Tuomas Knowles

List of Publications by Year
in descending order

380 papers	32,752 citations	5574 82 h-index	5829 161 g-index
446 all docs	446 docs citations	446 times ranked	23063 citing authors

#	Article	IF	Citations
1	The amyloid state and its association with protein misfolding diseases. Nature Reviews Molecular Cell Biology, 2014, 15, 384-396.	37.0	1,894
2	Proliferation of amyloid-Î²42 aggregates occurs through a secondary nucleation mechanism. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 9758-9763.	7.1	1,162
3	An Analytical Solution to the Kinetics of Breakable Filament Assembly. Science, 2009, 326, 1533-1537.	12.6	970
4	Direct Observation of the Interconversion of Normal and Toxic Forms of Î±-Synuclein. Cell, 2012, 149, 1048-1059.	28.9	755
5	Nanomechanics of functional and pathological amyloid materials. Nature Nanotechnology, 2011, 6, 469-479.	31.5	703
6	Role of Intermolecular Forces in Defining Material Properties of Protein Nanofibrils. Science, 2007, 318, 1900-1903.	12.6	694
7	FUS Phase Separation Is Modulated by a Molecular Chaperone and Methylation of Arginine Cation-Ï€ Interactions. Cell, 2018, 173, 720-734.e15.	28.9	662
8	On the lag phase in amyloid fibril formation. Physical Chemistry Chemical Physics, 2015, 17, 7606-7618.	2.8	590
9	Characterization of the nanoscale properties of individual amyloid fibrils. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 15806-15811.	7.1	579
10	Solution conditions determine the relative importance of nucleation and growth processes in Î±-synuclein aggregation. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 7671-7676.	7.1	546
11	Molecular mechanisms of protein aggregation from global fitting of kinetic models. Nature Protocols, 2016, 11, 252-272.	12.0	546
12	Lipid vesicles trigger Î±-synuclein aggregation by stimulating primary nucleation. Nature Chemical Biology, 2015, 11, 229-234.	8.0	532
13	A High Powerâ€Density, Mediatorâ€Free, Microfluidic Biophotovoltaic Device for Cyanobacterial Cells. Advanced Energy Materials, 2015, 5, 1-6.	19.5	531
14	Atomic structure and hierarchical assembly of a cross-Î² amyloid fibril. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 5468-5473.	7.1	479
15	Amyloid Fibrils as Building Blocks for Natural and Artificial Functional Materials. Advanced Materials, 2016, 28, 6546-6561.	21.0	430
16	Biomimetic peptide self-assembly for functional materials. Nature Reviews Chemistry, 2020, 4, 615-634.	30.2	411
17	From Macroscopic Measurements to Microscopic Mechanisms of Protein Aggregation. Journal of Molecular Biology, 2012, 421, 160-171.	4.2	407
18	Differences in nucleation behavior underlie the contrasting aggregation kinetics of the AÎ²40 and AÎ²42 peptides. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 9384-9389.	7.1	405

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19	Structural characterization of toxic oligomers that are kinetically trapped during Î±-synuclein fibril formation. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, E1994-2003.	7.1	384
20	A molecular chaperone breaks the catalytic cycle that generates toxic AÎ² oligomers. Nature Structural and Molecular Biology, 2015, 22, 207-213.	8.2	373
21	Metastability of Native Proteins and the Phenomenon of Amyloid Formation. Journal of the American Chemical Society, 2011, 133, 14160-14163.	13.7	369
22	Half a century of amyloids: past, present and future. Chemical Society Reviews, 2020, 49, 5473-5509.	38.1	345
23	Nanostructured films from hierarchical self-assembly of amyloidogenic proteins. Nature Nanotechnology, 2010, 5, 204-207.	31.5	338
24	RNA Granules Hitchhike on Lysosomes for Long-Distance Transport, Using Annexin A11 as a Molecular Tether. Cell, 2019, 179, 147-164.e20.	28.9	327
25	Secondary nucleation in amyloid formation. Chemical Communications, 2018, 54, 8667-8684.	4.1	323
26	Stabilization of neurotoxic Alzheimer amyloid-Î² oligomers by protein engineering. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 15595-15600.	7.1	304
