Tuomas Knowles

List of Publications by Citations

388 papers	22,646 citations	73 h-index	141 g-index
446 ext. papers	27,998 ext. citations	9.9 avg, IF	7.29 L-index

#	Paper	IF	Citations
388	The amyloid state and its association with protein misfolding diseases. *Nature Reviews Molecular Cell Biology*, **2014**, 15, 384-96	48.7	1481
387	Proliferation of amyloid-42 aggregates occurs through a secondary nucleation mechanism. *Proceedings of the National Academy of Sciences of the United States of America*, **2013**, 110, 9758-63	11.5	867
386	An analytical solution to the kinetics of breakable filament assembly. *Science*, **2009**, 326, 1533-7	33.3	804
385	Role of intermolecular forces in defining material properties of protein nanofibrils. *Science*, **2007**, 318, 1900-3	33.3	612
384	Nanomechanics of functional and pathological amyloid materials. *Nature Nanotechnology*, **2011**, 6, 469-79	28.7	590
383	Direct observation of the interconversion of normal and toxic forms of synuclein. *Cell*, **2012**, 149, 1048-59	56.2	588
382	Characterization of the nanoscale properties of individual amyloid fibrils. *Proceedings of the National Academy of Sciences of the United States of America*, **2006**, 103, 15806-11	11.5	510
381	A High Power-Density, Mediator-Free, Microfluidic Biophotovoltaic Device for Cyanobacterial Cells. *Advanced Energy Materials*, **2015**, 5, 1-6	21.8	439
380	On the lag phase in amyloid fibril formation. *Physical Chemistry Chemical Physics*, **2015**, 17, 7606-18	3.6	421
379	FUS Phase Separation Is Modulated by a Molecular Chaperone and Methylation of Arginine Cation- Interactions. *Cell*, **2018**, 173, 720-734.e15	56.2	409
378	Atomic structure and hierarchical assembly of a cross- amyloid fibril. *Proceedings of the National Academy of Sciences of the United States of America*, **2013**, 110, 5468-73	11.5	401
377	Solution conditions determine the relative importance of nucleation and growth processes in synuclein aggregation. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, 7671-6	11.5	395
376	Lipid vesicles trigger synuclein aggregation by stimulating primary nucleation. *Nature Chemical Biology*, **2015**, 11, 229-34	11.7	355
375	Molecular mechanisms of protein aggregation from global fitting of kinetic models. *Nature Protocols*, **2016**, 11, 252-72	18.8	342
374	From macroscopic measurements to microscopic mechanisms of protein aggregation. *Journal of Molecular Biology*, **2012**, 421, 160-71	6.5	331
373	Metastability of native proteins and the phenomenon of amyloid formation. *Journal of the American Chemical Society*, **2011**, 133, 14160-3	16.4	305
372	Nanostructured films from hierarchical self-assembly of amyloidogenic proteins. *Nature Nanotechnology*, **2010**, 5, 204-7	28.7	301

