Hagan Bayley

List of Publications by Citations

296 papers	26,690 citations	87 h-index	156 g-index
344 ext. papers	29,219 ext. citations	11.4 avg, IF	7.14 L-index

#	Paper	IF	Citations
296	Structure of staphylococcal alpha-hemolysin, a heptameric transmembrane pore. *Science*, **1996**, 274, 1859-66	33.3	1967
295	The potential and challenges of nanopore sequencing. *Nature Biotechnology*, **2008**, 26, 1146-53	44.5	1881
294	Continuous base identification for single-molecule nanopore DNA sequencing. *Nature Nanotechnology*, **2009**, 4, 265-70	28.7	1265
293	Stochastic sensors inspired by biology. *Nature*, **2001**, 413, 226-30	50.4	942
292	Sequence-specific detection of individual DNA strands using engineered nanopores. *Nature Biotechnology*, **2001**, 19, 636-9	44.5	611
291	Stochastic sensing of organic analytes by a pore-forming protein containing a molecular adapter. *Nature*, **1999**, 398, 686-90	50.4	607
290	Resistive-Pulse Sensing-From Microbes to Molecules. *Chemical Reviews*, **2000**, 100, 2575-2594	68.1	438
289	Intracellular trehalose improves the survival of cryopreserved mammalian cells. *Nature Biotechnology*, **2000**, 18, 163-7	44.5	416
288	A tissue-like printed material. *Science*, **2013**, 340, 48-52	33.3	395
287	Photoaffinity labeling. *Methods in Enzymology*, **1977**, 46, 69-114	1.7	391
286	Single-nucleotide discrimination in immobilized DNA oligonucleotides with a biological nanopore. *Proceedings of the National Academy of Sciences of the United States of America*, **2009**, 106, 7702-7	11.5	351
285	Droplet interface bilayers. *Molecular BioSystems*, **2008**, 4, 1191-208		333
284	Detecting protein analytes that modulate transmembrane movement of a polymer chain within a single protein pore. *Nature Biotechnology*, **2000**, 18, 1091-5	44.5	296
283	Functional bionetworks from nanoliter water droplets. *Journal of the American Chemical Society*, **2007**, 129, 8650-5	16.4	275
282	Toward single molecule DNA sequencing: direct identification of ribonucleoside and deoxyribonucleoside 5Rmonophosphates by using an engineered protein nanopore equipped with a molecular adapter. *Journal of the American Chemical Society*, **2006**, 128, 1705-10	16.4	272
281	Staphylococcal alpha-toxin, streptolysin-O, and Escherichia coli hemolysin: prototypes of pore-forming bacterial cytolysins. *Archives of Microbiology*, **1996**, 165, 73-9	3	268
280	Simultaneous stochastic sensing of divalent metal ions. *Nature Biotechnology*, **2000**, 18, 1005-7	44.5	258

279	Designed protein pores as components for biosensors. *Chemistry and Biology*, **1997**, 4, 497-505		251
278	Molecular cloning and primary structure of myelin-associated glycoprotein. *Proceedings of the National Academy of Sciences of the United States of America*, **1987**, 84, 600-4	11.5	251
277	Protein detection by nanopores equipped with aptamers. *Journal of the American Chemical Society*, **2012**, 134, 2781-7	16.4	234
276	Hybrid pore formation by directed insertion of α-haemolysin into solid-state nanopores. *Nature Nanotechnology*, **2010**, 5, 874-7	28.7	231
275	Interactions of peptides with a protein pore. *Biophysical Journal*, **2005**, 89, 1030-45	2.9	223
274	Subunit stoichiometry of staphylococcal alpha-hemolysin in crystals and on membranes: a heptameric transmembrane pore. *Proceedings of the National Academy of Sciences of the United States of America*, **1994**, 91, 12828-31	11.5	222
273	Multistep protein unfolding during nanopore translocation. *Nature Nanotechnology*, **2013**, 8, 288-95	28.7	215
272	Enhanced translocation of single DNA molecules through alpha-hemolysin nanopores by manipulation of internal charge. *Proceedings of the National Academy of Sciences of the United States of America*, **2008**, 105, 19720-5	11.5	209