27	Nucleated polymerization with secondary pathways. I. Time evolution of the principal moments. Journal of Chemical Physics, 2011, 135, 065105.	3.0	270
28	Mutations associated with familial Parkinsonâ€™s disease alter the initiation and amplification steps of Î±-synuclein aggregation. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 10328-10333.	7.1	252
29	Reentrant liquid condensate phase of proteins is stabilized by hydrophobic and non-ionic interactions. Nature Communications, 2021, 12, 1085.	12.8	245
30	Nucleation and Growth of Amino Acid and Peptide Supramolecular Polymers through Liquidâ€"Liquid Phase Separation. Angewandte Chemie - International Edition, 2019, 58, 18116-18123.	13.8	241
31	A natural product inhibits the initiation of Î±-synuclein aggregation and suppresses its toxicity. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E1009-E1017.	7.1	231
32	Dynamics of oligomer populations formed during the aggregation of Alzheimerâ€™s AÎ²42 peptide. Nature Chemistry, 2020, 12, 445-451.	13.6	223
33	Kinetic analysis reveals the diversity of microscopic mechanisms through which molecular chaperones suppress amyloid formation. Nature Communications, 2016, 7, 10948.	12.8	219
34	The Role of Stable Î±-Synuclein Oligomers in the Molecular Events Underlying Amyloid Formation. Journal of the American Chemical Society, 2014, 136, 3859-3868.	13.7	218
35	Ostwaldâ€™s rule of stages governs structural transitions and morphology of dipeptide supramolecular polymers. Nature Communications, 2014, 5, 5219.	12.8	197
36	Chemical kinetics for drug discovery to combat protein aggregation diseases. Trends in Pharmacological Sciences, 2014, 35, 127-135.	8.7	191

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37	Kinetics and thermodynamics of amyloid formation from direct measurements of fluctuations in fibril mass. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 10016-10021.	7.1	186
38	Cholesterol catalyses AÎ²42 aggregation through a heterogeneous nucleation pathway in the presence of lipid membranes. Nature Chemistry, 2018, 10, 673-683.	13.6	186
39	Secondary nucleation of monomers on fibril surface dominates<i>Î±</i>-synuclein aggregation and provides autocatalytic amyloid amplification. Quarterly Reviews of Biophysics, 2017, 50, e6.	5.7	183
40	Kinetic model of the aggregation of alpha-synuclein provides insights into prion-like spreading. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, E1206-15.	7.1	181
41	An anticancer drug suppresses the primary nucleation reaction that initiates the production of the toxic AÎ²42 aggregates linked with Alzheimerâ€™s disease. Science Advances, 2016, 2, e1501244.	10.3	180
42	Systematic development of small molecules to inhibit specific microscopic steps of AÎ²42 aggregation in Alzheimerâ€™s disease. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E200-E208.	7.1	180
43	A mechanistic model of tau amyloid aggregation based on direct observation of oligomers. Nature Communications, 2015, 6, 7025.	12.8	179
44	Nucleated polymerization with secondary pathways. II. Determination of self-consistent solutions to growth processes described by non-linear master equations. Journal of Chemical Physics, 2011, 135, 065106.	3.0	166
45	Chemical Kinetics for Bridging Molecular Mechanisms and Macroscopic Measurements of Amyloid Fibril Formation. Annual Review of Physical Chemistry, 2018, 69, 273-298.	10.8	161
46	Interaction of the Molecular Chaperone DNAJB6 with Growing Amyloid-beta 42 (AÎ²42) Aggregates Leads to Sub-stoichiometric Inhibition of Amyloid Formation. Journal of Biological Chemistry, 2014, 289, 31066-31076.	3.4	158
47	Crucial role of nonspecific interactions in amyloid nucleation. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 17869-17874.	7.1	157
48	Expanding the Solvent Chemical Space for Self-Assembly of Dipeptide Nanostructures. ACS Nano, 2014, 8, 1243-1253.	14.6	146
