Alexander Buell

List of Publications by Citations

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89 papers	4,273 citations	35 h-index	64 g-index
111 ext. papers	5,175 ext. citations	7.7 avg, IF	5.65 L-index

#	Paper	IF	Citations
89	Solution conditions determine the relative importance of nucleation and growth processes in α-synuclein aggregation. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, 7671-6	11.5	395
88	Lipid vesicles trigger α-synuclein aggregation by stimulating primary nucleation. *Nature Chemical Biology*, **2015**, 11, 229-34	11.7	355
87	Nanostructured films from hierarchical self-assembly of amyloidogenic proteins. *Nature Nanotechnology*, **2010**, 5, 204-7	28.7	301
86	Chemical properties of lipids strongly affect the kinetics of the membrane-induced aggregation of α-synuclein. *Proceedings of the National Academy of Sciences of the United States of America*, **2016**, 113, 7065-70	11.5	164
85	The role of stable α-synuclein oligomers in the molecular events underlying amyloid formation. *Journal of the American Chemical Society*, **2014**, 136, 3859-68	16.4	163
84	Mutations associated with familial Parkinson's disease alter the initiation and amplification steps of α-synuclein aggregation. *Proceedings of the National Academy of Sciences of the United States of America*, **2016**, 113, 10328-33	11.5	159
83	Ostwald's rule of stages governs structural transitions and morphology of dipeptide supramolecular polymers. *Nature Communications*, **2014**, 5, 5219	17.4	150
82	Direct observation of heterogeneous amyloid fibril growth kinetics via two-color super-resolution microscopy. *Nano Letters*, **2014**, 14, 339-45	11.5	127
81	Expanding the solvent chemical space for self-assembly of dipeptide nanostructures. *ACS Nano*, **2014**, 8, 1243-53	16.7	123
80	Binding of the molecular chaperone αB-crystallin to Aβ amyloid fibrils inhibits fibril elongation. *Biophysical Journal*, **2011**, 101, 1681-9	2.9	122
79	A label-free, quantitative assay of amyloid fibril growth based on intrinsic fluorescence. *ChemBioChem*, **2013**, 14, 846-50	3.8	116
78	Protein aggregation in crowded environments. *Journal of the American Chemical Society*, **2010**, 132, 5170-6	16.4	116
77	Secondary nucleation of monomers on fibril surface dominates α-synuclein aggregation and provides autocatalytic amyloid amplification. *Quarterly Reviews of Biophysics*, **2017**, 50, e6	7	102
76	Targeting the intrinsically disordered structural ensemble of α-synuclein by small molecules as a potential therapeutic strategy for Parkinson's disease. *PLoS ONE*, **2014**, 9, e87133	3.7	98
75	Protein microgels from amyloid fibril networks. *ACS Nano*, **2015**, 9, 43-51	16.7	94
74	Distinct thermodynamic signatures of oligomer generation in the aggregation of the amyloid-β peptide. *Nature Chemistry*, **2018**, 10, 523-531	17.6	89
73	Detailed analysis of the energy barriers for amyloid fibril growth. *Angewandte Chemie - International Edition*, **2012**, 51, 5247-51	16.4	88