271	Reduction of aryl azides by thiols: implications for the use of photoaffinity reagents. *Biochemical and Biophysical Research Communications*, **1978**, 80, 568-72	3.4	185
270	Propane-1,3-dithiol: A selective reagent for the efficient reduction of alkyl and aryl azides to amines. *Tetrahedron Letters*, **1978**, 19, 3633-3634	2	180
269	Droplet networks with incorporated protein diodes show collective properties. *Nature Nanotechnology*, **2009**, 4, 437-40	28.7	175
268	Functional engineered channels and pores (Review). *Molecular Membrane Biology*, **2004**, 21, 209-20	3.4	172
267	Single-molecule site-specific detection of protein phosphorylation with a nanopore. *Nature Biotechnology*, **2014**, 32, 179-81	44.5	171
266	Kinetics of duplex formation for individual DNA strands within a single protein nanopore. *Proceedings of the National Academy of Sciences of the United States of America*, **2001**, 98, 12996-3001	11.5	166
265	A molecular mechanism for long-term sensitization in Aplysia. *Nature*, **1987**, 329, 62-5	50.4	165
264	Secondary structure and assembly mechanism of an oligomeric channel protein. *Biochemistry*, **1985**, 24, 1915-20	3.2	165
263	Nanopore sequencing: from imagination to reality. *Clinical Chemistry*, **2015**, 61, 25-31	5.5	160
262	Recognizing a single base in an individual DNA strand: a step toward DNA sequencing in nanopores. *Angewandte Chemie - International Edition*, **2005**, 44, 1401-4	16.4	157

261	Beneficial effect of intracellular trehalose on the membrane integrity of dried mammalian cells. *Cryobiology*, **2001**, 43, 168-81	2.7	154
260	Site of attachment of retinal in bacteriorhodopsin. *Proceedings of the National Academy of Sciences of the United States of America*, **1981**, 78, 2225-9	11.5	152
259	Purification and characterization of recombinant spider silk expressed in Escherichia coli. *Applied Microbiology and Biotechnology*, **1998**, 49, 31-8	5.7	150
258	Asymmetric droplet interface bilayers. *Journal of the American Chemical Society*, **2008**, 130, 5878-9	16.4	150
257	Identification of epigenetic DNA modifications with a protein nanopore. *Chemical Communications*, **2010**, 46, 8195-7	5.8	148
256	An engineered ClyA nanopore detects folded target proteins by selective external association and pore entry. *Nano Letters*, **2012**, 12, 4895-900	11.5	146
255	Formation of droplet networks that function in aqueous environments. *Nature Nanotechnology*, **2011**, 6, 803-8	28.7	145
254	Sequencing single molecules of DNA. *Current Opinion in Chemical Biology*, **2006**, 10, 628-37	9.7	142
253	Outer membrane protein G: Engineering a quiet pore for biosensing. *Proceedings of the National Academy of Sciences of the United States of America*, **2008**, 105, 6272-7	11.5	131
252	Capture of a single molecule in a nanocavity. *Science*, **2001**, 291, 636-40	33.3	131
251	Stochastic detection of enantiomers. *Journal of the American Chemical Society*, **2006**, 128, 10684-5	16.4	129
250	Stochastic sensing of nanomolar inositol 1,4,5-trisphosphate with an engineered pore. *Chemistry and Biology*, **2002**, 9, 829-38		129
249	Key residues for membrane binding, oligomerization, and pore forming activity of staphylococcal alpha-hemolysin identified by cysteine scanning mutagenesis and targeted chemical modification. *Journal of Biological Chemistry*, **1995**, 270, 23065-71	5.4	126
248	Elimination of a bacterial pore-forming toxin by sequential endocytosis and exocytosis. *FEBS Letters*, **2009**, 583, 337-44	3.8	124
247	The RII subunit of cAMP-dependent protein kinase binds to a common amino-terminal domain in microtubule-associated proteins 2A, 2B, and 2C. *Neuron*, **1989**, 3, 639-45	13.9	122