49	Binding of the Molecular Chaperone Î±B-Crystallin to AÎ² Amyloid Fibrils Inhibits Fibril Elongation. Biophysical Journal, 2011, 101, 1681-1689.	0.5	143
50	Protein Aggregation in Crowded Environments. Journal of the American Chemical Society, 2010, 132, 5170-5175.	13.7	142
51	The S/T-Rich Motif in the DNAJB6 Chaperone Delays Polyglutamine Aggregation and the Onset of Disease in a Mouse Model. Molecular Cell, 2016, 62, 272-283.	9.7	140
52	Different soluble aggregates of AÎ²42 can give rise to cellular toxicity through different mechanisms. Nature Communications, 2019, 10, 1541.	12.8	140
53	The Interaction of Î±B-Crystallin with Mature Î±-Synuclein Amyloid Fibrils Inhibits Their Elongation. Biophysical Journal, 2010, 98, 843-851.	0.5	136
54	Observation of spatial propagation of amyloid assembly from single nuclei. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 14746-14751.	7.1	134

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55	Distinct thermodynamic signatures of oligomer generation in the aggregation of the amyloid-Î² peptide. Nature Chemistry, 2018, 10, 523-531.	13.6	129
56	Secondary nucleation and elongation occur at different sites on Alzheimerâ€™s amyloid-Î² aggregates. Science Advances, 2019, 5, eaau3112.	10.3	127
57	Strength of Nanotubes, Filaments, and Nanowires From Sonicationâ€Induced Scission. Advanced Materials, 2009, 21, 3945-3948.	21.0	126
58	Targeting the Intrinsically Disordered Structural Ensemble of Î±-Synuclein by Small Molecules as a Potential Therapeutic Strategy for Parkinsonâ€™s Disease. PLoS ONE, 2014, 9, e87133.	2.5	126
59	Peptide nanofibrils boost retroviral gene transfer and provide a rapid means for concentrating viruses. Nature Nanotechnology, 2013, 8, 130-136.	31.5	125
60	Kinetic fingerprints differentiate the mechanisms of action of anti-AÎ² antibodies. Nature Structural and Molecular Biology, 2020, 27, 1125-1133.	8.2	123
61	Perturbation of the Stability of Amyloid Fibrils through Alteration of Electrostatic Interactions. Biophysical Journal, 2011, 100, 2783-2791.	0.5	121
62	Protein Microgels from Amyloid Fibril Networks. ACS Nano, 2015, 9, 43-51.	14.6	121
63	The AÎ²40 and AÎ²42 peptides self-assemble into separate homomolecular fibrils in binary mixtures but cross-react during primary nucleation. Chemical Science, 2015, 6, 4215-4233.	7.4	121
64	Quantification of the Concentration of AÎ²42 Propagons during the Lag Phase by an Amyloid Chain Reaction Assay. Journal of the American Chemical Society, 2014, 136, 219-225.	13.7	120
65	Fabrication of fibrillosomes from droplets stabilized by protein nanofibrils at all-aqueous interfaces. Nature Communications, 2016, 7, 12934.	12.8	116
66	Selective targeting of primary and secondary nucleation pathways in AÎ²42 aggregation using a rational antibody scanning method. Science Advances, 2017, 3, e1700488.	10.3	116
67	Detailed Analysis of the Energy Barriers for Amyloid Fibril Growth. Angewandte Chemie - International Edition, 2012, 51, 5247-5251.	13.8	112
68	Trodusquemine enhances AÎ²42 aggregation but suppresses its toxicity by displacing oligomers from cell membranes. Nature Communications, 2019, 10, 225.	12.8	111
69	The Amyloid Phenomenon and Its Significance in Biology and Medicine. Cold Spring Harbor Perspectives in Biology, 2020, 12, a033878.	5.5	111
70	Protein micro- and nano-capsules for biomedical applications. Chemical Society Reviews, 2014, 43, 1361-1371.	38.1	110
71	Atomic force microscopy for single molecule characterisation of protein aggregation. Archives of Biochemistry and Biophysics, 2019, 664, 134-148.	3.0	109
72	Phase-separating RNA-binding proteins form heterogeneous distributions of clusters in subsaturated solutions. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, .	7.1	107

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73	Microfluidic Diffusion Analysis of the Sizes and Interactions of Proteins under Native Solution Conditions. ACS Nano, 2016, 10, 333-341.	14.6	105