72	Electrostatic effects in filamentous protein aggregation. *Biophysical Journal*, **2013**, 104, 1116-26	2.9	74
71	Physical determinants of the self-replication of protein fibrils. *Nature Physics*, **2016**, 12, 874-880	16.2	73
70	Population of nonnative states of lysozyme variants drives amyloid fibril formation. *Journal of the American Chemical Society*, **2011**, 133, 7737-7743	16.4	67
69	Nanobodies raised against monomeric synuclein distinguish between fibrils at different maturation stages. *Journal of Molecular Biology*, **2013**, 425, 2397-411	6.5	66
68	Nanoscopic insights into seeding mechanisms and toxicity of synuclein species in neurons. *Proceedings of the National Academy of Sciences of the United States of America*, **2016**, 113, 3815-9	11.5	57
67	Frequency factors in a landscape model of filamentous protein aggregation. *Physical Review Letters* , **2010**, 104, 228101	7.4	55
66	Interactions between amyloidophilic dyes and their relevance to studies of amyloid inhibitors. *Biophysical Journal*, **2010**, 99, 3492-7	2.9	53
65	Structural insights from lipid-bilayer nanodiscs link Synuclein membrane-binding modes to amyloid fibril formation. *Communications Biology*, **2018**, 1, 44	6.7	52
64	Nanobodies raised against monomeric ?-synuclein inhibit fibril formation and destabilize toxic oligomeric species. *BMC Biology*, **2017**, 15, 57	7.3	46
63	Synuclein suppresses both the initiation and amplification steps of synuclein aggregation via competitive binding to surfaces. *Scientific Reports*, **2016**, 6, 36010	4.9	45
62	Scaling behaviour and rate-determining steps in filamentous self-assembly. *Chemical Science*, **2017**, 8, 7087-7097	9.4	43
61	Position-dependent electrostatic protection against protein aggregation. *ChemBioChem*, **2009**, 10, 1309-12	3.8	43
60	The physical chemistry of the amyloid phenomenon: thermodynamics and kinetics of filamentous protein aggregation. *Essays in Biochemistry*, **2014**, 56, 11-39	7.6	42
59	Surface attachment of protein fibrils via covalent modification strategies. *Journal of Physical Chemistry B*, **2010**, 114, 10925-38	3.4	41
58	Biosensor-based label-free assays of amyloid growth. *FEBS Letters*, **2009**, 583, 2587-92	3.8	40
57	An engineered monomer binding-protein for synuclein efficiently inhibits the proliferation of amyloid fibrils. *ELife*, **2019**, 8,	8.9	37
56	Quantitative thermophoretic study of disease-related protein aggregates. *Scientific Reports*, **2016**, 6, 22829	4.9	37
55	The growth of amyloid fibrils: rates and mechanisms. *Biochemical Journal*, **2019**, 476, 2677-2703	3.8	36

54	C-terminal truncation of □synuclein promotes amyloid fibril amplification at physiological pH. *Chemical Science*, **2018**, 9, 5506-5516	9.4	34
53	The Nucleation of Protein Aggregates - From Crystals to Amyloid Fibrils. *International Review of Cell and Molecular Biology*, **2017**, 329, 187-226	6	32
52	Probing small molecule binding to amyloid fibrils. *Physical Chemistry Chemical Physics*, **2011**, 13, 20044-53	3.6	32
51	Influence of specific HSP70 domains on fibril formation of the yeast prion protein Ure2. *Philosophical Transactions of the Royal Society B: Biological Sciences*, **2013**, 368, 20110410	5.8	30
50	Relationship between prion propensity and the rates of individual molecular steps of fibril assembly. *Journal of Biological Chemistry*, **2011**, 286, 12101-7	5.4	25
49	Thermodynamics of Polypeptide Supramolecular Assembly in the Short-Chain Limit. *Journal of the American Chemical Society*, **2017**, 139, 16134-16142	16.4	24
48	Pyroglutamate-modified A□3-42) affects aggregation kinetics of A□1-42) by accelerating primary and secondary pathways. *Chemical Science*, **2017**, 8, 4996-5004	9.4	23
47	Opposed Effects of Dityrosine Formation in Soluble and Aggregated □Synuclein on Fibril Growth. *Journal of Molecular Biology*, **2017**, 429, 3018-3030	6.5	21
46	Synthesis of Nonequilibrium Supramolecular Peptide Polymers on a Microfluidic Platform. *Journal of the American Chemical Society*, **2016**, 138, 9589-96	16.4	21
45	A rationally designed six-residue swap generates comparability in the aggregation behavior of □synuclein and □synuclein. *Biochemistry*, **2012**, 51, 8771-8	3.2	20
44	The Environment Is a Key Factor in Determining the Anti-Amyloid Efficacy of EGCG. *Biomolecules*, **2019**, 9,	5.9	20
43	Lipid Dynamics and Phase Transition within □Synuclein Amyloid Fibrils. *Journal of Physical Chemistry Letters*, **2019**, 10, 7872-7877	6.4	19
42	The Properties of □Synuclein Secondary Nuclei Are Dominated by the Solution Conditions Rather than the Seed Fibril Strain. *ACS Chemical Neuroscience*, **2020**, 11, 909-918	5.7	18
41	Atomic structure of PI3-kinase SH3 amyloid fibrils by cryo-electron microscopy. *Nature Communications*, **2019**, 10, 3754	17.4	17
40	Spatial propagation of protein polymerization. *Physical Review Letters*, **2014**, 112, 098101	7.4	17
39	Photodissociation dynamics of the reaction H2CO-->H+HCO via the singlet (S0) and triplet (T1) surfaces. *Journal of Chemical Physics*, **2007**, 127, 064302	3.9	17
38	Microfluidic Diffusion Platform for Characterizing the Sizes of Lipid Vesicles and the Thermodynamics of Protein-Lipid Interactions. *Analytical Chemistry*, **2018**, 90, 3284-3290	7.8	16
37	The length distribution of frangible biofilaments. *Journal of Chemical Physics*, **2015**, 143, 164901	3.9	15