371	Differences in nucleation behavior underlie the contrasting aggregation kinetics of the A40 and A42 peptides. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, 9384-9	11.5	294
370	Amyloid Fibrils as Building Blocks for Natural and Artificial Functional Materials. *Advanced Materials*, **2016**, 28, 6546-61	24	292
369	Structural characterization of toxic oligomers that are kinetically trapped during synuclein fibril formation. *Proceedings of the National Academy of Sciences of the United States of America*, **2015**, 112, E1994-2003	11.5	278
368	A molecular chaperone breaks the catalytic cycle that generates toxic A oligomers. *Nature Structural and Molecular Biology*, **2015**, 22, 207-213	17.6	268
367	Stabilization of neurotoxic Alzheimer amyloid-beta oligomers by protein engineering. *Proceedings of the National Academy of Sciences of the United States of America*, **2010**, 107, 15595-600	11.5	253
366	Nucleated polymerization with secondary pathways. I. Time evolution of the principal moments. *Journal of Chemical Physics*, **2011**, 135, 065105	3.9	226
365	A natural product inhibits the initiation of synuclein aggregation and suppresses its toxicity. *Proceedings of the National Academy of Sciences of the United States of America*, **2017**, 114, E1009-E1017	11.5	177
364	Secondary nucleation in amyloid formation. *Chemical Communications*, **2018**, 54, 8667-8684	5.8	174
363	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, 10016-21	11.5	167
362	The role of stable synuclein oligomers in the molecular events underlying amyloid formation. *Journal of the American Chemical Society*, **2014**, 136, 3859-68	16.4	163
361	Chemical kinetics for drug discovery to combat protein aggregation diseases. *Trends in Pharmacological Sciences*, **2014**, 35, 127-35	13.2	161
360	Mutations associated with familial Parkinson's disease alter the initiation and amplification steps of synuclein aggregation. *Proceedings of the National Academy of Sciences of the United States of America*, **2016**, 113, 10328-33	11.5	159
359	RNA Granules Hitchhike on Lysosomes for Long-Distance Transport, Using Annexin A11 as a Molecular Tether. *Cell*, **2019**, 179, 147-164.e20	56.2	158
358	Kinetic analysis reveals the diversity of microscopic mechanisms through which molecular chaperones suppress amyloid formation. *Nature Communications*, **2016**, 7, 10948	17.4	153
357	Ostwald's rule of stages governs structural transitions and morphology of dipeptide supramolecular polymers. *Nature Communications*, **2014**, 5, 5219	17.4	150
356	Half a century of amyloids: past, present and future. *Chemical Society Reviews*, **2020**, 49, 5473-5509	58.5	142
355	Systematic development of small molecules to inhibit specific microscopic steps of A42 aggregation in Alzheimer's disease. *Proceedings of the National Academy of Sciences of the United States of America*, **2017**, 114, E200-E208	11.5	134
354	An anticancer drug suppresses the primary nucleation reaction that initiates the production of the toxic A42 aggregates linked with Alzheimer's disease. *Science Advances*, **2016**, 2, e1501244	14.3	133

353	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	3.9	132
352	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	11.5	130
351	A mechanistic model of tau amyloid aggregation based on direct observation of oligomers. *Nature Communications*, **2015**, 6, 7025	17.4	129
350	Cholesterol catalyses A42 aggregation through a heterogeneous nucleation pathway in the presence of lipid membranes. *Nature Chemistry*, **2018**, 10, 673-683	17.6	126
349	Expanding the solvent chemical space for self-assembly of dipeptide nanostructures. *ACS Nano*, **2014**, 8, 1243-53	16.7	123
348	Nucleation and Growth of Amino Acid and Peptide Supramolecular Polymers through Liquid-Liquid Phase Separation. *Angewandte Chemie - International Edition*, **2019**, 58, 18116-18123	16.4	122
347	Binding of the molecular chaperone B-crystallin to A amyloid fibrils inhibits fibril elongation. *Biophysical Journal*, **2011**, 101, 1681-9	2.9	122
346	Biomimetic peptide self-assembly for functional materials. *Nature Reviews Chemistry*, **2020**, 4, 615-634	34.6	121
345	The interaction of alphaB-crystallin with mature alpha-synuclein amyloid fibrils inhibits their elongation. *Biophysical Journal*, **2010**, 98, 843-51	2.9	120
344	Crucial role of nonspecific interactions in amyloid nucleation. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, 17869-74	11.5	116
343	Protein aggregation in crowded environments. *Journal of the American Chemical Society*, **2010**, 132, 5170-5	15.4	116
342	Strength of Nanotubes, Filaments, and Nanowires From Sonication-Induced Scission. *Advanced Materials*, **2009**, 21, 3945-3948	24	115
341	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, 14746-51	11.5	108
340	Interaction of the molecular chaperone DNAJB6 with growing amyloid-beta 42 (A42) aggregates leads to sub-stoichiometric inhibition of amyloid formation. *Journal of Biological Chemistry*, **2014**, 289, 31066-76	5.4	106
339	Dynamics of oligomer populations formed during the aggregation of Alzheimer's A42 peptide. *Nature Chemistry*, **2020**, 12, 445-451	17.6	103
338	Secondary nucleation of monomers on fibril surface dominates synuclein aggregation and provides autocatalytic amyloid amplification. *Quarterly Reviews of Biophysics*, **2017**, 50, e6	7	102
337	Quantification of the concentration of A42 propagons during the lag phase by an amyloid chain reaction assay. *Journal of the American Chemical Society*, **2014**, 136, 219-25	16.4	102
336	Peptide nanofibrils boost retroviral gene transfer and provide a rapid means for concentrating viruses. *Nature Nanotechnology*, **2013**, 8, 130-6	28.7	102