74	Enhancing power density of biophotovoltaics by decoupling storage and power delivery. Nature Energy, 2018, 3, 75-81.	39.5	103
75	Kinetic diversity of amyloid oligomers. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 12087-12094.	7.1	103
76	Biomolecular condensates undergo a generic shear-mediated liquid-to-solid transition. Nature Nanotechnology, 2020, 15, 841-847.	31.5	101
77	On the role of sidechain size and charge in the aggregation of A <i>Î²</i> 42 with familial mutations. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E5849-E5858.	7.1	98
78	Determination of Polypeptide Conformation with Nanoscale Resolution in Water. ACS Nano, 2018, 12, 6612-6619.	14.6	97
79	Silk micrococoons for protein stabilisation and molecular encapsulation. Nature Communications, 2017, 8, 15902.	12.8	96
80	Identification and nanomechanical characterization of the fundamental single-strand protofilaments of amyloid Î±-synuclein fibrils. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 7230-7235.	7.1	96
81	Learning the molecular grammar of protein condensates from sequence determinants and embeddings. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	96
82	Small-molecule sequestration of amyloid-Î² as a drug discovery strategy for Alzheimerâ€™s disease. Science Advances, 2020, 6, .	10.3	95
83	Characterisation of Amyloid Fibril Formation by Small Heat-shock Chaperone Proteins Human Î±A-, Î±B- and R120G Î±B-Crystallins. Journal of Molecular Biology, 2007, 372, 470-484.	4.2	93
84	Conserved C-Terminal Charge Exerts a Profound Influence on the Aggregation Rate of Î±-Synuclein. Journal of Molecular Biology, 2011, 411, 329-333.	4.2	92
85	Nucleated polymerization with secondary pathways. III. Equilibrium behavior and oligomer populations. Journal of Chemical Physics, 2011, 135, 065107.	3.0	92
86	Single-molecule FRET studies on alpha-synuclein oligomerization of Parkinsonâ€™s disease genetically related mutants. Scientific Reports, 2015, 5, 16696.	3.3	92
87	Single molecule secondary structure determination of proteins through infrared absorption nanospectroscopy. Nature Communications, 2020, 11, 2945.	12.8	92
88	Controlling the Physical Dimensions of Peptide Nanotubes by Supramolecular Polymer Coassembly. ACS Nano, 2016, 10, 7436-7442.	14.6	91
89	Physical determinants of the self-replication of protein fibrils. Nature Physics, 2016, 12, 874-880.	16.7	90
90	Dynamic microfluidic control of supramolecular peptide self-assembly. Nature Communications, 2016, 7, 13190.	12.8	89

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91	Electrostatic Effects in Filamentous Protein Aggregation. Biophysical Journal, 2013, 104, 1116-1126.	0.5	88
92	Excitations with negative dispersion in a spin vortex. Physical Review B, 2005, 71, .	3.2	86
93	Inversion of the Balance between Hydrophobic and Hydrogen Bonding Interactions in Protein Folding and Aggregation. PLoS Computational Biology, 2011, 7, e1002169.	3.2	86
94	Multistep Inhibition of Î±-Synuclein Aggregation and Toxicity <i>in Vitro</i> and <i>in Vivo</i> by Trodusquemine. ACS Chemical Biology, 2018, 13, 2308-2319.	3.4	86
95	Protein Solubility and Protein Homeostasis: A Generic View of Protein Misfolding Disorders. Cold Spring Harbor Perspectives in Biology, 2011, 3, a010454-a010454.	5.5	83
96	A Clear View of Polymorphism, Twist, and Chirality in Amyloid Fibril Formation. ACS Nano, 2013, 7, 10443-10448.	14.6	83
97	From Protein Building Blocks to Functional Materials. ACS Nano, 2021, 15, 5819-5837.	14.6	83
98	Budding-like division of all-aqueous emulsion droplets modulated by networks of protein nanofibrils. Nature Communications, 2018, 9, 2110.	12.8	82
99	Fast Flow Microfluidics and Single-Molecule Fluorescence for the Rapid Characterization of Î±-Synuclein Oligomers. Analytical Chemistry, 2015, 87, 8818-8826.	6.5	81
100	Nucleation and Growth of Amino Acid and Peptide Supramolecular Polymers through Liquidâ€“Liquid Phase Separation. Angewandte Chemie, 2019, 131, 18284-18291.	2.0	79