36	The hydrophobic effect characterises the thermodynamic signature of amyloid fibril growth. *PLoS Computational Biology*, **2020**, 16, e1007767	5	14
35	Measuring the kinetics of amyloid fibril elongation using quartz crystal microbalances. *Methods in Molecular Biology*, **2012**, 849, 101-19	1.4	14
34	Kinetic barriers to synuclein protofilament formation and conversion into mature fibrils. *Chemical Communications*, **2018**, 54, 7854-7857	5.8	14
33	Thermodynamics of amyloid fibril formation from chemical depolymerization. *Physical Chemistry Chemical Physics*, **2019**, 21, 26184-26194	3.6	12
32	The Aggregation Conditions Define Whether EGCG is an Inhibitor or Enhancer of -Synuclein Amyloid Fibril Formation. *International Journal of Molecular Sciences*, **2020**, 21,	6.3	11
31	Protein Aggregate-Ligand Binding Assays Based on Microfluidic Diffusional Separation. *ChemBioChem*, **2016**, 17, 1920-1924	3.8	10
30	Three-dimensional domain swapping and supramolecular protein assembly: insights from the X-ray structure of a dimeric swapped variant of human pancreatic RNase. *Acta Crystallographica Section D: Biological Crystallography*, **2013**, 69, 2116-23		10
29	Thermodynamics of amyloid fibril formation from non-equilibrium experiments of growth and dissociation. *Biophysical Chemistry*, **2021**, 271, 106549	3.5	10
28	Role of Hydrophobicity and Charge of Amyloid-Beta Oligomer Eliminating d-Peptides in the Interaction with Amyloid-Beta Monomers. *ACS Chemical Neuroscience*, **2018**, 9, 2679-2688	5.7	8
27	Detection and Characterization of Small Molecule Interactions with Fibrillar Protein Aggregates Using Microscale Thermophoresis. *ACS Chemical Neuroscience*, **2017**, 8, 2088-2095	5.7	8
26	Quantitative (upsilon, N, Ka) product state distributions near the triplet threshold for the reaction H2CO --> H + HCO measured by Rydberg tagging and laser-induced fluorescence. *Journal of Physical Chemistry A*, **2008**, 112, 9283-9	2.8	8
25	Synuclein-derived lipoparticles in the study of Synuclein amyloid fibril formation. *Chemistry and Physics of Lipids*, **2019**, 220, 57-65	3.7	7
24	Quantitative Analysis of Diffusive Reactions at the Solid-Liquid Interface in Finite Systems. *Journal of Physical Chemistry Letters*, **2014**, 5, 695-9	6.4	7
23	Influence of the protein context on the polyglutamine length-dependent elongation of amyloid fibrils. *Biochimica Et Biophysica Acta - Proteins and Proteomics*, **2015**, 1854, 239-48	4	6
22	Turn exchanges in the synuclein segment 44-TKEG-47 reveal high sequence fidelity requirements of amyloid fibril elongation. *Biophysical Chemistry*, **2021**, 269, 106519	3.5	6
21	Microfluidics and the quantification of biomolecular interactions. *Current Opinion in Structural Biology*, **2021**, 70, 8-15	8.1	6
20	Capillary flow experiments for thermodynamic and kinetic characterization of protein liquid-liquid phase separation.. *Nature Communications*, **2021**, 12, 7289	17.4	5
19	The Kinetics, Thermodynamics and Mechanisms of Short Aromatic Peptide Self-Assembly. *Advances in Experimental Medicine and Biology*, **2019**, 1174, 61-112	3.6	5

