procapsids. Virology, 2012, 428, 64-69.	1.1	17
112	Structural Differences between the Woodchuck Hepatitis Virus Core Protein in the Dimer and Capsid States Are Consistent with Entropic and Conformational Regulation of Assembly. Journal of Virology, 2019, 93, .	1.5	17
113	Competition between Normative and Drug-Induced Virus Self-Assembly Observed with Single-Particle Methods. Journal of the American Chemical Society, 2019, 141, 1251-1260.	6.6	17
114	Single Particle Observation of SV40 VP1 Polyanion-Induced Assembly Shows That Substrate Size and Structure Modulate Capsid Geometry. ACS Chemical Biology, 2017, 12, 1327-1334.	1.6	16
115	Virus self-assembly proceeds through contact-rich energy minima. Science Advances, 2021, 7, eabg0811.	4.7	16
116	One Protein, At Least Three Structures, and Many Functions. Structure, 2013, 21, 6-8.	1.6	15
117	Resolution of Space-Group Ambiguity and Structure Determination of Nodamura Virus to 3.3 Ã… resolution from Pseudo-R32 (Monoclinic) Crystals. Acta Crystallographica Section D: Biological Crystallography, 1997, 53, 738-746.	2.5	13
118	Evolution of Intermediates during Capsid Assembly of Hepatitis B Virus with Phenylpropenamide-Based Antivirals. ACS Infectious Diseases, 2019, 5, 769-777.	1.8	13
119	Asymmetrizing an icosahedral virus capsid by hierarchical assembly of subunits with designed asymmetry. Nature Communications, 2021, 12, 589.	5.8	12
120	HBV Core Protein Is in Flux between Cytoplasmic, Nuclear, and Nucleolar Compartments. MBio, 2021, 12, .	1.8	12
121	Core Protein-Directed Antivirals and Importin Î² Can Synergistically Disrupt Hepatitis B Virus Capsids. Journal of Virology, 2022, 96, JVI0139521.	1.5	12
122	Use of a Fluorescent Analogue of a HBV Core Protein-Directed Drug To Interrogate an Antiviral Mechanism. Journal of the American Chemical Society, 2018, 140, 15261-15269.	6.6	10
123	Molecular jenga: the percolation phase transition (collapse) in virus capsids. Physical Biology, 2018, 15, 056005.	0.8	9
124	Disassembly of Single Virus Capsids Monitored in Real Time with Multicycle Resistive-Pulse Sensing. Analytical Chemistry, 2022, 94, 985-992.	3.2	9
125	An Overview of Capsid Assembly Kinetics. , 2010, , 131-158.		6
126	In-Plane, In-Series Nanopores with Circular Cross Sections for Resistive-Pulse Sensing. ACS Nano, 2022, 16, 7352-7360.	7.3	5

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127	Hysteresis in Hepatitis B Virus (HBV) Requires Assembly of Near-Perfect Capsids. Biochemistry, 2022, 61, 505-513.	1.2	4
128	Transmission electron microscopy enables the reconstruction of the catenane and ring forms of CS2 hydrolase. Chemical Communications, 2014, 50, 10281-10283.	2.2	3
129	Virus Assembly Antagonists from Redesigned Antibodies. Structure, 2018, 26, 1297-1299.	1.6	2
130	HBV Core-Directed Antivirals and Importin Î² Can Synergistically Disrupt Capsids. Microscopy and Microanalysis, 2021, 27, 1130-1131.	0.2	2
131	Simple Models and Simple Analyses of Virus Capsid Assembly. Journal of Theoretical Medicine, 2005, 6, 111-114.	0.5	0
132	High Resolution Time-Resolved SAXS shows that RNA-Induced SV40 Capsid Protein Self-Assembly is very Fast and without Detectable Concentrations of Intermediates. Biophysical Journal, 2012, 102, 643a.	0.2	0
133	Self-Assembling Virus-Like and Virus-Unlike Particles. , 2015, , 13-26.		0
134	Editorial overview: Virus structure and assembly: Virions â€" from structure and physics to design principles. Current Opinion in Virology, 2016, 18, vii-viii.	2.6	0
135	FIB-Milled Nanopore Sensors for Tracking Virus Assembly. Microscopy and Microanalysis, 2016, 22, 150-151.	0.2	0