101	Conformational Expansion of Tau in Condensates Promotes Irreversible Aggregation. Journal of the American Chemical Society, 2021, 143, 13056-13064.	13.7	78
102	Quantitative analysis of intrinsic and extrinsic factors in the aggregation mechanism of Alzheimer-associated AÎ²-peptide. Scientific Reports, 2016, 6, 18728.	3.3	77
103	Origin of metastable oligomers and their effects on amyloid fibril self-assembly. Chemical Science, 2018, 9, 5937-5948.	7.4	76
104	Easyworm: an open-source software tool to determine the mechanical properties of worm-like chains. Source Code for Biology and Medicine, 2014, 9, 16.	1.7	73
105	Kinetics of spontaneous filament nucleation via oligomers: Insights from theory and simulation. Journal of Chemical Physics, 2016, 145, 211926.	3.0	73
106	Population of Nonnative States of Lysozyme Variants Drives Amyloid Fibril Formation. Journal of the American Chemical Society, 2011, 133, 7737-7743.	13.7	72
107	Ultrasensitive Measurement of Ca²⁺ Influx into Lipid Vesicles Induced by Protein Aggregates. Angewandte Chemie - International Edition, 2017, 56, 7750-7754.	13.8	72
108	Spatial Persistence of Angular Correlations in Amyloid Fibrils. Physical Review Letters, 2006, 96, 238301.	7.8	71

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109	In vivo rate-determining steps of tau seed accumulation in Alzheimerâ€™s disease. Science Advances, 2021, 7, eabh1448.	10.3	70
110	Measurement of Tau Filament Fragmentation Provides Insights into Prion-like Spreading. ACS Chemical Neuroscience, 2018, 9, 1276-1282.	3.5	68
111	Self-assembly of MPG1, a hydrophobin protein from the rice blast fungus that forms functional amyloid coatings, occurs by a surface-driven mechanism. Scientific Reports, 2016, 6, 25288.	3.3	67
112	Physical Determinants of Amyloid Assembly in Biofilm Formation. MBio, 2019, 10, .	4.1	66
113	Î²-Synuclein suppresses both the initiation and amplification steps of Î±-synuclein aggregation via competitive binding to surfaces. Scientific Reports, 2016, 6, 36010.	3.3	65
114	Scaling behaviour and rate-determining steps in filamentous self-assembly. Chemical Science, 2017, 8, 7087-7097.	7.4	65
115	Liquidâ€“liquid phase separation underpins the formation of replication factories in rotaviruses. EMBO Journal, 2021, 40, e107711.	7.8	65
116	C-terminal truncation of Î±-synuclein promotes amyloid fibril amplification at physiological pH. Chemical Science, 2018, 9, 5506-5516.	7.4	64
117	Soluble aggregates present in cerebrospinal fluid change in size and mechanism of toxicity during Alzheimerâ€™s disease progression. Acta Neuropathologica Communications, 2019, 7, 120.	5.2	64
118	Identification of on- and off-pathway oligomers in amyloid fibril formation. Chemical Science, 2020, 11, 6236-6247.	7.4	64
119	Frequency Factors in a Landscape Model of Filamentous Protein Aggregation. Physical Review Letters, 2010, 104, 228101.	7.8	63
120	Interactions between Amyloidophilic Dyes and Their Relevance to Studies of Amyloid Inhibitors. Biophysical Journal, 2010, 99, 3492-3497.	0.5	63
121	Connecting Macroscopic Observables and Microscopic Assembly Events in Amyloid Formation Using Coarse Grained Simulations. PLoS Computational Biology, 2012, 8, e1002692.	3.2	63
122	Nanobodies raised against monomeric É'-synuclein inhibit fibril formation and destabilize toxic oligomeric species. BMC Biology, 2017, 15, 57.	3.8	61
123	Rational design of a conformation-specific antibody for the quantification of AÎ² oligomers. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 13509-13518.	7.1	61
124	The physical chemistry of the amyloid phenomenon: thermodynamics and kinetics of filamentous protein aggregation. Essays in Biochemistry, 2014, 56, 11-39.	4.7	60
125	Modulation of electrostatic interactions to reveal a reaction network unifying the aggregation behaviour of the AÎ²42 peptide and its variants. Chemical Science, 2017, 8, 4352-4362.	7.4	60