18	Reproducibility and accuracy of microscale thermophoresis in the NanoTemper Monolith: a multi laboratory benchmark study. *European Biophysics Journal*, **2021**, 50, 411-427	1.9	5
17	Secondary Nucleation and the Conservation of Structural Characteristics of Amyloid Fibril Strains. *Frontiers in Molecular Biosciences*, **2021**, 8, 669994	5.6	5
16	Analyse der Energiebarrieren für das Wachstum von Amyloidfibrillen. *Angewandte Chemie*, **2012**, 124, 5339-5344	3.6	4
15	Compact fibril-like structure of amyloid β-peptide (1-42) monomers. *Chemical Communications*, **2021**, 57, 947-950	5.8	4
14	Acceleration of α-synuclein aggregation. *Amyloid: the International Journal of Experimental and Clinical Investigation: the Official Journal of the International Society of Amyloidosis*, **2017**, 24, 20-21	2.7	3
13	A Protein Corona Modulates Interactions of α-Synuclein with Nanoparticles and Alters the Rates of the Microscopic Steps of Amyloid Formation.. *ACS Nano*, **2022**,	16.7	3
12	Universal amyloidogenicity of patient-derived immunoglobulin light chains		3
11	Biochemical and biophysical characterisation of immunoglobulin free light chains derived from an initially unbiased population of patients with light chain disease. *PeerJ*, **2020**, 8, e8771	3.1	2
10	Sequencing of Antibody Light Chain Proteoforms from Patients with Multiple Myeloma. *Analytical Chemistry*, **2021**, 93, 10627-10634	7.8	2
9	Stability matters, too - The thermodynamics of amyloid fibril formation. *Chemical Science*,	9.4	1
8	A structural and kinetic link between membrane association and amyloid fibril formation of α-Synuclein		1
7	Hydroxy-Porphyrin as an Effective, Endogenous Molecular Clamp during Early Stages of Amyloid Fibrillization. *Chemistry - an Asian Journal*, **2021**, 16, 3931-3936	4.5	0
6	Glycation modulates alpha-synuclein fibrillization kinetics: a sweet spot for inhibition.. *Journal of Biological Chemistry*, **2022**, 101848	5.4	0
5	Biowissenschaftliche Anwendungen der Quartzkristall-Mikrowaage. *BioSpektrum*, **2020**, 26, 490-492	0.1	
4	The hydrophobic effect characterises the thermodynamic signature of amyloid fibril growth **2020**, 16, e1007767		
3	The hydrophobic effect characterises the thermodynamic signature of amyloid fibril growth **2020**, 16, e1007767		
2	The hydrophobic effect characterises the thermodynamic signature of amyloid fibril growth **2020**, 16, e1007767		
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