335	Chemical Kinetics for Bridging Molecular Mechanisms and Macroscopic Measurements of Amyloid Fibril Formation. *Annual Review of Physical Chemistry*, **2018**, 69, 273-298	15.7	98
334	Targeting the intrinsically disordered structural ensemble of -synuclein by small molecules as a potential therapeutic strategy for Parkinson's disease. *PLoS ONE*, **2014**, 9, e87133	3.7	98
333	Perturbation of the stability of amyloid fibrils through alteration of electrostatic interactions. *Biophysical Journal*, **2011**, 100, 2783-91	2.9	98
332	Fabrication of fibrillosomes from droplets stabilized by protein nanofibrils at all-aqueous interfaces. *Nature Communications*, **2016**, 7, 12934	17.4	95
331	Protein microgels from amyloid fibril networks. *ACS Nano*, **2015**, 9, 43-51	16.7	94
330	The A40 and A42 peptides self-assemble into separate homomolecular fibrils in binary mixtures but cross-react during primary nucleation. *Chemical Science*, **2015**, 6, 4215-4233	9.4	91
329	Protein micro- and nano-capsules for biomedical applications. *Chemical Society Reviews*, **2014**, 43, 1361-74	58.5	90
328	Distinct thermodynamic signatures of oligomer generation in the aggregation of the amyloid- peptide. *Nature Chemistry*, **2018**, 10, 523-531	17.6	89
327	Detailed analysis of the energy barriers for amyloid fibril growth. *Angewandte Chemie - International Edition*, **2012**, 51, 5247-51	16.4	88
326	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	17.6	87
325	Characterisation of amyloid fibril formation by small heat-shock chaperone proteins human alphaA-, alphaB- and R120G alphaB-crystallins. *Journal of Molecular Biology*, **2007**, 372, 470-84	6.5	85
324	Nucleated polymerization with secondary pathways. III. Equilibrium behavior and oligomer populations. *Journal of Chemical Physics*, **2011**, 135, 065107	3.9	82
323	Selective targeting of primary and secondary nucleation pathways in A42 aggregation using a rational antibody scanning method. *Science Advances*, **2017**, 3, e1700488	14.3	81
322	Conserved C-terminal charge exerts a profound influence on the aggregation rate of -synuclein. *Journal of Molecular Biology*, **2011**, 411, 329-33	6.5	76
321	Excitations with negative dispersion in a spin vortex. *Physical Review B*, **2005**, 71,	3.3	76
320	Secondary nucleation and elongation occur at different sites on Alzheimer's amyloid- aggregates. *Science Advances*, **2019**, 5, eaau3112	14.3	74
319	Electrostatic effects in filamentous protein aggregation. *Biophysical Journal*, **2013**, 104, 1116-26	2.9	74
318	Enhancing power density of biophotovoltaics by decoupling storage and power delivery. *Nature Energy*, **2018**, 3, 75-81	62.3	73