126	Phage display and kinetic selection of antibodies that specifically inhibit amyloid self-replication. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 6444-6449.	7.1	60

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127	Transthyretin Inhibits Primary and Secondary Nucleations of Amyloid-Î² Peptide Aggregation and Reduces the Toxicity of Its Oligomers. Biomacromolecules, 2020, 21, 1112-1125.	5.4	59
128	N-Terminal Extensions Retard AÎ²42 Fibril Formation but Allow Cross-Seeding and Coaggregation with AÎ²42. Journal of the American Chemical Society, 2015, 137, 14673-14685.	13.7	58
129	The Influence of Pathogenic Mutations in Î±-Synuclein on Biophysical and Structural Characteristics of Amyloid Fibrils. ACS Nano, 2020, 14, 5213-5222.	14.6	58
130	The role of fibril structure and surface hydrophobicity in secondary nucleation of amyloid fibrils. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 25272-25283.	7.1	58
131	The Component Polypeptide Chains of Bovine Insulin Nucleate or Inhibit Aggregation of the Parent Protein in a Conformation-dependent Manner. Journal of Molecular Biology, 2006, 360, 497-509.	4.2	56
132	Latent analysis of unmodified biomolecules and their complexes in solution with attomole detection sensitivity. Nature Chemistry, 2015, 7, 802-809.	13.6	56
133	Quaternization of Vinyl/Alkynyl Pyridine Enables Ultrafast Cysteineâ€Selective Protein Modification and Charge Modulation. Angewandte Chemie - International Edition, 2019, 58, 6640-6644.	13.8	55
134	SAR by kinetics for drug discovery in protein misfolding diseases. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 10245-10250.	7.1	54
135	Massively parallel C. elegans tracking provides multi-dimensional fingerprints for phenotypic discovery. Journal of Neuroscience Methods, 2018, 306, 57-67.	2.5	52
136	Conserved S/T Residues of the Human Chaperone DNAJB6 Are Required for Effective Inhibition of AÎ²42 Amyloid Fibril Formation. Biochemistry, 2018, 57, 4891-4902.	2.5	52
137	Infrared nanospectroscopy reveals the molecular interaction fingerprint of an aggregation inhibitor with single AÎ²42 oligomers. Nature Communications, 2021, 12, 688.	12.8	52
138	Electrostatically-guided inhibition of Curli amyloid nucleation by the CsgC-like family of chaperones. Scientific Reports, 2016, 6, 24656.	3.3	51
139	Nucleated Polymerisation in the Presence of Pre-Formed Seed Filaments. International Journal of Molecular Sciences, 2011, 12, 5844-5852.	4.1	50
140	Oligomer Diversity during the Aggregation of the Repeat Region of Tau. ACS Chemical Neuroscience, 2018, 9, 3060-3071.	3.5	50
141	Controlled self-assembly of plant proteins into high-performance multifunctional nanostructured films. Nature Communications, 2021, 12, 3529.	12.8	50
142	Microfluidics for Protein Biophysics. Journal of Molecular Biology, 2018, 430, 565-580.	4.2	49
143	Thermodynamic and kinetic design principles for amyloid-aggregation inhibitors. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 24251-24257.	7.1	49
144	Interactions of Î±-synuclein oligomers with lipid membranes. Biochimica Et Biophysica Acta - Biomembranes, 2021, 1863, 183536.	2.6	49

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145	Surface Electrostatics Govern the Emulsion Stability of Biomolecular Condensates. Nano Letters, 2022, 22, 612-621.	9.1	49
146	Highly specific label-free protein detection from lysed cells using internally referenced microcantilever sensors. Biosensors and Bioelectronics, 2008, 24, 233-237.	10.1	48
147	Twisting Transition between Crystalline and Fibrillar Phases of Aggregated Peptides. Physical Review Letters, 2012, 109, 158101.	7.8	48
148	Quantitative thermophoretic study of disease-related protein aggregates. Scientific Reports, 2016, 6, 22829.	3.3	48
149	Digital Sensing and Molecular Computation by an Enzyme-Free DNA Circuit. ACS Nano, 2020, 14, 5763-5771.	14.6	48