246	Catalyzing the translocation of polypeptides through attractive interactions. *Journal of the American Chemical Society*, **2007**, 129, 14034-41	16.4	121
245	Cyclic Peptides as Molecular Adapters for a Pore-Forming Protein. *Journal of the American Chemical Society*, **2000**, 122, 11757-11766	16.4	121
244	A storable encapsulated bilayer chip containing a single protein nanopore. *Journal of the American Chemical Society*, **2007**, 129, 4701-5	16.4	120

243	Reversal of charge selectivity in transmembrane protein pores by using noncovalent molecular adapters. *Proceedings of the National Academy of Sciences of the United States of America*, **2000**, 97, 3959-64	11.5	119
242	Subunit composition of a bicomponent toxin: staphylococcal leukocidin forms an octameric transmembrane pore. *Protein Science*, **2002**, 11, 894-902	6.3	115
241	Light-activated communication in synthetic tissues. *Science Advances*, **2016**, 2, e1600056	14.3	115
240	Screening blockers against a potassium channel with a droplet interface bilayer array. *Journal of the American Chemical Society*, **2008**, 130, 15543-8	16.4	114
239	Electroosmotic enhancement of the binding of a neutral molecule to a transmembrane pore. *Proceedings of the National Academy of Sciences of the United States of America*, **2003**, 100, 15498-503	11.5	112
238	An intermediate in the assembly of a pore-forming protein trapped with a genetically-engineered switch. *Chemistry and Biology*, **1995**, 2, 99-105		112
237	The role of lipids in mechanosensation. *Nature Structural and Molecular Biology*, **2015**, 22, 991-8	17.6	111
236	Photoisomerization of an individual azobenzene molecule in water: an on-off switch triggered by light at a fixed wavelength. *Journal of the American Chemical Society*, **2006**, 128, 12404-5	16.4	111
235	Temperature-responsive protein pores. *Journal of the American Chemical Society*, **2006**, 128, 15332-40	16.4	108
234	Photogenerated reagents for membrane labeling. 1. Phenylnitrene formed within the lipid bilayer. *Biochemistry*, **1978**, 17, 2414-9	3.2	108
233	Delipidation of bacteriorhodopsin and reconstitution with exogenous phospholipid. *Proceedings of the National Academy of Sciences of the United States of America*, **1980**, 77, 323-7	11.5	107
232	Stochastic sensing of TNT with a genetically engineered pore. *ChemBioChem*, **2005**, 6, 1875-81	3.8	106
231	High-Resolution Patterned Cellular Constructs by Droplet-Based 3D Printing. *Scientific Reports*, **2017**, 7, 7004	4.9	105
230	Controlled translocation of individual DNA molecules through protein nanopores with engineered molecular brakes. *Nano Letters*, **2011**, 11, 746-50	11.5	103
229	Protein nanopores with covalently attached molecular adapters. *Journal of the American Chemical Society*, **2007**, 129, 16142-8	16.4	103
228	High-throughput optical sensing of nucleic acids in a nanopore array. *Nature Nanotechnology*, **2015**, 10, 986-91	28.7	102
227	Transmembrane beta-barrel of staphylococcal alpha-toxin forms in sensitive but not in resistant cells. *Proceedings of the National Academy of Sciences of the United States of America*, **1997**, 94, 11607-11	11.5	102
226	Partitioning of individual flexible polymers into a nanoscopic protein pore. *Biophysical Journal*, **2003**, 85, 897-910	2.9	101

225	Photogenerated reagents for membrane labeling. 2. Phenylcarbene and adamantylidene formed within the lipid bilayer. *Biochemistry*, **1978**, 17, 2420-3	3.2	100
224	Simultaneous measurement of ionic current and fluorescence from single protein pores. *Journal of the American Chemical Society*, **2009**, 131, 1652-3	16.4	99