317	Physical determinants of the self-replication of protein fibrils. *Nature Physics*, **2016**, 12, 874-880	16.2	73
316	Controlling the Physical Dimensions of Peptide Nanotubes by Supramolecular Polymer Coassembly. *ACS Nano*, **2016**, 10, 7436-42	16.7	73
315	Dynamic microfluidic control of supramolecular peptide self-assembly. *Nature Communications*, **2016**, 7, 13190	17.4	72
314	A clear view of polymorphism, twist, and chirality in amyloid fibril formation. *ACS Nano*, **2013**, 7, 10443-8	16.7	72
313	Different soluble aggregates of A42 can give rise to cellular toxicity through different mechanisms. *Nature Communications*, **2019**, 10, 1541	17.4	71
312	Protein solubility and protein homeostasis: a generic view of protein misfolding disorders. *Cold Spring Harbor Perspectives in Biology*, **2011**, 3,	10.2	70
311	Single-molecule FRET studies on alpha-synuclein oligomerization of Parkinson's disease genetically related mutants. *Scientific Reports*, **2015**, 5, 16696	4.9	69
310	Spatial persistence of angular correlations in amyloid fibrils. *Physical Review Letters*, **2006**, 96, 238301	7.4	69
309	Trodusquemine enhances A aggregation but suppresses its toxicity by displacing oligomers from cell membranes. *Nature Communications*, **2019**, 10, 225	17.4	69
308	Reentrant liquid condensate phase of proteins is stabilized by hydrophobic and non-ionic interactions. *Nature Communications*, **2021**, 12, 1085	17.4	68
307	Population of nonnative states of lysozyme variants drives amyloid fibril formation. *Journal of the American Chemical Society*, **2011**, 133, 7737-7743	16.4	67
306	Inversion of the balance between hydrophobic and hydrogen bonding interactions in protein folding and aggregation. *PLoS Computational Biology*, **2011**, 7, e1002169	5	66
305	Fast flow microfluidics and single-molecule fluorescence for the rapid characterization of synuclein oligomers. *Analytical Chemistry*, **2015**, 87, 8818-26	7.8	65
304	Silk micrococoons for protein stabilisation and molecular encapsulation. *Nature Communications*, **2017**, 8, 15902	17.4	65
303	The Amyloid Phenomenon and Its Significance in Biology and Medicine. *Cold Spring Harbor Perspectives in Biology*, **2020**, 12,	10.2	65
302	Quantitative analysis of intrinsic and extrinsic factors in the aggregation mechanism of Alzheimer-associated A peptide. *Scientific Reports*, **2016**, 6, 18728	4.9	64
301	Microfluidic Diffusion Analysis of the Sizes and Interactions of Proteins under Native Solution Conditions. *ACS Nano*, **2016**, 10, 333-41	16.7	61
300	On the role of sidechain size and charge in the aggregation of A42 with familial mutations. *Proceedings of the National Academy of Sciences of the United States of America*, **2018**, 115, E5849-E5858	11.5	58

299	Easyworm: an open-source software tool to determine the mechanical properties of worm-like chains. *Source Code for Biology and Medicine*, **2014**, 9, 16	1.9	58
298	Connecting macroscopic observables and microscopic assembly events in amyloid formation using coarse grained simulations. *PLoS Computational Biology*, **2012**, 8, e1002692	5	58
297	Budding-like division of all-aqueous emulsion droplets modulated by networks of protein nanofibrils. *Nature Communications*, **2018**, 9, 2110	17.4	58
296	Atomic force microscopy for single molecule characterisation of protein aggregation. *Archives of Biochemistry and Biophysics*, **2019**, 664, 134-148	4.1	57
295	Kinetic diversity of amyloid oligomers. *Proceedings of the National Academy of Sciences of the United States of America*, **2020**, 117, 12087-12094	11.5	55
294	Frequency factors in a landscape model of filamentous protein aggregation. *Physical Review Letters* , **2010**, 104, 228101	7.4	55
293	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	6.5	54
292	Interactions between amyloidophilic dyes and their relevance to studies of amyloid inhibitors. *Biophysical Journal*, **2010**, 99, 3492-7	2.9	53
291	Determination of Polypeptide Conformation with Nanoscale Resolution in Water. *ACS Nano*, **2018**, 12, 6612-6619	16.7	52
290	Multistep Inhibition of □Synuclein Aggregation and Toxicity in Vitro and in Vivo by Trodusquemine. *ACS Chemical Biology*, **2018**, 13, 2308-2319	4.9	52
289	N-Terminal Extensions Retard A□2 Fibril Formation but Allow Cross-Seeding and Coaggregation with A□2. *Journal of the American Chemical Society*, **2015**, 137, 14673-85	16.4	51
288	Measurement of Tau Filament Fragmentation Provides Insights into Prion-like Spreading. *ACS Chemical Neuroscience*, **2018**, 9, 1276-1282	5.7	51
287	Ultrasensitive Measurement of Ca Influx into Lipid Vesicles Induced by Protein Aggregates. *Angewandte Chemie - International Edition*, **2017**, 56, 7750-7754	16.4	51
286	Identification and nanomechanical characterization of the fundamental single-strand protofilaments of amyloid □synuclein fibrils. *Proceedings of the National Academy of Sciences of the United States of America*, **2018**, 115, 7230-7235	11.5	51
285	Kinetics of spontaneous filament nucleation via oligomers: Insights from theory and simulation. *Journal of Chemical Physics*, **2016**, 145, 211926	3.9	50
284	Origin of metastable oligomers and their effects on amyloid fibril self-assembly. *Chemical Science*, **2018**, 9, 5937-5948	9.4	48
283	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	4.9	48
282	Twisting transition between crystalline and fibrillar phases of aggregated peptides. *Physical Review Letters*, **2012**, 109, 158101	7.4	47