150	Measurement of Amyloid Fibril Length Distributions by Inclusion of Rotational Motion in Solution NMR Diffusion Measurements. Angewandte Chemie - International Edition, 2008, 47, 3385-3387.	13.8	47
151	Positionâ€Dependent Electrostatic Protection against Protein Aggregation. ChemBioChem, 2009, 10, 1309-1312.	2.6	47
152	Inhibition of Î±-Synuclein Fibril Elongation by Hsp70 Is Governed by a Kinetic Binding Competition between Î±-Synuclein Species. Biochemistry, 2017, 56, 1177-1180.	2.5	47
153	Attoliter protein nanogels from droplet nanofluidics for intracellular delivery. Science Advances, 2020, 6, eaay7952.	10.3	47
154	Nanoscale spatially resolved infrared spectra from single microdroplets. Lab on A Chip, 2014, 14, 1315-1319.	6.0	46
155	Identification of Oxidative Stress in Red Blood Cells with Nanoscale Chemical Resolution by Infrared Nanospectroscopy. International Journal of Molecular Sciences, 2018, 19, 2582.	4.1	46
156	Autocatalytic amplification of Alzheimer-associated AÎ²42 peptide aggregation in human cerebrospinal fluid. Communications Biology, 2019, 2, 365.	4.4	46
157	Biosensorâ€based labelâ€free assays of amyloid growth. FEBS Letters, 2009, 583, 2587-2592.	2.8	45
158	Quantitative analysis of co-oligomer formation by amyloid-beta peptide isoforms. Scientific Reports, 2016, 6, 28658.	3.3	45
159	Monomeric and fibrillar Î±-synuclein exert opposite effects on the catalytic cycle that promotes the proliferation of AÎ²42 aggregates. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 8005-8010.	7.1	45
160	Scalable integration of nano-, and microfluidics with hybrid two-photon lithography. Microsystems and Nanoengineering, 2019, 5, 40.	7.0	45
161	Direct Observation of Oligomerization by Single Molecule Fluorescence Reveals a Multistep Aggregation Mechanism for the Yeast Prion Protein Ure2. Journal of the American Chemical Society, 2018, 140, 2493-2503.	13.7	44
162	Trodusquemine displaces protein misfolded oligomers from cell membranes and abrogates their cytotoxicity through a generic mechanism. Communications Biology, 2020, 3, 435.	4.4	44

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163	LAG3 is not expressed in human and murine neurons and does not modulate Î±â€synucleinopathies. EMBO Molecular Medicine, 2021, 13, e14745.	6.9	44
164	Density-Gradient-Free Microfluidic Centrifugation for Analytical and Preparative Separation of Nanoparticles. Nano Letters, 2014, 14, 2365-2371.	9.1	43
165	Enzymatically Active Microgels from Self-Assembling Protein Nanofibrils for Microflow Chemistry. ACS Nano, 2015, 9, 5772-5781.	14.6	43
166	Surface Attachment of Protein Fibrils via Covalent Modification Strategies. Journal of Physical Chemistry B, 2010, 114, 10925-10938.	2.6	42
167	Microfluidic devices fabricated using fast wafer-scale LED-lithography patterning. Biomicrofluidics, 2017, 11, 014113.	2.4	42
168	Real-Time Intrinsic Fluorescence Visualization and Sizing of Proteins and Protein Complexes in Microfluidic Devices. Analytical Chemistry, 2018, 90, 3849-3855.	6.5	42
169	Stabilization and Characterization of Cytotoxic AÎ²₄₀ Oligomers Isolated from an Aggregation Reaction in the Presence of Zinc Ions. ACS Chemical Neuroscience, 2018, 9, 2959-2971.	3.5	42
170	Label-Free Analysis of Protein Aggregation and Phase Behavior. ACS Nano, 2019, 13, 13940-13948.	14.6	42
171	Dynamics of protein aggregation and oligomer formation governed by secondary nucleation. Journal of Chemical Physics, 2015, 143, 054901.	3.0	41
172	Microfluidic deposition for resolving single-molecule protein architecture and heterogeneity. Nature Communications, 2018, 9, 3890.	12.8	40
173	Nucleation-conversion-polymerization reactions of biological macromolecules with prenucleation clusters. Physical Review E, 2014, 89, 032712.	2.1	39
174	On-chip label-free protein analysis with downstream electrodes for direct removal of electrolysis products. Lab on A Chip, 2018, 18, 162-170.	6.0	39
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