223	Interaction of the noncovalent molecular adapter, beta-cyclodextrin, with the staphylococcal alpha-hemolysin pore. *Biophysical Journal*, **2000**, 79, 1967-75	2.9	98
222	Single-molecule detection of nitrogen mustards by covalent reaction within a protein nanopore. *Journal of the American Chemical Society*, **2008**, 130, 6813-9	16.4	97
221	Intrinsically disordered protein threads through the bacterial outer-membrane porin OmpF. *Science* , **2013**, 340, 1570-4	33.3	96
220	Membrane protein stoichiometry determined from the step-wise photobleaching of dye-labelled subunits. *ChemBioChem*, **2007**, 8, 994-9	3.8	95
219	Stochastic detection of monovalent and bivalent protein-ligand interactions. *Angewandte Chemie - International Edition*, **2004**, 43, 842-6	16.4	95
218	A Protein Pore with a Single Polymer Chain Tethered within the Lumen. *Journal of the American Chemical Society*, **2000**, 122, 2411-2416	16.4	94
217	Kinetics of a reversible covalent-bond-forming reaction observed at the single-molecule level. *Angewandte Chemie - International Edition*, **2002**, 41, 3707-9; 3523	16.4	92
216	Biochemical and biophysical characterization of OmpG: A monomeric porin. *Biochemistry*, **2000**, 39, 11845-54	3.2	92
215	Primary structure of a molluscan egg-specific NADase, a second-messenger enzyme. *Molecular Biology of the Cell*, **1991**, 2, 211-8		92
214	Prolonged residence time of a noncovalent molecular adapter, beta-cyclodextrin, within the lumen of mutant alpha-hemolysin pores. *Journal of General Physiology*, **2001**, 118, 481-94	3.4	90
213	Combinatorial RNA splicing alters the surface charge on the NMDA receptor. *FEBS Letters*, **1992**, 305, 27-30	3.8	90
212	Single-molecule covalent chemistry with spatially separated reactants. *Angewandte Chemie - International Edition*, **2003**, 42, 3766-71	16.4	89
211	Protein components for nanodevices. *Current Opinion in Chemical Biology*, **2005**, 9, 576-84	9.7	88
210	Molecular bases of cyclodextrin adapter interactions with engineered protein nanopores. *Proceedings of the National Academy of Sciences of the United States of America*, **2010**, 107, 8165-70	11.5	87
209	A functional protein pore with a "retro" transmembrane domain. *Protein Science*, **1999**, 8, 1257-67	6.3	87
208	Analysis of single nucleic acid molecules with protein nanopores. *Methods in Enzymology*, **2010**, 475, 591-623	1.7	86

207	Reversible permeabilization of plasma membranes with an engineered switchable pore. *Nature Biotechnology*, **1997**, 15, 278-82	44.5	84
206	A photogenerated pore-forming protein. *Chemistry and Biology*, **1995**, 2, 391-400		84
205	Photogenerated reagents for membranes: selective labeling of intrinsic membrane proteins in the human erythrocyte membrane. *Biochemistry*, **1980**, 19, 3883-92	3.2	84
204	Nanopore-based identification of individual nucleotides for direct RNA sequencing. *Nano Letters*, **2013**, 13, 6144-50	11.5	83
203	Single protein pores containing molecular adapters at high temperatures. *Angewandte Chemie - International Edition*, **2005**, 44, 1495-9	16.4	83
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200	Probing distance and electrical potential within a protein pore with tethered DNA. *Biophysical Journal*, **2002**, 83, 3202-10	2.9	81
199	Electrical behavior of droplet interface bilayer networks: experimental analysis and modeling. *Journal of the American Chemical Society*, **2007**, 129, 11854-64	16.4	80
198	Designed membrane channels and pores. *Current Opinion in Biotechnology*, **1999**, 10, 94-103	11.4	80
197	Nucleobase recognition in ssDNA at the central constriction of the alpha-hemolysin pore. *Nano Letters*, **2010**, 10, 3633-7	11.5	79
196	Altered antibiotic transport in OmpC mutants isolated from a series of clinical strains of multi-drug resistant E. coli. *PLoS ONE*, **2011**, 6, e25825	3.7	74