281	Nucleated polymerisation in the presence of pre-formed seed filaments. *International Journal of Molecular Sciences*, **2011**, 12, 5844-52	6.3	47
280	Nanobodies raised against monomeric ?-synuclein inhibit fibril formation and destabilize toxic oligomeric species. *BMC Biology*, **2017**, 15, 57	7.3	46
279	Inhibition of Synuclein Fibril Elongation by Hsp70 Is Governed by a Kinetic Binding Competition between Synuclein Species. *Biochemistry*, **2017**, 56, 1177-1180	3.2	45
278	Synuclein suppresses both the initiation and amplification steps of Synuclein aggregation via competitive binding to surfaces. *Scientific Reports*, **2016**, 6, 36010	4.9	45
277	Latent analysis of unmodified biomolecules and their complexes in solution with attomole detection sensitivity. *Nature Chemistry*, **2015**, 7, 802-9	17.6	44
276	Scaling behaviour and rate-determining steps in filamentous self-assembly. *Chemical Science*, **2017**, 8, 7087-7097	9.4	43
275	Position-dependent electrostatic protection against protein aggregation. *ChemBioChem*, **2009**, 10, 1309-12	3.2	43
274	Measurement of amyloid fibril length distributions by inclusion of rotational motion in solution NMR diffusion measurements. *Angewandte Chemie - International Edition*, **2008**, 47, 3385-7	16.4	43
273	Modulation of electrostatic interactions to reveal a reaction network unifying the aggregation behaviour of the A42 peptide and its variants. *Chemical Science*, **2017**, 8, 4352-4362	9.4	42
272	The physical chemistry of the amyloid phenomenon: thermodynamics and kinetics of filamentous protein aggregation. *Essays in Biochemistry*, **2014**, 56, 11-39	7.6	42
271	Highly specific label-free protein detection from lysed cells using internally referenced microcantilever sensors. *Biosensors and Bioelectronics*, **2008**, 24, 233-7	11.8	42
270	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	11.5	41
269	Nanoscale spatially resolved infrared spectra from single microdroplets. *Lab on A Chip*, **2014**, 14, 1315-9	7.2	41
268	Surface attachment of protein fibrils via covalent modification strategies. *Journal of Physical Chemistry B*, **2010**, 114, 10925-38	3.4	41
267	Biosensor-based label-free assays of amyloid growth. *FEBS Letters*, **2009**, 583, 2587-92	3.8	40
266	Physical Determinants of Amyloid Assembly in Biofilm Formation. *MBio*, **2019**, 10,	7.8	40
265	Electrostatically-guided inhibition of Curli amyloid nucleation by the CsgC-like family of chaperones. *Scientific Reports*, **2016**, 6, 24656	4.9	39
264	Quantitative analysis of co-oligomer formation by amyloid-beta peptide isoforms. *Scientific Reports*, **2016**, 6, 28658	4.9	38

263	Nucleation and Growth of Amino Acid and Peptide Supramolecular Polymers through Liquid–liquid Phase Separation. *Angewandte Chemie*, **2019**, 131, 18284-18291	3.6	37
262	Quantitative thermophoretic study of disease-related protein aggregates. *Scientific Reports*, **2016**, 6, 22829	4.9	37
261	Dynamics of protein aggregation and oligomer formation governed by secondary nucleation. *Journal of Chemical Physics*, **2015**, 143, 054901	3.9	36
260	Enzymatically Active Microgels from Self-Assembling Protein Nanofibrils for Microflow Chemistry. *ACS Nano*, **2015**, 9, 5772-81	16.7	36
259	Massively parallel C. elegans tracking provides multi-dimensional fingerprints for phenotypic discovery. *Journal of Neuroscience Methods*, **2018**, 306, 57-67	3	35
258	Soluble aggregates present in cerebrospinal fluid change in size and mechanism of toxicity during Alzheimer's disease progression. *Acta Neuropathologica Communications*, **2019**, 7, 120	7.3	35
257	Kinetic fingerprints differentiate the mechanisms of action of anti-A antibodies. *Nature Structural and Molecular Biology*, **2020**, 27, 1125-1133	17.6	35
256	Single molecule secondary structure determination of proteins through infrared absorption nanospectroscopy. *Nature Communications*, **2020**, 11, 2945	17.4	34
255	Nucleation-conversion-polymerization reactions of biological macromolecules with prenucleation clusters. *Physical Review E*, **2014**, 89, 032712	2.4	34
254	Density-gradient-free microfluidic centrifugation for analytical and preparative separation of nanoparticles. *Nano Letters*, **2014**, 14, 2365-71	11.5	34
253	C-terminal truncation of synuclein promotes amyloid fibril amplification at physiological pH. *Chemical Science*, **2018**, 9, 5506-5516	9.4	34
252	Stabilization and Characterization of Cytotoxic A Oligomers Isolated from an Aggregation Reaction in the Presence of Zinc Ions. *ACS Chemical Neuroscience*, **2018**, 9, 2959-2971	5.7	33
251	Role of filament annealing in the kinetics and thermodynamics of nucleated polymerization. *Journal of Chemical Physics*, **2014**, 140, 214904	3.9	33
250	Biomolecular condensates undergo a generic shear-mediated liquid-to-solid transition. *Nature Nanotechnology*, **2020**, 15, 841-847	28.7	33
249	Microfluidics for Protein Biophysics. *Journal of Molecular Biology*, **2018**, 430, 565-580	6.5	32
248	Role of elongation and secondary pathways in S6 amyloid fibril growth. *Biophysical Journal*, **2012**, 102, 2167-75	2.9	32
247	Probing small molecule binding to amyloid fibrils. *Physical Chemistry Chemical Physics*, **2011**, 13, 20044-52	3.6	32
246	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	11.5	32

245	Identification of Oxidative Stress in Red Blood Cells with Nanoscale Chemical Resolution by Infrared Nanospectroscopy. *International Journal of Molecular Sciences*, **2018**, 19,	6.3	32
244	Oligomer Diversity during the Aggregation of the Repeat Region of Tau. *ACS Chemical Neuroscience* , **2018**, 9, 3060-3071	5.7	32
243	Microfluidic devices fabricated using fast wafer-scale LED-lithography patterning. *Biomicrofluidics*, **2017**, 11, 014113	3.2	31
242	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	16.4	31
241	Elastic instability-mediated actuation by a supra-molecular polymer. *Nature Physics*, **2016**, 12, 926-930	16.2	31
240	Self-Assembly of Amyloid Fibrils That Display Active Enzymes. *ChemCatChem*, **2014**, 6, 1961-1968	5.2	30
239	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
238	Label-free detection of amyloid growth with microcantilever sensors. *Nanotechnology*, **2008**, 19, 384007	3.4	30
237	Quantifying Co-Oligomer Formation by Synuclein. *ACS Nano*, **2018**, 12, 10855-10866	16.7	30
236	Real-Time Intrinsic Fluorescence Visualization and Sizing of Proteins and Protein Complexes in Microfluidic Devices. *Analytical Chemistry*, **2018**, 90, 3849-3855	7.8	29
235	A Fragment-Based Method of Creating Small-Molecule Libraries to Target the Aggregation of Intrinsically Disordered Proteins. *ACS Combinatorial Science*, **2016**, 18, 144-53	3.9	29
234	Scalable integration of nano-, and microfluidics with hybrid two-photon lithography. *Microsystems and Nanoengineering*, **2019**, 5, 40	7.7	28
233	Quaternization of Vinyl/Alkynyl Pyridine Enables Ultrafast Cysteine-Selective Protein Modification and Charge Modulation. *Angewandte Chemie - International Edition*, **2019**, 58, 6640-6644	16.4	28
232	Small-molecule sequestration of amyloid- as a drug discovery strategy for Alzheimer's disease. *Science Advances*, **2020**, 6,	14.3	28
231	Transthyretin Inhibits Primary and Secondary Nucleations of Amyloid- Peptide Aggregation and Reduces the Toxicity of Its Oligomers. *Biomacromolecules*, **2020**, 21, 1112-1125	6.9	28
230	Autocatalytic amplification of Alzheimer-associated A 42 peptide aggregation in human cerebrospinal fluid. *Communications Biology*, **2019**, 2, 365	6.7	28
229	On-chip label-free protein analysis with downstream electrodes for direct removal of electrolysis products. *Lab on A Chip*, **2017**, 18, 162-170	7.2	28
228	Molecular Rotors Provide Insights into Microscopic Structural Changes During Protein Aggregation. *Journal of Physical Chemistry B*, **2015**, 119, 10170-9	3.4	27