195	Multi-responsive hydrogel structures from patterned droplet networks. *Nature Chemistry*, **2020**, 12, 363-371	17.1	73
194	Location of a constriction in the lumen of a transmembrane pore by targeted covalent attachment of polymer molecules. *Journal of General Physiology*, **2001**, 117, 239-52	3.4	73
193	Folding of a monomeric porin, OmpG, in detergent solution. *Biochemistry*, **2003**, 42, 9453-65	3.2	71
192	Single DNA rotaxanes of a transmembrane pore protein. *Angewandte Chemie - International Edition*, **2004**, 43, 3063-7	16.4	69
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190	The leukocidin pore: evidence for an octamer with four LukF subunits and four LukS subunits alternating around a central axis. *Protein Science*, **2005**, 14, 2550-61	6.3	67

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187	Ion Channels and Lipid Bilayer Membranes Under High Potentials Using Microfabricated Apertures. *Biomedical Microdevices*, **2002**, 4, 231-236	3.7	64
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185	Continuous stochastic detection of amino acid enantiomers with a protein nanopore. *Angewandte Chemie - International Edition*, **2012**, 51, 9606-9	16.4	62
184	A primary hydrogen-deuterium isotope effect observed at the single-molecule level. *Nature Chemistry*, **2010**, 2, 921-8	17.6	62
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181	Catalytic subunit of protein kinase A caged at the activating phosphothreonine. *Journal of the American Chemical Society*, **2002**, 124, 8220-9	16.4	61
180	A monodisperse transmembrane □helical peptide barrel. *Nature Chemistry*, **2017**, 9, 411-419	17.6	60
179	Tumor protease-activated, pore-forming toxins from a combinatorial library. *Nature Biotechnology*, **1996**, 14, 852-6	44.5	60
178	A regulatory subunit of the cAMP-dependent protein kinase down-regulated in aplysia sensory neurons during long-term sensitization. *Neuron*, **1992**, 8, 387-97	13.9	60
177	A pore-forming protein with a metal-actuated switch. *Protein Engineering, Design and Selection*, **1994**, 7, 655-62	1.9	59
176	Rapid assembly of a multimeric membrane protein pore. *Biophysical Journal*, **2011**, 101, 2679-83	2.9	58
175	Properties of Bacillus cereus hemolysin II: a heptameric transmembrane pore. *Protein Science*, **2002**, 11, 1813-24	6.3	57
174	Individual RNA base recognition in immobilized oligonucleotides using a protein nanopore. *Nano Letters*, **2012**, 12, 5637-43	11.5	56
173	The staphylococcal leukocidin bicomponent toxin forms large ionic channels. *Biochemistry*, **2001**, 40, 8514-22	3.2	54
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165	Surface-accessible residues in the monomeric and assembled forms of a bacterial surface layer protein. *Journal of Biological Chemistry*, **2000**, 275, 37876-86	5.4	49
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163	Direct transfer of membrane proteins from bacteria to planar bilayers for rapid screening by single-channel recording. *Nature Chemical Biology*, **2006**, 2, 314-8	11.7	48
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161	Multi-compartment encapsulation of communicating droplets and droplet networks in hydrogel as a model for artificial cells. *Scientific Reports*, **2017**, 7, 45167	4.9	47
160	Protein co-translocational unfolding depends on the direction of pulling. *Nature Communications*, **2014**, 5, 4841	17.4	47
159	Sequence of abductin, the molluscan rubber protein. *Current Biology*, **1997**, 7, R677-8	6.3	47
158	A genetically encoded pore for the stochastic detection of a protein kinase. *ChemBioChem*, **2006**, 7, 1923-7	3.8	47