227	Mean-field master equation formalism for biofilament growth. *American Journal of Physics*, **2014**, 82, 476-483	0.7	27
226	Monomeric and fibrillar -synuclein exert opposite effects on the catalytic cycle that promotes the proliferation of A42 aggregates. *Proceedings of the National Academy of Sciences of the United States of America*, **2017**, 114, 8005-8010	11.5	27
225	Attoliter protein nanogels from droplet nanofluidics for intracellular delivery. *Science Advances*, **2020**, 6, eaay7952	14.3	27
224	Rational design of a conformation-specific antibody for the quantification of A oligomers. *Proceedings of the National Academy of Sciences of the United States of America*, **2020**, 117, 13509-13518	11.5	26
223	Biophotonics of Native Silk Fibrils. *Macromolecular Bioscience*, **2018**, 18, e1700295	5.5	26
222	Integration and characterization of solid wall electrodes in microfluidic devices fabricated in a single photolithography step. *Applied Physics Letters*, **2013**, 102, 184102	3.4	25
221	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
220	Chemical and biophysical insights into the propagation of prion strains. *HFSP Journal*, **2008**, 2, 332-41		25
219	Hierarchical Biomolecular Emulsions Using 3-D Microfluidics with Uniform Surface Chemistry. *Biomacromolecules*, **2017**, 18, 3642-3651	6.9	24
218	Thermodynamics of Polypeptide Supramolecular Assembly in the Short-Chain Limit. *Journal of the American Chemical Society*, **2017**, 139, 16134-16142	16.4	24
217	Multiphase protein microgels. *Macromolecular Bioscience*, **2015**, 15, 501-8	5.5	24
216	The Influence of Pathogenic Mutations in Synuclein on Biophysical and Structural Characteristics of Amyloid Fibrils. *ACS Nano*, **2020**, 14, 5213-5222	16.7	24
215	Fluctuations in the Kinetics of Linear Protein Self-Assembly. *Physical Review Letters*, **2016**, 116, 258103	7.4	24
214	From Protein Building Blocks to Functional Materials. *ACS Nano*, **2021**, 15, 5819-5837	16.7	24
213	Observation of molecular self-assembly events in massively parallel microdroplet arrays. *Lab on A Chip*, **2018**, 18, 3303-3309	7.2	24
212	Fabrication and Characterization of Reconstituted Silk Microgels for the Storage and Release of Small Molecules. *Macromolecular Rapid Communications*, **2019**, 40, e1800898	4.8	23
211	Identification of on- and off-pathway oligomers in amyloid fibril formation. *Chemical Science*, **2020**, 11, 6236-6247	9.4	23
210	Water-Dispersible Polydopamine-Coated Nanofibers for Stimulation of Neuronal Growth and Adhesion. *Advanced Healthcare Materials*, **2018**, 7, e1701485	10.1	23

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208	Conserved S/T Residues of the Human Chaperone DNAJB6 Are Required for Effective Inhibition of A2 Amyloid Fibril Formation. *Biochemistry*, **2018**, 57, 4891-4902	3.2	23
207	Aggregation-Prone Amyloid-2Cu(II) Species Formed on the Millisecond Timescale under Mildly Acidic Conditions. *ChemBioChem*, **2015**, 16, 1293-7	3.8	23
206	Trodusquemine displaces protein misfolded oligomers from cell membranes and abrogates their cytotoxicity through a generic mechanism. *Communications Biology*, **2020**, 3, 435	6.7	23
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20	Amplification, not spreading limits rate of tau aggregate accumulation in Alzheimer disease		1
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