157	Stepwise growth of a single polymer chain. *Journal of the American Chemical Society*, **2005**, 127, 10462-3	16.4	46
156	Kinetics of a three-step reaction observed at the single-molecule level. *Angewandte Chemie - International Edition*, **2003**, 42, 1926-9	16.4	46
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154	Translocating kilobase RNA through the Staphylococcal α-hemolysin nanopore. *Nano Letters*, **2013**, 13, 2500-5	11.5	45

153	A pore-forming protein with a protease-activated trigger. *Protein Engineering, Design and Selection*, **1994**, 7, 91-7	1.9	45
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150	Caged cysteine and thiophosphoryl peptides. *FEBS Letters*, **1997**, 405, 81-5	3.8	44
149	Single-Molecule Covalent Chemistry in a Protein Nanoreactor. *Springer Series in Biophysics*, **2008**, 251-277		44
148	Construction and manipulation of functional three-dimensional droplet networks. *ACS Nano*, **2014**, 8, 771-9	16.7	43
147	Role of the amino latch of staphylococcal alpha-hemolysin in pore formation: a co-operative interaction between the N terminus and position 217. *Journal of Biological Chemistry*, **2006**, 281, 2195-204	5.4	43
146	Continuous observation of the stochastic motion of an individual small-molecule walker. *Nature Nanotechnology*, **2015**, 10, 76-83	28.7	42
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142	Directional control of a processive molecular hopper. *Science*, **2018**, 361, 908-912	33.3	41
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139	Single-Molecule Determination of the Isomers of d-Glucose and d-Fructose that Bind to Boronic Acids. *Angewandte Chemie - International Edition*, **2018**, 57, 2841-2845	16.4	39
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135	Tuning the cavity of cyclodextrins: altered sugar adaptors in protein pores. *Journal of the American Chemical Society*, **2011**, 133, 1987-2001	16.4	37
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133	Caged thiophosphotyrosine peptides. *Angewandte Chemie - International Edition*, **2001**, 40, 3049-51	16.4	36
132	Triggers and switches in a self-assembling pore-forming protein. *Journal of Cellular Biochemistry*, **1994**, 56, 177-82	4.7	36
131	A droplet microfluidic system for sequential generation of lipid bilayers and transmembrane electrical recordings. *Lab on A Chip*, **2015**, 15, 541-8	7.2	35
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126	Building doors into cells. *Scientific American*, **1997**, 277, 62-7	0.5	34
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124	Interaction of blood coagulation factor Va with phospholipid vesicles examined by using lipophilic photoreagents. *Biochemistry*, **1987**, 26, 103-9	3.2	33
123	An engineered dimeric protein pore that spans adjacent lipid bilayers. *Nature Communications*, **2013**, 4, 1725	17.4	32
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121	Nucleobase Recognition by Truncated □Hemolysin Pores. *ACS Nano*, **2015**, 9, 7895-903	16.7	31
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115	Applications of S-layers. *FEMS Microbiology Reviews*, **1997**, 20, 151-75	15.1	29
114	Single-Molecule Protein Phosphorylation and Dephosphorylation by Nanopore Enzymology. *ACS Nano*, **2019**, 13, 633-641	16.7	29
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111	Probing the orientational distribution of dyes in membranes through multiphoton microscopy. *Biophysical Journal*, **2012**, 103, 907-17	2.9	25
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106	Nucleobase recognition at alkaline pH and apparent pKa of single DNA bases immobilised within a biological nanopore. *Chemical Communications*, **2012**, 48, 1520-2	5.8	22
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